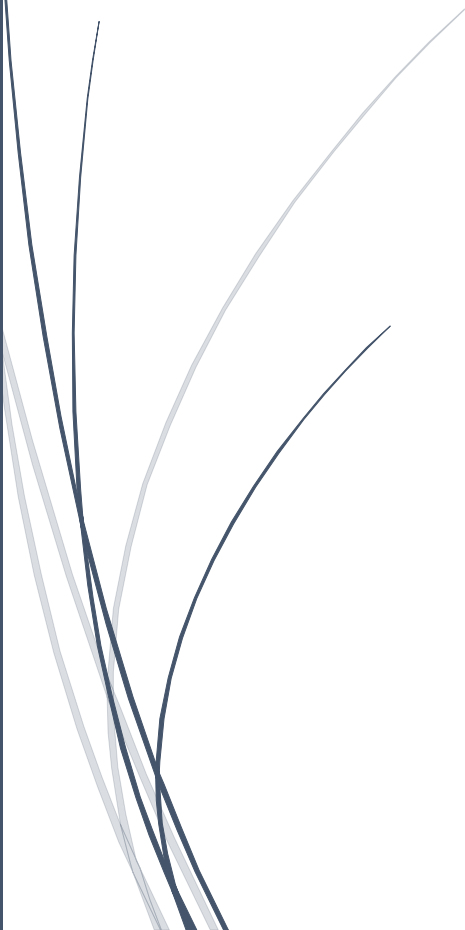




5/15/2022

# Course Critic

IEEE Website Requirements  
Specification Document



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## Executive summary

I decided to go with this project concept because it aims to solve a problem which I personally struggled with, deciding on a third-level course. These kinds of decisions can have a massive impact and should not be taken lightly. Yet, due to the stress of the process, I have seen many people choose a course impulsively and without the appropriate amount of research conducted. I wanted to offer future third-level students in Ireland a website that would alleviate this anxiety and give them a clear insight into the experience each course offers.

As with many agile projects, the requirements for this website evolved over time and as a result, the concept evolved with it. At first, this website was for the sole purpose of assisting students in choosing the course best suited to them. However, using a variety of elicitation and analysis techniques, more potential business applications of the website were discovered. With the help of key stakeholders, it was decided that the colleges displayed on the website should have a bigger involvement in the concept. This is when the idea arose to not only use this website to help future students, but to help the colleges too. This would be done through analysing the student feedback data that was captured, finding the unique selling points of each course and advertising them on the website. Additionally, the data collected, which offered insight into how the students felt each course could be improved, would be sent back to the colleges for evaluation. In return for these insights and advertisements, the colleges would pay an annual subscription fee and optionally add course critic as a subsection of their own website.

This pivot that was taken with the intention of making the website more commercially feasible, assisting Irish third-level universities in improving their services, and ultimately decreasing the student dropout rate in Ireland.

The requirements elicitation results were used to develop a detailed IEEE requirements specification document which would act as a blueprint for the Course Critic website. The document elaborates on the key functional, non-functional, and business requirements of the Course Critic website. This document, if given to a development team, should outline exactly how the Course Critic website should be constructed.

## Requirements Elicitation & Analysis Planning

### Introduction

This project involves the gathering and documenting of requirements for the Course Critic website. The website will be developed with the intention of helping students find the right course for them and assisting colleges in improving their services.

A variety of elicitation and analysis techniques will be utilised to gather the necessary requirements for this project. A brainstorming session will be the first of which. It will be held with multiple key stakeholders and be used to determine the fundamental elements of

the website. This will include the layout and features of the website. A survey will be sent to students in three courses in NCI to facilitate in identifying what areas of each course have the biggest effect on student satisfaction. These areas will be given priority on the website. The survey will also allow us to determine what features should be included on the website. Interviews will be held with key stakeholders to expand on the concept and high priority areas of the website, and to validate the recommended features identified by the other stakeholders. A requirements workshop will take place to further solidify the layout, features, and content of the website. When this is complete, wireframes will be constructed. A second workshop will be used to evaluate the wireframes and make suggestions for improvement. Once all these techniques are complete, mock-ups of the website and its features will be developed to provide a more in-depth idea of what the website will look like and how it will function.

The final section of the document will be a list of the functional, non-functional, and business requirements that have been determined throughout this project.

### Business Need

Currently in Ireland, there is a 25% dropout rate amongst third-level students (Kennedy and Kennedy, 2020). There are several reasons as to why students drop out, but one of the primary reasons is lack of insight into their selected courses. A recent study has found that one in three students were unsure whether their course related to their career path, and that two out of three students felt "overwhelmed" by the process of selecting one (Ellucian, 2019). Furthermore, 18 percent of students stated their college was unclear in giving insight regarding their courses.

Selecting the right third-level course can be a daunting task and one which I personally struggled with in my final year of secondary school. There are sources of information available online but very few of them are data-driven and involve student feedback. Students have the option of visiting the university/college website to gain insight, but the information provided is not always enough. Students will often have to look for other sources of information, such as referrals to make an informed decision. Alternatively, there are 3<sup>rd</sup> party websites that rate and rank third-level courses in Ireland, but none that emphasise the opinions of the students currently enrolled in these courses. Furthermore, some of the colleges that are lower ranking on a lot of these websites may have excellent courses that offer great benefits. These can go unnoticed because the college/university that provides them isn't traditionally seen as one of the elite third-level institutions in the country.

Additionally, some students will value certain areas of college more than others. For example, some students place a high level of importance on socialising and networking. Some prioritise career opportunity. Some value challenging work. It is difficult to gain an accurate insight into these aspects of a course when there is little to no student feedback available online. Course reviews tend to be very general and rarely provide the specific strengths and weaknesses of each one.

When it comes to making an informed decision on the course/career path that they are going to pursue, students need to have the best and most honest information at their disposal. This can be difficult to find. I plan to offer a solution to these problems through my website, Course Critic.

As well as helping future students choose a course and career path, I believe this website can be very beneficial to NCI and any college that would like to be involved. After speaking with members of the NCI Careers Department and Student Support and Welfare department, I found out that NCI has limited data to track student satisfaction and dropout rates. This is an area that the college intends to improve over the coming years. It is unlikely that NCI is the only college that wants to improve in this area. The solution that 'Course Critic' provides for these colleges will be two-fold. Firstly, we will track numerous categories of student feedback data and analyse the results to find unique selling points for each course. These unique selling points will be displayed on our website for users to see. The aim is to provide users with an idea of the best aspects of the course and what students found most helpful. Secondly, the feedback received will offer us a lot of insights into how students feel each course could be improved, these insights will be privately sent to the college, so they can evaluate and improve each course.

Due to the possibility of changing requirements, I have decided that an agile approach would be best suited to my project. Adapting this approach will allow me to give the project stakeholders a bigger say in what requirements are necessary for the website. This will allow the project to be more flexible and cost-effective, as opposed to the traditional waterfall approach which can be more time consuming.

### Business Case

The business application for this website is simple. Colleges can pay an annual subscription fee to the Course Critic website and in return, we will create and send surveys, gather feedback, analyse data, and produce a list of the areas that could be improved in each course. Additionally, we will display the areas that students enjoyed the most about each course and anything unique selling points that future students may enjoy on the website. NCI will have no direct say in the features of my website, but several stakeholders from within NCI will be used to guide the development of the website in the right direction. I will be using a sample of three courses from within the college to gather student feedback, two from the school of computing and one from the school of business. The feedback I gather from them will be the backbone of my website. It will be used to showcase how the website will use the opinions of the students to output useful insights for potential future students to view. I will also be using these stakeholders, as well as others to determine what aspects/features of my website should be prioritised.

The website will make it convenient for users to search courses, view student feedback, course strengths and weaknesses and contact past students if they have any further questions. With the guidance this website will provide, I hope to see a lower dropout rate amongst students. This would be beneficial to not only the students involved, but the third-level institutions across the country. Upon completion of this project, it is my hope that NCI will adopt this website as a subsection of their own. If they can use this honest student

feedback to show future students the benefits and challenges that come with each course they provide, they could potentially lower their own student dropout rate. Other colleges/universities who see this may then show interest and this could offer expansion opportunities for Course Critic.

As with any project, there will be risks involved in this one. Through the elicitation phase of this project, it is vital that the needs of the stakeholders are clearly understood and documented. The requirements must be clear and concise. Not only must we document what the website will do, we must document what the website will not do. It must be established early what is inside and outside the scope of this project. Not having this clear vision could mean unnecessary requirements are added in and the end vision for the website is constantly changing. This will be detrimental to the project timeline and final product. Therefore, requirements must be analysed and discussed with key stakeholders to ensure that no unnecessary features are added on during the implementation phase.

It is of the utmost importance that the website is navigable and easily accessible. A huge selling point of the website is that it relieves stress of having to look through multiple sources to find high quality information and feedback regarding college courses. Thus, the website cannot be difficult to understand or frustrating to use, this will only result in user dissatisfaction. The user should be able to easily find the information they are looking for. Stakeholder must be used to determine the best method of displaying as much information as possible and making it as easily digestible as possible.

## Constraints

### Student Cooperation

For each course, at least one student will need to volunteer to be a student contact on the website where they will answer questions from users regarding the course. Their identity will remain anonymous, and they will receive a certificate at the end of the year to show that they have been cooperative and helpful with answering future students' question. However, these incentives may not be enough for any of the students in the course and we will therefore not be able to include this feature for certain courses.

### College Cooperation

The service provided by the website is dependent on the college consenting to our idea.

### Web Developer

Platform maintenance will be required to fix any issues or bugs that arise once the website is launched. If new features are to be added, these must be coded by a web developer.

### Database Administrator

The feedback and data gathered by the website will need to be stored properly in a database.

### Budget

No funding has been allocated to the creation of this website. Therefore, bootstrapping will be the only option.

### Deadline

The requirements specification document must be completed by Q2 of 2022 for it to be possible for the website to be developed before the academic year 2022/2023.

### Assumptions

- Students will consent to the use of their data for the purpose of this project.
- Students will be honest in their feedback.
- Students will provide feedback privately so as not to influence the feedback of others.
- Students will have completed at least 6 months of their course before providing feedback.
- NCI will permit the collection of this data
- All key stakeholders will consent to being involved in the requirements gathering process.

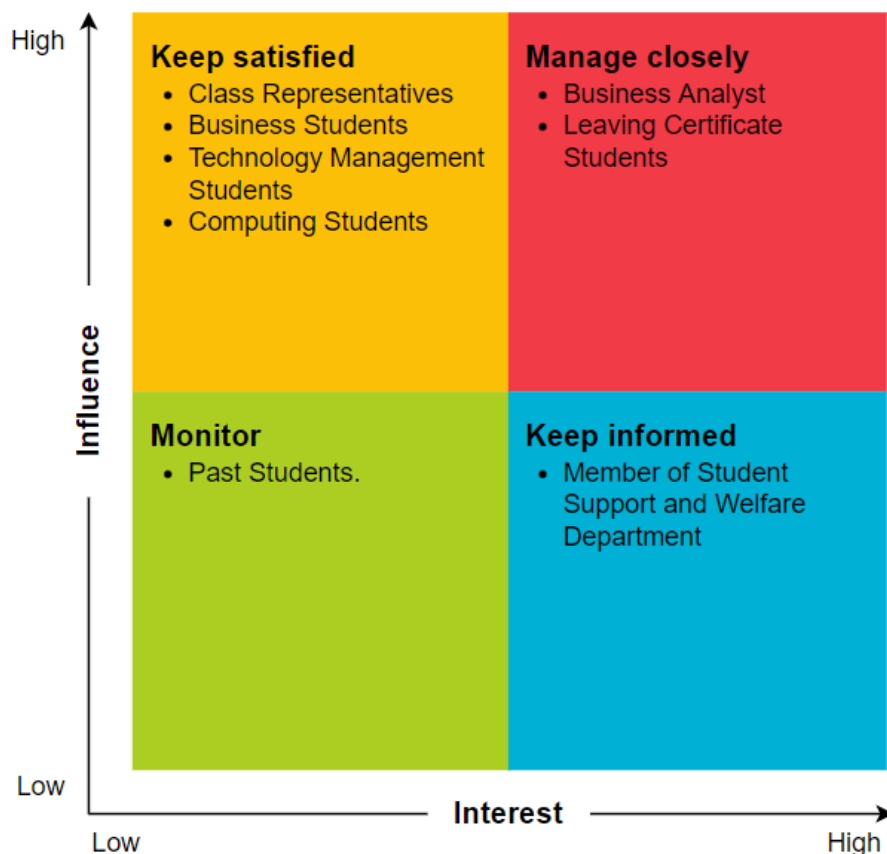
### Stakeholders

Below is a list of the stakeholders who I will be contacting to help me gather requirements for the website. These were identified by brainstorming a list of anyone who would be involved, interested, or influenced by this project (BABOK v3, 2015). I have categorised each stakeholder with the use of an importance/influence matrix grid. This was created to help me identify key stakeholder and their roles.

- A. Technology Management Students
- B. Business Students
- C. Computer Science Students
- D. Class representatives
- E. Past Students
- F. Leaving Cert Students
- G. Student Support and Welfare Manager
- H. Business Analyst

### **Stakeholder Importance/Influence Matrix**





## Requirements Elicitation Techniques

### Brainstorming

#### *Brief Overview*

This brainstorming session is intended to generate innovative ideas that will help the Course Critic website be as successful as possible. Through collaboration with other stakeholders, we will encourage one another to think freely and offer suggestions that may solve problems we are facing.

#### *Objectives*

The purpose of this brainstorming session is to obtain the opinions of various stakeholders regarding three aspects of the website.

1. What areas of the course should we gather feedback on (Difficulty, social life etc.)
2. Website layout
3. Website Features

During this meeting I would like for every stakeholder who is involved to outline any thought or ideas they may have that will improve the website in the previously mention

three areas. All ideas must be documented by a moderator using a tool such as Microsoft Word and saved for later use. We need to ensure that any feedback from a stakeholder is documented as clearly as possible to avoid any confusion in the future. Ideas must be defined in the document.

#### *Participants*

1. One computing student
2. One business student
3. One past student
4. One Leaving Cert student

#### *Meeting Location*

Microsoft Teams (due to covid restrictions)

#### *Date of Meeting*

Saturday 18<sup>th</sup> December 2021

#### *Time of Meeting*

10:30am – 11:30am

#### *Brainstorming Session Rules:*

1. Participants are expected to arrive to the meeting 10 minutes prior to the allotted time. Everyone should be ready to commence the meeting at 10:30am and no later.
2. Each participant must be given a chance to share their thoughts and a fair amount of time to speak.
3. When somebody is speaking, interrupting/talking over said person will not be tolerated.
4. Mobile phones should be put on silent prior to the meeting commencing to avoid disruption.
5. All participants must conduct themselves in a professional manner and stay focused on the topic at hand.
6. If the outlined guidelines are not followed, the moderator has the authority to remove any participant from the meeting.
7. Late arrivals will be spoken to at the end of the meeting and cannot interrupt the discussion upon arrival.

#### *Interviews*

##### *Interview One*

#### *Participants*

Two class representatives

#### *Interview Location*

Microsoft Teams

### Date of Interview

Wednesday 26<sup>th</sup> January 2022

### Time of Interview

10:00am – 11:00am

### Objectives

The purpose of this interview is to gain insight into the class representatives' opinions on the courses they are in. I have chosen two class representatives as they are the best candidates for speaking on behalf of their peers. The desired outcome for this interview is to get a further look into what students believe are the strengths and weaknesses of the computing school and business school. I'd like to find out what aspects of the course are the students happy with and what could be improved, as well as what information they believe would help students in selecting the course best suited to them. Their responses to my questions will be typed out by a third-party assistant to allow the interview to flow organically within the allocated timeframe.

### Interview Questions

1. What are the best and worst things about your course? Did either of these things surprise you?
2. What was the best and worst year of your course? Why?
3. Did you struggle to decide on what course you wanted to take after finishing secondary school?
4. Is there anything about your current course that you believe students should be aware of before applying for it themselves?
5. What do you think are the most important things to consider when selecting a course?
6. Do you believe the course you're in is the best one for you? Why?
7. Do you believe most students were fully aware of what your course would involve before they started it?
8. Did your opinion of your course change from when you first selected it on the CAO until now? How?

### *Interview Two*

### Participants

Students Services and Welfare Manager

### Interview Location

Microsoft Teams

### Date of Interview

Friday 28<sup>th</sup> January 2022

### Time of Interview

10:00am – 11:00am

### Objectives

I have chosen this participant because they would have extensive experience seeing the difficulties some students encounter during college. They can offer insight into the highs and lows experienced by students. Getting a different perspective can be very valuable in shining a light on any aspect of the project which has been overlooked. The purpose of this interview is to get a deeper understanding into why certain students excel in their course and why others struggle. I want to find out what factors usually lead towards to a course having a high student satisfaction rate. These are factors that I will consider including on the website.

### Interview Questions

1. What do you think are the most important factors for student satisfaction in college?
2. What do you think are the biggest factors which lead to students dropping out?
3. What is it that makes NCI's careers department one of the best in Ireland?
4. What measures do the college take to prevent dropouts?
5. What aspects of the course should somebody make sure to know about before enrolling in it?
6. For the three-year and four-year courses, which year usually sees the most dropouts?

### *Interview Three*

#### Participants

Leaving Cert Students

#### Interview Location

Microsoft Teams

#### Date of interview

Monday 20<sup>th</sup> December 2021

#### Time of Interview

10:00am – 11:00am

#### Objectives

Leaving Cert students are the demographic which this website is aimed at. Nobody has a better idea of the struggles that go into deciding on your future than the people currently going through that process. The purpose of this interview is to find out if I have overlooked any potential features of the website that could be implemented to add to its effectiveness. I want to find out exactly what tools and resources current Leaving Cert students are using

to decide on courses. I also want to find out the hardest part about trying to find the right one and what factors contribute to someone being confident in their choice.

#### Interview Questions

1. Have you decided on what college courses you're applying for next year, if any?
2. What steps did you take/will you take in making this decision?
3. What tools and resources did you use/are you using to find information on these courses?
4. Did/do you find yourself struggling to come to a decision or feeling generally lost throughout the process of filling out your CAO?
5. If you have selected courses, are you confident in your decision?
6. What were the factors that you considered when deciding if you were interested in a course? (Course difficulty, location, etc.)
7. Is there any information you looked for and could not find regarding courses?
8. Is there anything that could have made this process easier for you?

#### Survey

##### *Survey Participants*

1. Technology Management students
2. Computer Science students
3. Business Students

##### *Method of Distribution*

All survey participants will be sent an email with the survey attached and a brief overview.

##### *Objectives of the Survey*

The purpose of this survey is to collect sample data that will illustrate the primary function of the website – which is to obtain actionable information from student feedback. The survey will consist of twenty-two questions regarding the student's experience in their course. The data gathered from the respondents will be documented and then used to create data visualisations which will be included in the mock-ups. The data will also be analysed to exhibit how NCI can benefit from gathering this type of data. It can be used to find unique selling points for courses as well as areas which need to be improved.

Survey: [https://docs.google.com/forms/d/e/1FAIpQLSc9r7T8Z0\\_e9fQgD\\_EjIRBBfDkPEKky7zA2M-KOxYVDghMPig/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSc9r7T8Z0_e9fQgD_EjIRBBfDkPEKky7zA2M-KOxYVDghMPig/viewform?usp=sf_link)

##### *Survey Questions*

**1 - On a scale of 1-10, how rewarding is the work in your course**

1 – Not at all

2

3

4

5 – Neutral

6

7

8

9

10 – Completely

**2 - On a scale of 1-10, how difficult do you find the work?**

1 – Not at all

2

3

4

5 – Neutral

6

7

8

9

10 – Completely

**3 - On a scale of 1-10, how social are your classmates?**

1 – Not at all

2

3

4

5 – Neutral

6

7

8

9

10 – Completely

**4 - On a scale of 1-10, how satisfied are you with your lecturers?**

1 – Not at all

2

3

4

5 – Neutral

6

7

8

9

10 – Completely

**5 - On a scale of 1-10, how satisfied are you with the college facilities?**

1 – Not at all

2

3

4

5 – Neutral

6

7

8

9

10 – Completely

**6 - On a scale of 1-10, how inclusive are the students and lecturers in your course?**

1 – Not at all

2

3

4

5 – Neutral

6

7

8

9

10 – Completely

**7 - On a scale of 1-10, how happy are you with the clubs and societies available to you?**

1 – Not at all

2

3

4

5 – Neutral

6

7

8

9

10 – Completely

**8 - On a scale of 1-10, how employable do you feel you will be after completing the course?**

1 – Not at all

2

3

4

5 – Neutral

6

7

8

9

10 – Completely

**9 - On a scale of 1-10, how happy are you with the student services available to you?**

1 – Not at all

2



3

4

5 – Neutral

6

7

8

9

10 – Completely

**10 - How would you describe the practices/methodologies you are learning about?**

Outdated

Traditional

Relevant

Modern

Innovative

**11 - How would you describe the workload that comes with this course?**

Very small

Small

Average

Large

Very large

**12 - Does this course allow for a healthy work/life balance?**

Yes

No

**13 - How did you first hear about your course?**

Official college website

Third party website (e.g. Careers Portal)

Referral

Social media

Other

**14 - Did you struggle to decide what course was best for you when filling out the CAO?**

Yes

No

**15 - How easy/difficult was it to find information regarding your course?**

Very easy

Easy

Average

Difficult

Very Difficult

**16 - Were you pleasantly surprised by any of the following aspects of your course/college?**

Social life

Inclusiveness

Clubs and societies

Lecturers

Workload

Practicality/employability

Innovation

Student Support

Facilities

**17 - Were you disappointed by any of the following aspects of your course/college?**

Social life

Inclusiveness

Clubs and societies

Lecturers

Workload

Practicality/employability

Innovation

Student Support

Facilities

**18 - What aspects of the course were most useful or valuable?**

**19 - How would you improve this course?**

**20 - Why did you choose this course?**

Employability

Interest

Referral

Other

**21 - How satisfied are you with this course on a scale of 1-10?**

1

2

3

4

5

6

7

8

9

10

Prototype

### *Objectives*

The purpose of this prototype is to give the stakeholders their first look at how the website will be laid out visually. It is not the final prototype which will be developed throughout this project but will serve as a good starting point. I expect a multiple features and areas to be changed by the end of this project, this first prototype's primary objective is to get feedback as early into the project as possible. It will be developed using the results of the brainstorming session, requirements workshop (one) and interview (three). The completed prototype will then be displayed at a second requirements workshop, where it will be

constructively criticised by the specified stakeholders. The feedback which is received from the workshop will be used to identify if any features, designs, content, or structures that need to be edited. Using this prototype, we can ensure there is no confusion or miscommunication between the business analyst and the stakeholders regarding the necessary requirements for the website. Once requirements have been gathered, a second prototype can begin to be developed.

#### *Required Resources*

1. Wireframe Tool – Lucid Chart
2. Results of brainstorming session and interview (three)

#### *Prototype Guidelines*

- Identify requirements based on results of brainstorming session and interview (three).
- Accommodate the opinions of stakeholders during development.
- Include enough detail to allow for sufficient criticism during requirements workshop.
- Document prototype feedback.
- Adjust second prototype in alignment with stakeholder feedback

#### *Participants*

1. Business Analyst
2. Class representatives
3. Computing students
4. Business Students

#### *Prototype Due Date*

Thursday 23<sup>rd</sup> December 2021

#### *Date of completion*

Monday 20<sup>th</sup> December 2021

## Requirements Workshop

#### *Checklist*

- ✓ Select time, date, and location for meeting.
- ✓ Select the most appropriate stakeholders to attend the workshop.
- ✓ Contact stakeholders via email.
- ✓ Ensure the selected stakeholder agree to meet at the allotted time, date, and location.
- ✓ Prepare agenda and list objectives for workshop.
- ✓ Notify stakeholder of agenda and objectives.
- ✓ Compile list of any resources
- ✓ that will be beneficial to the workshop.
- ✓ Document all necessary requirements gathered through the workshop.

### *Participants*

1. Business Analyst
2. Computing Student
3. Two class representatives

### *Location*

Microsoft Teams

### *Date*

December 5<sup>th</sup> 2021 + Wednesday 2<sup>nd</sup> February 2022

### *Time*

10:00am – 3:30pm

### *Objectives*

Every area listed on the agenda must be addressed. The purpose of this requirements workshop is to review the previously developed prototype and discuss improvements that can be made. We can also view the websites of competitors to see if their effective aspects which we can emulate. These improvements can come in the form of new/upgraded features, layout, content, and design. The objective of the business analyst in this case is to gain a greater understanding of the needs of the stakeholders pertaining to the website. As much actionable information as possible should be gathered. Any existing requirements must be refined, and new requirements will be documented if they are suitable, and the project timeline and budget allow for it. There will be two requirements workshops completed, the first of which will shape the first set of wireframes and prototype. The second will evaluate the first prototype and members will suggest improvements that can be implemented and be used to create mock-ups.

### *Agenda*

- Announce the rules of the workshop before its commencement.
- Outline the purpose of the workshop to the stakeholders.
- Indicate the objectives of the workshop and the final deliverables which will be needed upon completion.
- Discuss the first prototype in detail.
- Ensure every participant is allowed the opportunity to share their thoughts.
- Research competitors' websites and discuss the best aspects of them.
- Use prototype and competitors to identify new requirements for website.
- Ensure consensus is reached as to which requirements are needed.

### *Resources Required*

- Acer Swift Laptop
- Reliable internet connection
- Microsoft Word for documentation
- WordPress to display prototype

### *Workshop rules*

1. All participants must join the meeting twenty minutes prior to stated starting time to discuss ground rules, agenda, and research competitors' websites.
2. All participants must stick to the topic at hand.
3. All participants must adhere to the facilitator's demands.
4. All participants must conduct themselves in a professional manner.
5. Constructive criticism is encouraged, but any inappropriate personal remarks will not be permitted.
6. Any disruptive behaviour could result in the workshop being postponed or participants being banned.

### *Workshop Tips*

- Facilitator must remain neutral throughout.
- Facilitator must control the meeting and ensure everyone is heard.
- Participants should be made to feel comfortable enough to share their views.
- Divide meetings into 3 phases – planning, conducting, and reviewing.
- After each phase a break should be taken to allow participants to refresh their minds.

### *Workshop Deliverables*

At the end of the workshop, we must have a Microsoft Word document containing a new list of requirements in the form of features, layout, design, and content upgrades for the website.

## Requirements Elicitation Results

### Brainstorming Results

#### **Computing Student**

The main problems I faced when choosing a course was deciding which one would allow me to be most employable after. All technology-based courses preach about how employable you will be after completion; it makes it very hard to distinguish which ones are the most useful in this area. There should be as much input from past students as possible to give users a trustworthy guide as to which courses produce the most employable students.

Facilities are also a huge factor that potential tech students consider when applying for courses. They naturally want to work with the most modern equipment. This needs to be addressed on the website. Gathering students' feedback on how modern the facilities and equipment provided to them could be helpful for a lot of users.

#### **Business Student**

I also think facilities and equipment are important factors that get overlooked. A way to keep student up to date with college facilities and advancements in equipment could be to set up some sort of newsletter or newsfeed. These could notify users about relevant upgrades that colleges are making to their facilities or courses.

Workload is also a good thing to notify future students about. I think a lot of students end up dropping out of courses because they were not prepared for the workload that comes with it. People who struggle to maintain a good work/life balance might struggle a bit more with higher workloads. Alerting people of this beforehand could prevent a lot of dropouts.

One thing I was disappointed with was the social aspect of my course. It can be quite cliquy at times and I'm someone who is very social, so it wasn't exactly the type of environment I like to be in. Again, this isn't something you tend to hear about online but can have a huge impact on a student's college experience. This would be something useful to include on the website.

### **Past student**

The website should have plenty of categories to rate the courses on, since every student is going to value something different when looking to choose a course. One of the categories should be lecturers. I had such great lecturers during my time in NCI and that's not something you hear much about online. They can make or break your time in college and it's something I'd make sure to include on the website.

Another thing to round out the website would be to add some sort of 'about' page. Just to let the user know why the website is there in the first place and that your intention is to help them.

The website should look as modern as possible. Try to include some data visuals to make all the information easier to take in. If there's heaps of text, then the website will resemble a lot of other websites that are out there.

### **Leaving Cert student**

The main thing a lot of people in my position want to find is somebody with college experience to chat to. This should be the biggest part of the website. I'd lean on this feature as much as possible because you can only gather so much data to show people, whereas a conversation can cover so much. Any way of letting the users contact college students should be a big priority.

### **Brainstorming Conclusion**

This brainstorming session has been extremely useful in identifying what areas the website should focus on. Before this session, the scope of the project was quite wide. Now, there is a much more narrow and achievable scope. There are a few key features that can be utilized.

The feedback gathered from this session will allow us to create a prototype of the website which can then be showcased to stakeholders during the requirements workshop. This will

## Interview (1)

### Class Representative (1)

**1. What are the best and worst things about your course? Did either of these things surprise you?**

*“My favourite thing about the course is probably the amount of different modules we have. We get to learn different programming languages and there’s also modules in business and entrepreneurship, so it doesn’t get too stale. You’re always taking on something new. I knew going into the course that we’d have a decent variety of modules but just didn’t know it would be that much. My least favourite thing is probably the amount of deadlines that we have back to back in the end of semester one and two each year. I think the course would be easier to manage if the deadlines were a bit more spread out. It’s also quite annoying that all of these deadlines come in early January because it means you can’t really enjoy Christmas break, you’ve to spend that time working on assignments. To be fair, I think most courses are like that though.”*

**2. Did you struggle to decide on what course you wanted to take after finishing secondary school?**

*“Not really, just because my brother had taken this course and he really liked it and got a good job afterwards. I know most people struggle though; I was just lucky.”*

**3. Is there anything about your current course that you believe students should be aware of before applying for it themselves?**

*“I think something that caught a lot of people off guard about the course is that it’s not just final year that goes towards your overall end result. Your second- and third-year results are accounted for as well. I think a few people in the course thought it was just our final year that was accounted for and were a bit disappointed when they realised that they should have tried harder in second and third year to get the best result possible.”*

**4. What do you think are the most important things to consider when selecting a course?**

*“I think everyone should have a proper look into the modules. A good few people dropped out of our course because they didn’t realise how heavy it was on coding and programming. So just make sure to have a good idea of what you’ll actually be studying.”*

**5. Do you believe the course you’re in is the best one for you? Why?**

*“Yeah, I think so. I’m happy with the course. Everyone is friendly and I get along with the lecturers. The work can be tough but it’s manageable.”*

**6. Do you believe most students were fully aware of what your course would involve before they started it?**



*“No, I think a good few weren’t ready for all the coding to be honest. I think that’s why we had a good few drop out in first and second year. Especially since it can take a good few extra hours outside of lectures to learn how to code. A lot of people weren’t really up for putting in extra time to practice coding and using these different applications, so they really struggled to keep up. It takes a lot of patience as well to get good at it and loads just didn’t really care about it too much.”*

**7. Did your opinion of your course change from when you first selected it on the CAO until now? How?**

*“Well, I didn’t really know what to expect when I first picked it on the CAO. I had no idea what college was going to be like, so I was bit nervous about starting but now I’m really enjoying the course. After the first few weeks you start to get used to how everything works and make friends, so I think it gets much better after that.”*

Class Representative (2)

**1. What are the best and worst things about your course? Did either of these things surprise you?**

*“The best thing about the course is all the people. Everyone is so sound and we’re all happy to help each other. I’ve made some of my best friends since starting college so I’d say the best part is the people. The worst thing for me was the steep learning curve that I had to go through with programming. I didn’t really have much experience with programming before I started so it was all new to me and it was so tough at the start. It surprised me how hard it was. It’s actually like learning a new language. So that took me ages to get used to but think I’m a bit better with it all now.”*

**2. Did you struggle to decide on what course you wanted to take after finishing secondary school?**

*“Yeah, absolutely. I hadn’t a breeze what I wanted to do to be honest. I talked to my parents and a few people in school about it but still couldn’t really decide. I liked the idea of working with computers, so I just went for the course I’m in now. To be honest, I think I got pretty lucky because a lot of my mates tried college and hated it and dropped out and I think I was lucky to choose this course.”*

**3. Is there anything about your current course that you believe students should be aware of before applying for it themselves?**

*“Like I said, I think there’s a big learning curve with programming. It can take a long time to get decent at it and you need to have the head for it. If you haven’t tried it before and you’re not a very patient person, it might not be for you. It takes a lot of determination, especially if you want to be really good at it, you can’t just go to lectures and do assignments, you have to practice in your own time. So you need to make sure you’re definitely up for that because*

*it'll be frustrating at the start, but if you like solving problems and the challenge of learning something new then I'd say go for it."*

**4. What do you think are the most important things to consider when selecting a course?**

*"Well ideally, you should know what jobs you can get after doing the course. I think some people don't really think that far ahead and just pick a course they like the sound of. If you're not working towards a career that you actually want, you'll probably lose interest in the course."*

**5. Do you believe the course you're in is the best one for you? Why?**

*"Yeah, I think so. Just because it made me realise how much I like problem solving. It can make me want to rip my hair out when things aren't working but I love the satisfaction you get when your code finally works after hours of trying to fix it. I also didn't really realise this at the time but there's so many jobs you can get after this course so I feel like I'll be really employable once I'm finished."*

**6. Do you believe most students were fully aware of what your course would involve before they started it?**

*"I'd say maybe half of them did and half didn't. which would explain the amount of people that have dropped out. I think a lot of people knew it would be tough, but some didn't know just how hard it would be. Especially in first year, I think it surprised a lot of people."*

**7. Did your opinion of your course change from when you first selected it on the CAO until now? How?**

*"Yeah, I didn't really know what I was getting myself into when I chose it. I didn't expect it to be as challenging. Just because I thought I was pretty tech-savvy and would learn things fast. So, it was more of a challenge than I thought but the reason I like it now is because of how challenging it is."*

### Interview Conclusion

I gathered some very useful insights from both these interviewees. One of the noteworthy takeaways was that they both spoke about how challenging it was to learn code and how they think it might have been the reason for a lot of students dropping out of the course. I agree that it can play a huge role in Student satisfaction with a course and should therefore be mentioned on the website. If a course involves a lot of coding, I must make sure to include this in the description to warn those that might not be prepared or interested in taking that on.

Both interviewees seemed happy in their selected courses and attribute a lot of it to enjoying the challenging work. If I can collect as much data as possible from students pertaining to how satisfying the nature of the work in their course is, it can be extremely valuable to include on the website. Additionally, there seems to be a strong correlation

between students being happy with their social circle in their course and their overall satisfaction. This tells me that since it is a crucial part of any student's experience, the feedback on the social aspects of each course should be given high priority on the website. It will be particularly important to gather as much data as possible regarding this so I can illustrate clearly how socially satisfied students are with each course.

## Interview (2)

Student Support and Welfare Manager

### **1. What do you think are the most important factors for student satisfaction in college?**

*"I suppose for students to get making friends is a big factor apart from the course itself. Obviously being interested in their program and enjoying the content is huge, but the social side of it is massive. I know that there's research that says that if the student hasn't made a friend in the first six weeks, they're much less likely to stay in the course. So that's why a big part of what we do is to try and get students making friends from day one."*

### **2. In your opinion, what is the biggest reason for students dropping out of courses in NCI?**

*"The course not being what they expected is a big one. I think especially in computing, they can get a shock when they sit the modules. Psychology students as well don't always expect to be doing statistics and things like that. So yeah things like the course not being what they expected, or they didn't settle. They didn't make that friend from the start so they don't feel a kind of inclusion or part of the community."*

### **3. What is it that makes NCI's careers department one of the best in Ireland?**

*"I think it's because they deal very much one to one with students. They provide a lot of one-to-one support and there's very few colleges that doing it that way. In the career department here, the students have career advisors for specific programs, so the advisors are very aware of what the industry is looking for and they help the students get that. They're very proactive. The careers team know the skills needed for computing, they market the project showcases, they get very involved. The fact that they have modules on some of the programs as well I think is a big one too."*

### **4. What measures do the college take to prevent dropout rates?**

*"Getting students to make friends on the first orientation at the start is a big one. Then when the attendance tracker was up and running before COVID, we would have flagged a student if we noticed they weren't attending a certain amount of lectures and student support would reach out and see if they wanted to come in for a chat, see if they needed any extra support. Sometimes, if it's financial, we connect the student with the student assistance fund. It might be that they're struggling with their mental health. We can link them with the counselling team. The stuff we can put in place for a student sometimes if they miss a lot of college*

*because they've been unwell, like extra supports such as learn and support, can get them back and engaged. Then there's a few other things we have started doing, like the 'back on track' event. Basically, this was an event where any student who was falling behind in their course, having difficulty not attending, finding they've missed assessments, anything like that, they could sign up and meet someone from student support either online or face to face. They could then have a chat about things, link them with the program coordinators, if they needed deferrals, we can help them process them, things like that. So that's another initiative we've started to try and help. At the end of semester one, there are exam boards where we look at all student exams and any students who missed one gets contacted to see if there is anything going on. We try to be accessible as possible. Even in July, there's always someone in the office if someone wants to pop in if they're having a tough day, we try to link them with the right resources and catch them if they're struggling. Say they have work commitments and might be close to leaving college, they send us a withdrawal form, so they don't just withdraw without anyone noticing and trying to help. We always contact students who want to withdraw to see if there's any other options. A lot of students don't know they can defer for a year as well for example."*

#### **5. What aspects of a course should somebody know about before enrolling in it?**

*"That they might have to learn languages, they might have to do coding and programming, that kind of stuff. I think a lot of it comes down to – and I know this is nobody's fault, but a lot of it comes down to people not having great career guidance before choosing a course. So, they might have been in school when they were picking their course but not actually have understood what the course actually entailed. I think a big one for students as well, is know how much they have to attend the course each week. You might only have 12 hours of lectures, but you're expected to do a certain amount of independent learning as well. The students coming into first year, a lot of them don't realise this, because to be fair to them a lot of them aren't told. So, knowing things like that can be really helpful to students. I personally think lots of students who come in from PLC courses settle way better because they know how to write an assignment. They know how to study, they know what to expect, it gives them a real grounding when they have an idea of what the course will be about."*

#### **6. What year do people tend to dropout the most?**

*"Usually first year, it's a mixture of not knowing what to expect and not settling in and finding their groove when they start. First year tends to have the highest dropout rate and generally once they get through that, students will go on to complete the course. They might have a little bump in the road along the way, but most tend to be fine. There're always a few students, and it's really worrying when it happens, that dropout in final year. Which is such a shame because you're so, so close but sometimes it's just too much."*

### Interview Conclusion

This interview was one of the most useful ones I have conducted thus far. It gave me a unique viewpoint into the welfare of students and what leads to their satisfaction and dissatisfaction. It reinforced my initial hypothesis which is that a huge reason for students dropping out is because they are not fully aware of what the course would be like. As stated by the interviewee, many of these students enrol in courses without receiving proper career guidance and are surprised by some of the modules that they must take. Therefore, a list of modules for each course is a feature that I believe is a necessity for the website.

The interviewee also spoke about the importance of social acceptance and the role that plays in keeping students engaged in their course. This highlighted the importance of getting student feedback on the social aspects of their course. It was also noted that the college's student services can have a big impact on the student's feeling socially accepted. Even though student services are more to do with the college rather than each individual course, it should also be included on the website since it has such a crucial impact on the experience students will have.

### Interview (3)

#### Leaving Cert Student (1)

**1. Have you decided on what college courses you're applying for next year, if any?**

*"Yeah, I plan on going to TU Dublin to do marketing but I'm not sure I'll get the points for it."*

**2. What steps did you take/will you take in making this decision?**

*"I kind of just based it off my favourite subject in school. I like business and my friend's mam has a job in marketing and says she likes it. She seems like she's always out and about at events and stuff for work, so I thought that sounded fun. Based off this I used careers portal to search any marketing courses in Dublin."*

**3. What tools and resources did you use/are you using to find information on these courses?**

*"I found out about the general path I want to take from word of mouth from my friend's mam. I used careers portal and then that led me to going on to the actual college website to read the blurb on the course. There's not much out there on the course itself to be honest. I don't know anyone who's older than me to give me information on the course or someone who has done the course so I'm kind of chancing my arm with it all. I know my friends were able to use their older sister's <siblings> contacts and stuff to ask them how they're getting on with their course but I don't have any contacts like that."*

**4. Did/do you find yourself struggling to come to a decision or feeling generally lost throughout the process of filling out your CAO?**

*"Yeah, to be honest. It's a tough process the whole CAO and all that. I've only just turned 18 and I've no idea what I want to do at all, and I don't have much in front of me to choose from other than a few words on a website. It's hard to tell an 18-year-old that they have to choose something now that they want to do for the rest of their lives. That's a lot of pressure. As if the leaving cert wasn't enough pressure."*

**5. If you have selected courses, are you confident in your decision?**

*"I chose marketing in TU Dublin just because of the location to be honest I actually don't know what the course is even about really so no I'm not confident in my decision. I heard though that there is a 2-month period where you can get a refund from your course if you don't like it so I think the best thing to do is to just start it and see how I get on. I also heard that once you get into a college it's not too hard to switch courses from one to another within the college so I could even try that if I don't like it. I just really hope I don't have to pull out of the course after a few months and lose my money and then have to wait a whole year for another shot again at the CAO. I'm afraid I'll get used to the money in that time as well because I'd have to pick up a full-time job so hopefully, I get it right the first time."*

**6. What were the factors that you considered when deciding if you were interested in a course? (Course difficulty, location, etc.)**

*"The main thing I considered when choosing a course was the location. I wanted to go to college in Dublin because I live in Dublin, and I didn't want to have to pay rent. I haven't really thought about the difficulty of the course at all because I'm not really going to know anything about that until I get into it. Another factor I considered was my friend's mam who has a job in marketing, I assume from doing a general course in marketing I could get a similar job"*

**7. Is there any information you looked for and could not find regarding courses?**

*"Yeah, I would love to know the nitty gritty about all the course modules. I imagine they'll be totally different to school subjects, but I can't tell at all what they'll be like. Most websites just list out the modules with no explanation on each. Like, for example, on the course I want to do one of the modules is quantitative methods and I don't know what that is. How am I supposed to know what that is until I get into the course like the whole reason, I am doing the course is to learn these things, but I don't know what I'm about to learn in advance. It's all well and great for a college to be able to say yes this is what marketing is overall, but I don't know what I'm getting myself into at all when there is just a list of modules I'm about to complete for the following years on the website and that's all. I also have no idea if this is even a good course in general for getting a job afterwards, I am basing my friend's marketing job on this whole course being good for job opportunities. For all I know this course*

*could be really bad and not cover the basics and wouldn't make me much more employable than if I was to just go straight into a job."*

**Is there anything that could have made this process easier for you?**

*"Yes, knowing someone in the year ahead of me or a few years ahead of me would have been a good start. This would have at least started my process of elimination. A few explanations on each module would have been good as well. It would have been a good idea if the school brought workers from different sectors in and gave us a little blurb on what they do every day during work and stuff because I actually only know a few professional workers, so I don't really know what proper jobs are like."*

Leaving Cert Student (2)

**1. Have you decided on what college courses you're applying for next year, if any?**

*"I haven't decided yet, no. I'm kind of just putting it off to be honest. The thought of the Leaving Cert is stressing me out so I really haven't put as much thought into it as I should. I've looked at a few courses but I'm so indecisive and I just keep putting it off."*

**2. What steps did you take/will you take in making this decision?**

*"I'm going to have to look into more courses at some point. I'm relying a lot on my parents to tell me which ones to consider. I don't have a big plan as far as my career so it's making the process harder. I'm going to ask my friends what they're looking into then have a look for myself."*

**3. What tools and resources did you use/are you using to find information on these courses?**

*"So far, I've just used Careers Portal on college websites since that's what my teachers are telling me to do. I like talking to my friends about college but they know as little as I do"*

**4. Did/do you find yourself struggling to come to a decision or feeling generally lost throughout the process of filling out your CAO?**

*"Definitely feeling a bit lost at the moment. I'm considering taking a year out even just because I don't want to commit to a course when I'm not too sure if I really want to do it. I also lose the SUSI if drop out of college which means there a good chance I wont be able to enrol in another course. So don't want to commit to something unless I'm sure."*

**5. If you have selected courses, are you confident in your decision?**

N/A

**6. What were the factors that you considered when deciding if you were interested in a course? (Course difficulty, location, etc.)**

*“There are a few things id consider before choosing a course. To me, a big thing is that the course leads me onto a career path which I have an interest in. It’s a bit of a balance between making sure I like the type of work id be doing after the course, and that id be well qualified to get a job in that area. Obviously, if I hear off people that the course is great craic as well that would be a bonus.”*

**7. Is there any information you looked for and could not find regarding courses?**

*“It’s hard to tell how employable I’m going to be after each course since they all say ill be very employable. There’s nothing that come to mind specifically, I’d just kind of like to see what the day-to-day looks like in the course and maybe the best things about it.”*

**8. Is there anything that could have made this process easier for you?**

*“Outside of not having the leaving cert to worry about, it would be great to chat to people about their jobs to see if it sounds like id enjoy them. I suppose having more people to talk to about the process would make it easier.”*

### Interview Conclusion

After this interview with two Leaving Cert students, there are some important insights that can be taken away and used in the creation of the prototype. They were both in agreement over a few key points.

Firstly, they were both struggling to find quality information about their course. This is ideal because it validates the need for a website to give student the extra information that they’re not receiving.

Secondly, they both emphasised the need to talk to somebody who has experience in what they’re going through. Contacting current and former students was initially going to be the secondary use for the website, behind looking at course reviews but this may need to change. The contact page of the website should be highlighted as clearly as the course reviews page since it seems to be a key user requirement.

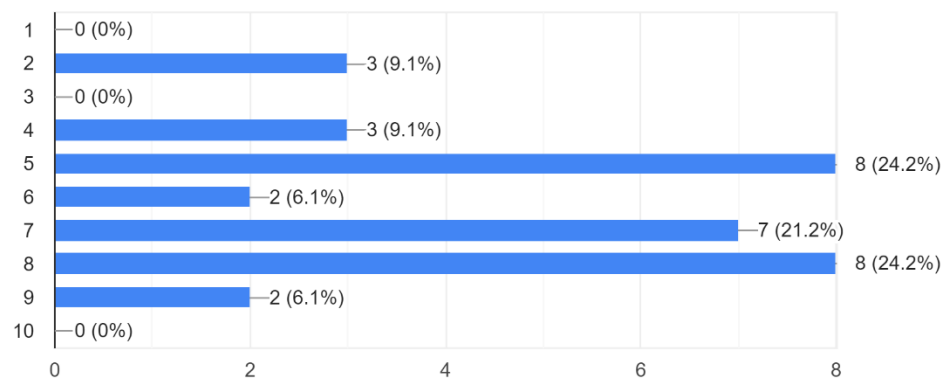


Lastly, they both stated they are feeling the pressure of the Leaving Cert and perhaps not allocating enough time to searching courses. Therefore, the website should be easily navigable and hold all the features and information necessary for users to decide on courses without having to waste time looking at several other resources. It should be a one-stop shop.

## Survey Results

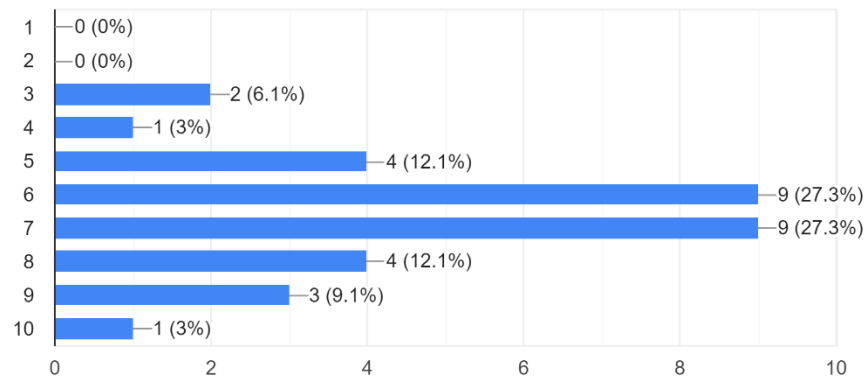
On a scale of 1 - 10, how rewarding is the work in your course?

33 responses



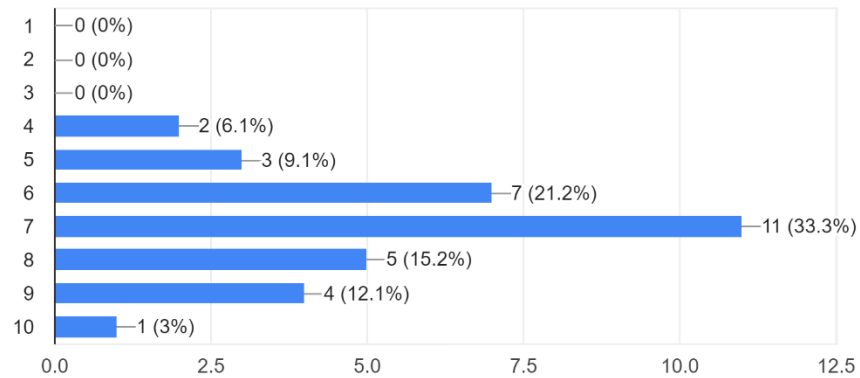
On a scale of 1 - 10, how difficult do you find the work?

33 responses



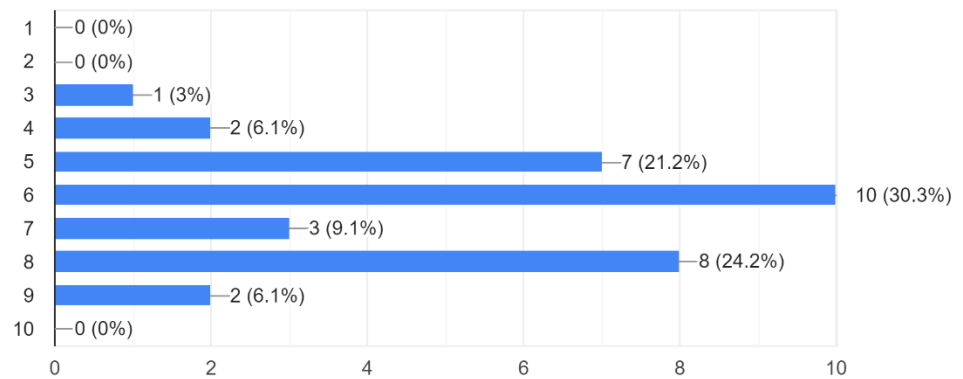
On a scale of 1 - 10, how social are your classmates?

33 responses



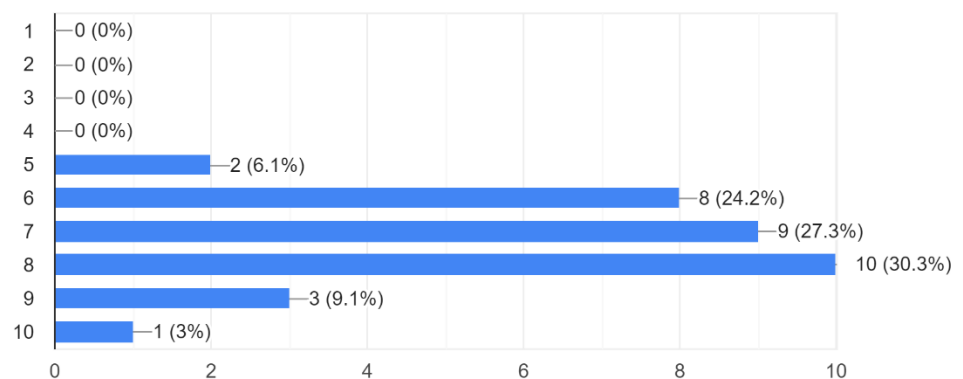
On a scale of 1 - 10, how satisfied are you with your lecturers?

33 responses



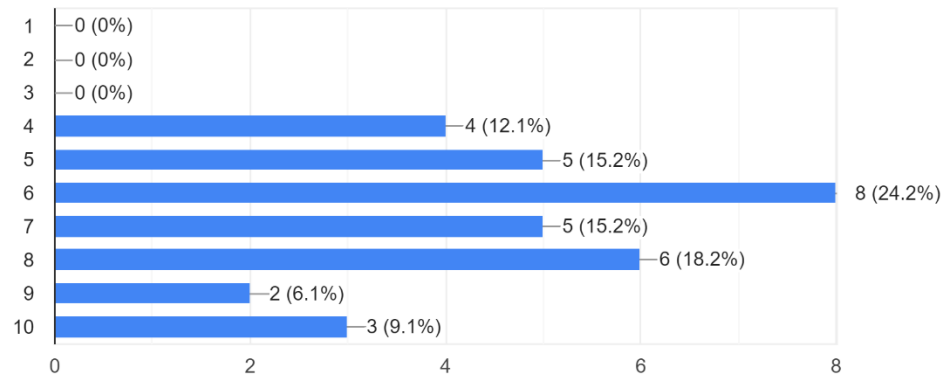
On a scale of 1 - 10, how satisfied are you with the college facilities?

33 responses



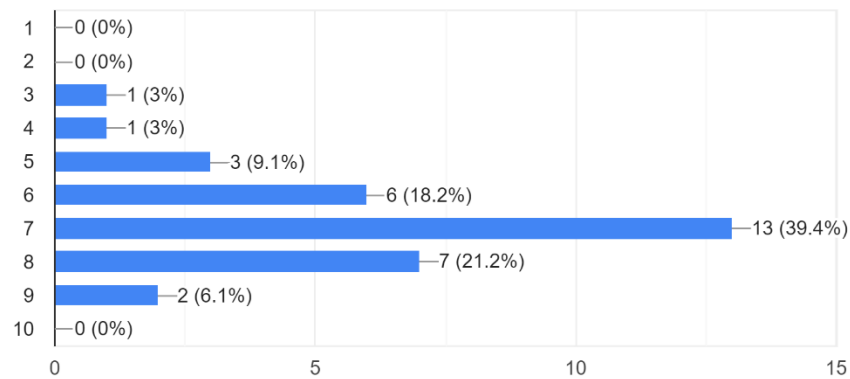
On a scale of 1 - 10, how inclusive are the students and lecturers in your course?

33 responses



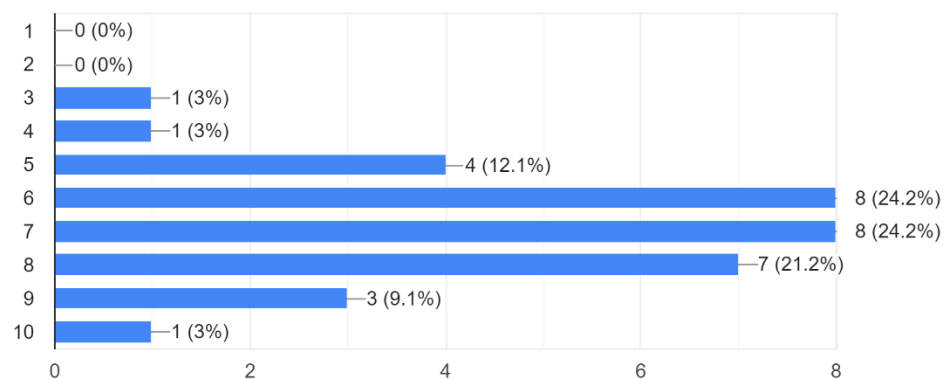
On a scale of 1 - 10, how happy are you with the clubs and societies available to you?

33 responses



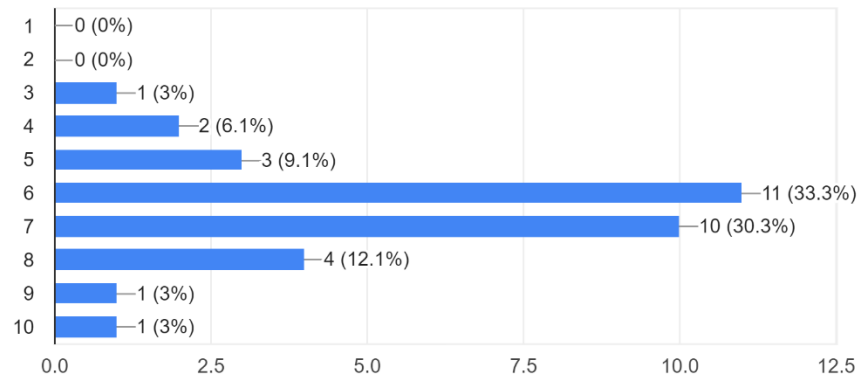
On a scale of 1 - 10, how employable do you feel you will be after completing your course?

33 responses



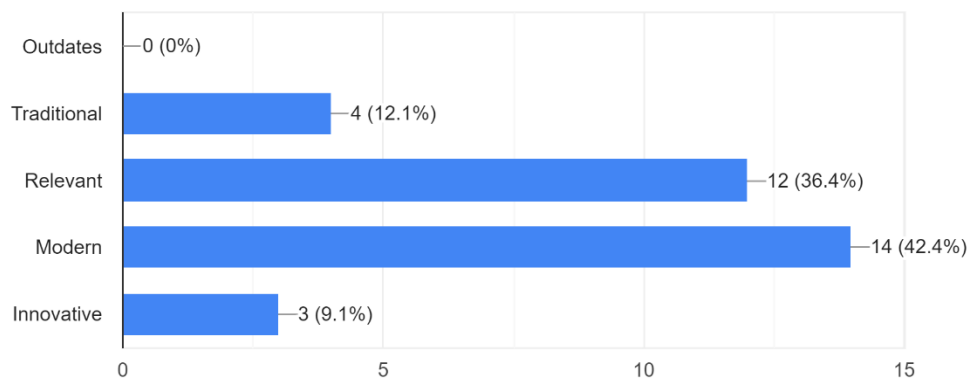
On a scale of 1 - 10, how happy are you with the student services available to you?

33 responses



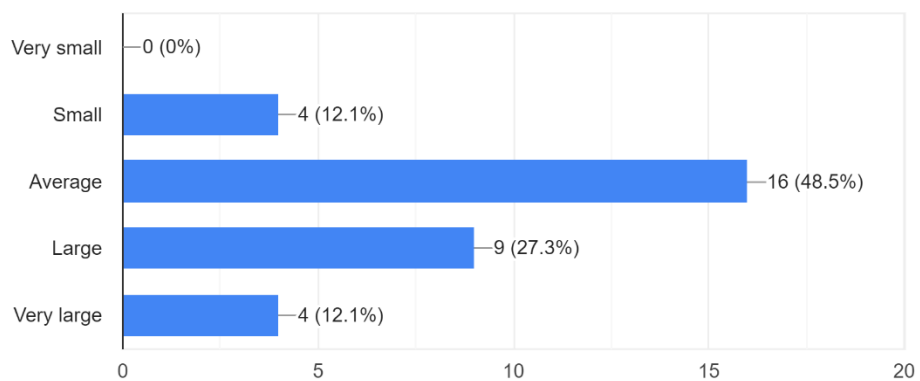
How would you describe the practices/methodologies you are learning about?

33 responses



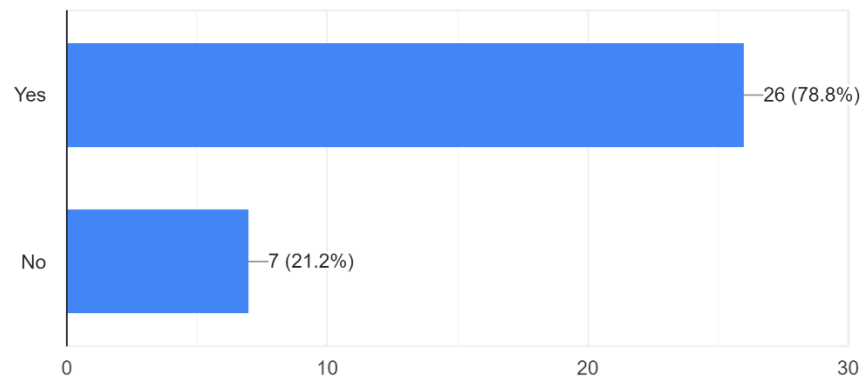
How would you describe the workload that comes with this course?

33 responses



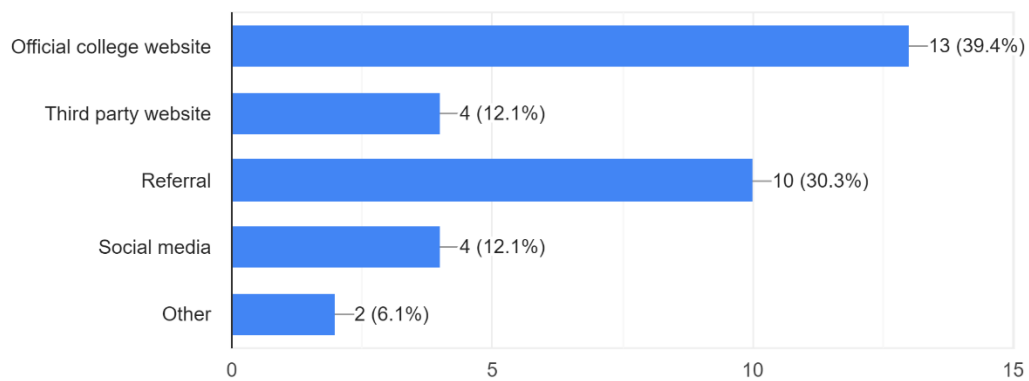
Does this course allow for a healthy work/life balance?

33 responses



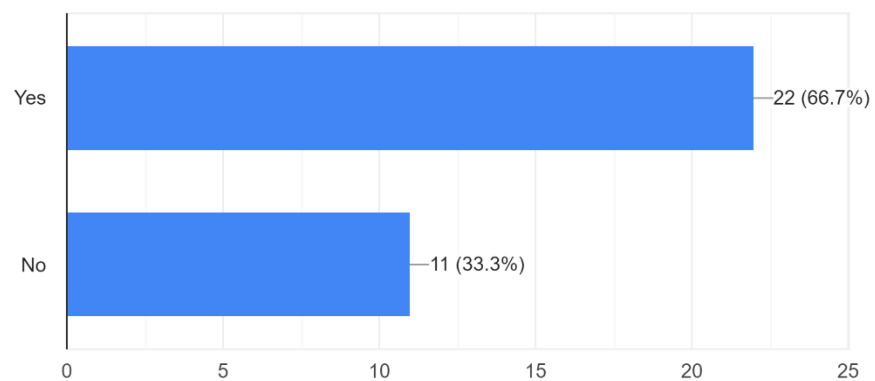
How did you first hear about your course?

33 responses



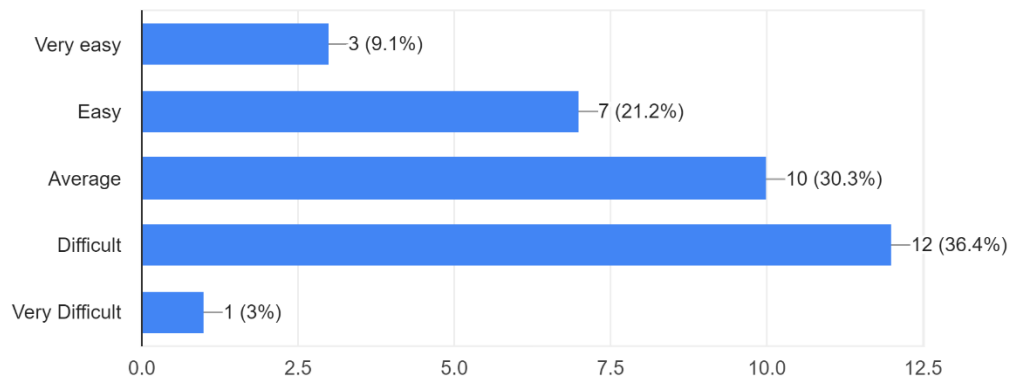
Did you struggle to decide what course was best for you when filling out the CAO?

33 responses



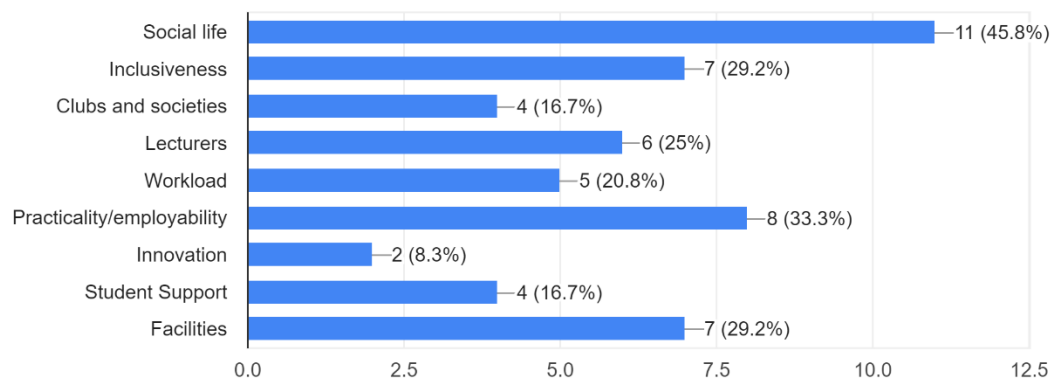
How easy/difficult was it finding information regarding your course?

33 responses



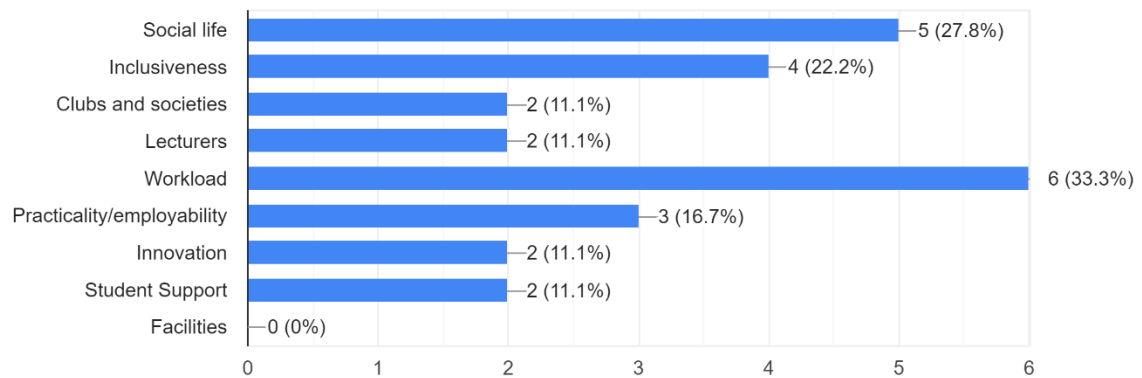
Were you pleasantly surprised by any of the following aspects of your course?

24 responses



Were you disappointed by any of the following aspects of your course/college?

18 responses



How would you improve this course?

4 responses

More individual projects

Less assignments

Less theory

I would reduce the workload to help work life balance

What aspects of this course were most useful or valuable?

4 responses

Projects

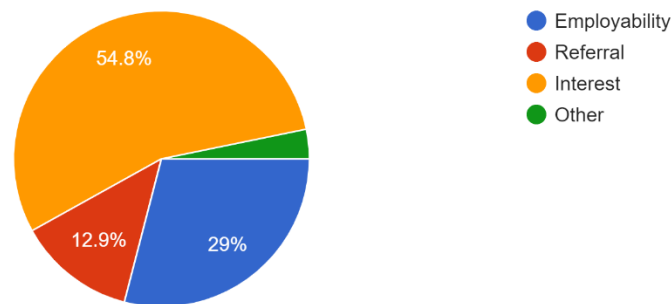
Work placement

Small class size meant more attention from lecturers

Variety of coding languages

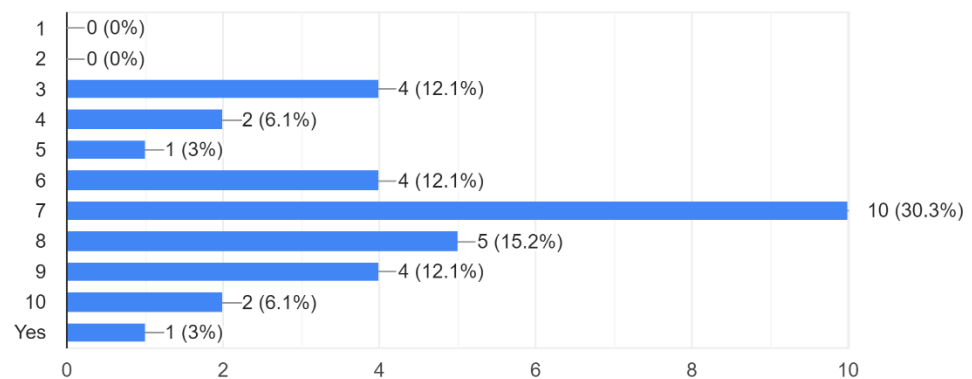
### Why did you choose this course?

31 responses



### How satisfied are you with your course on a scale of 1-10?

33 responses



### Survey Conclusion

These survey results are very useful to the project for several reasons. Firstly, they have given us data which can be used to create the data visualisation which will be included in the final set of wireframes. Secondly, even though the sample size is small, it offers compelling insights which can be used for the benefit of the website and its users, as well as the college. We can retrieve some unique selling points for the courses and highlight what factors are the biggest contributors to student satisfaction. An analysis of the data using Microsoft Excel has given us the following takeaways:

- The average student satisfaction rate from these 3 courses combined is 67%.
- Business students have the highest satisfaction rate amongst the classes at 72%.
- Business students also have the most social course, with an average of 77% satisfaction with their course social life.
- Computing students have the most difficult work amongst the course, with a 76% difficulty rating, but find the work they do in the course more rewarding (71%) than any other courses.

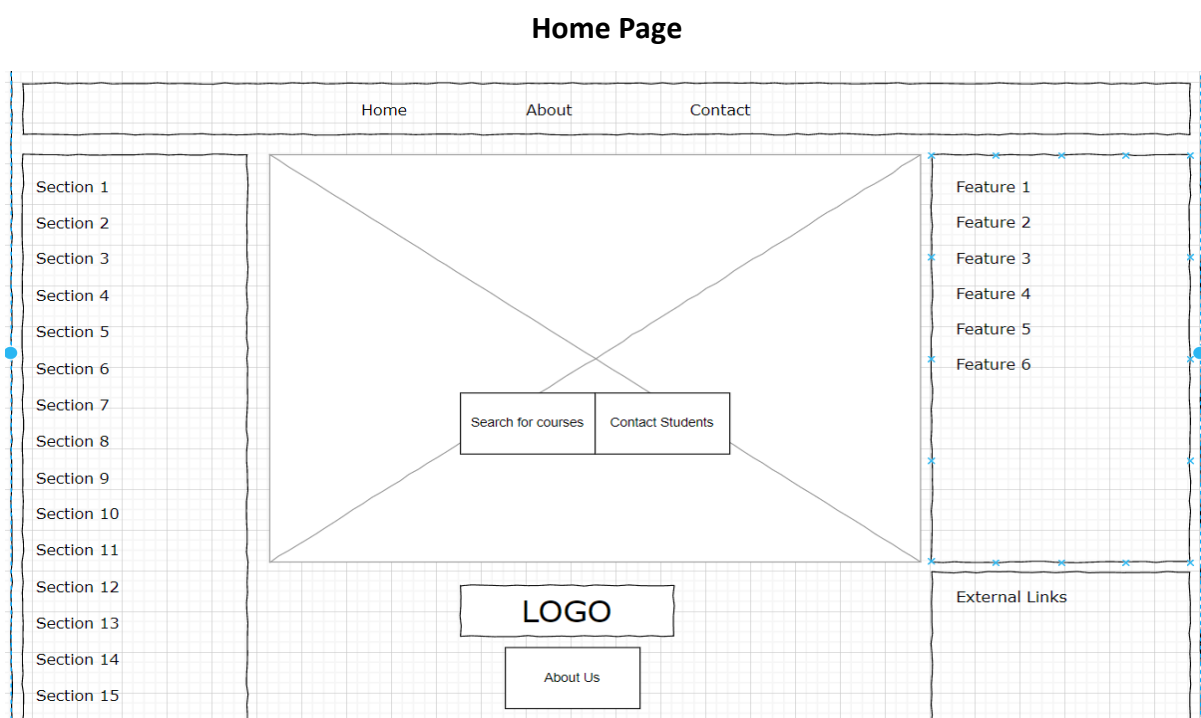


- The students who were pleasantly surprised with the social life and or inclusion in their course had an average satisfaction rate of 85%, which is 18% higher than average and 45% higher than those who reported that they were disappointed in those same aspects of their course.
- The students that were able to find a healthy work/life balance in their course had an average of 75% satisfaction, 8% higher than the average and 36% higher than those said they were not able to find work/life balance in their course.

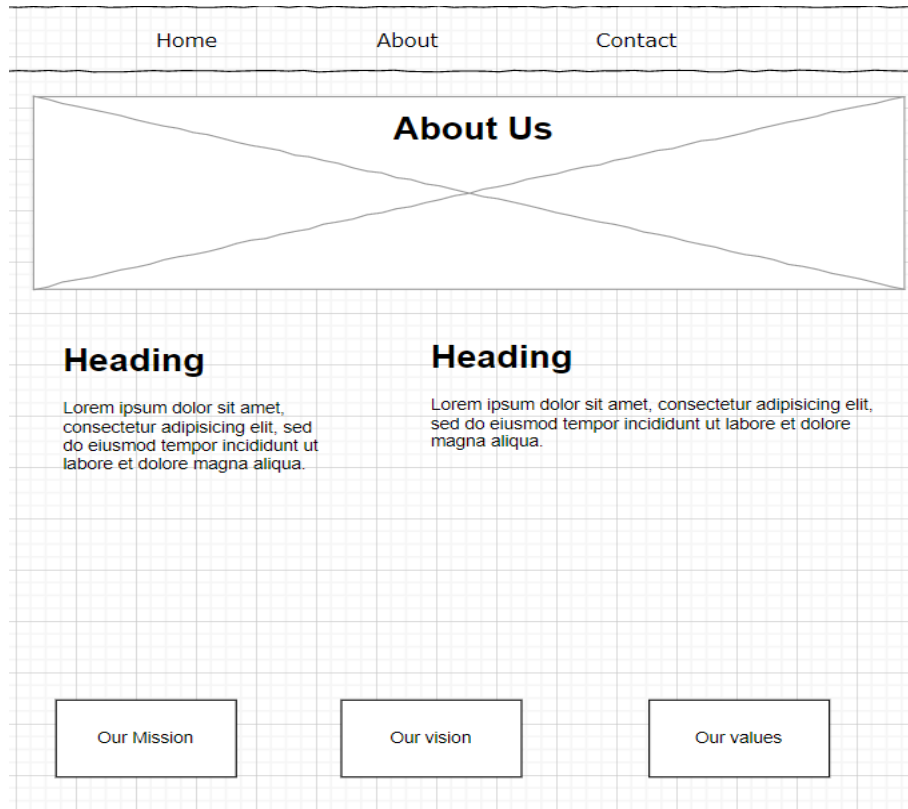
These points can be used to highlight the fundamental differences between courses on the website, give users a stronger understanding of the strengths and weaknesses of each course, and help the college identify what they can focus on to improve student satisfaction. The responses to the question “How would you improve this course” can be sent directly to the college rather than displayed on the website. The responses to the question “What aspects of the course were the most valuable/useful” can be displayed on the website to give users an idea of what students liked the most about each course.

The survey responses also indicated that 36.4% of students found it difficult to find information regarding their course when they were looking for it. Furthermore, 66.7% of students said they struggled when trying to choose courses for the CAO. This reinforces the fact that there is a need for a website that provides additional information about courses to the user.

## Prototype (1) - Wireframes



## About Section



## Contact Section

Home	About	Contact
------	-------	---------

## Contact Us

**Contact Details**

Email

Phone Number

**Send us Feedback**

Your contact Information

Comments

### Courses Search Page

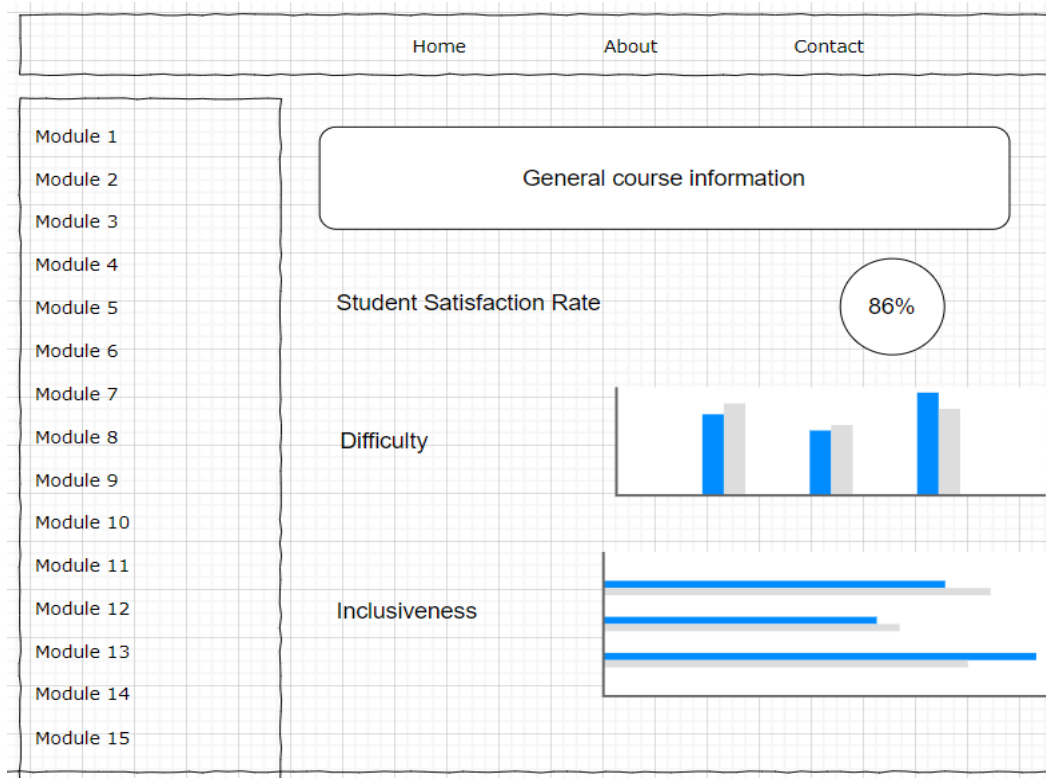
Home	About	Contact
------	-------	---------

## Courses

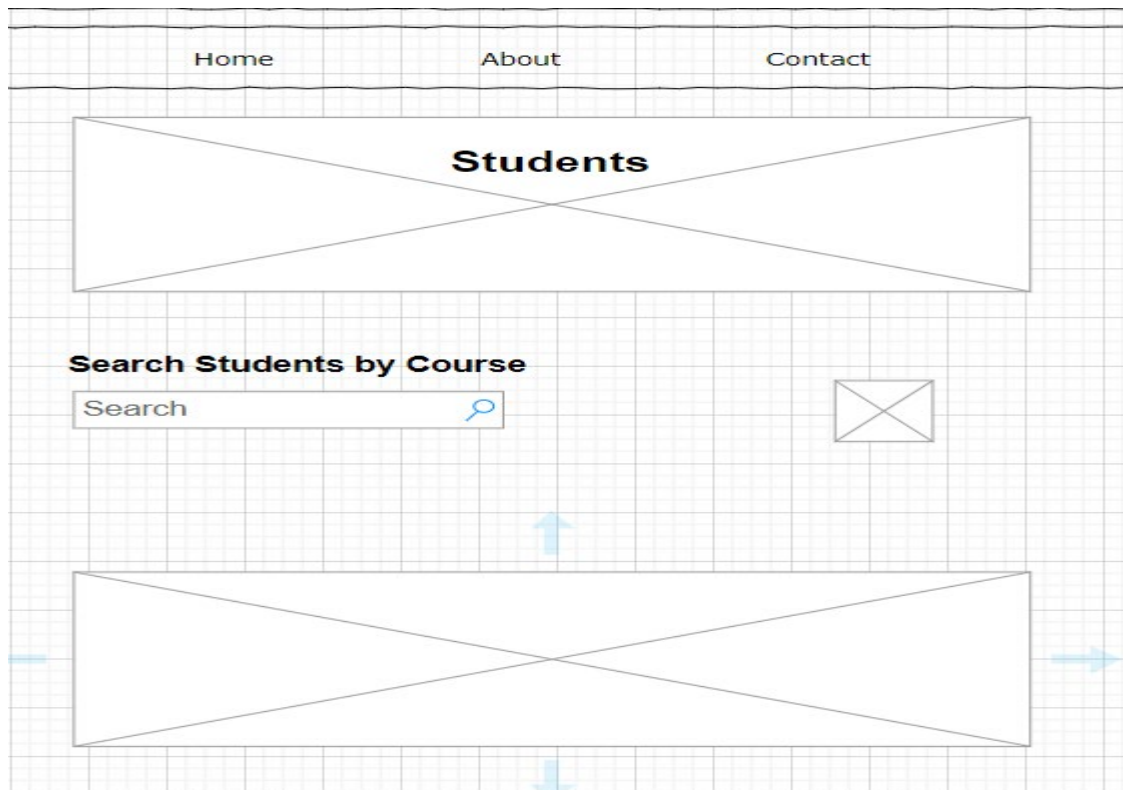
**Search Courses**

Title
Item 1
Item 2
Item 3
Item 4

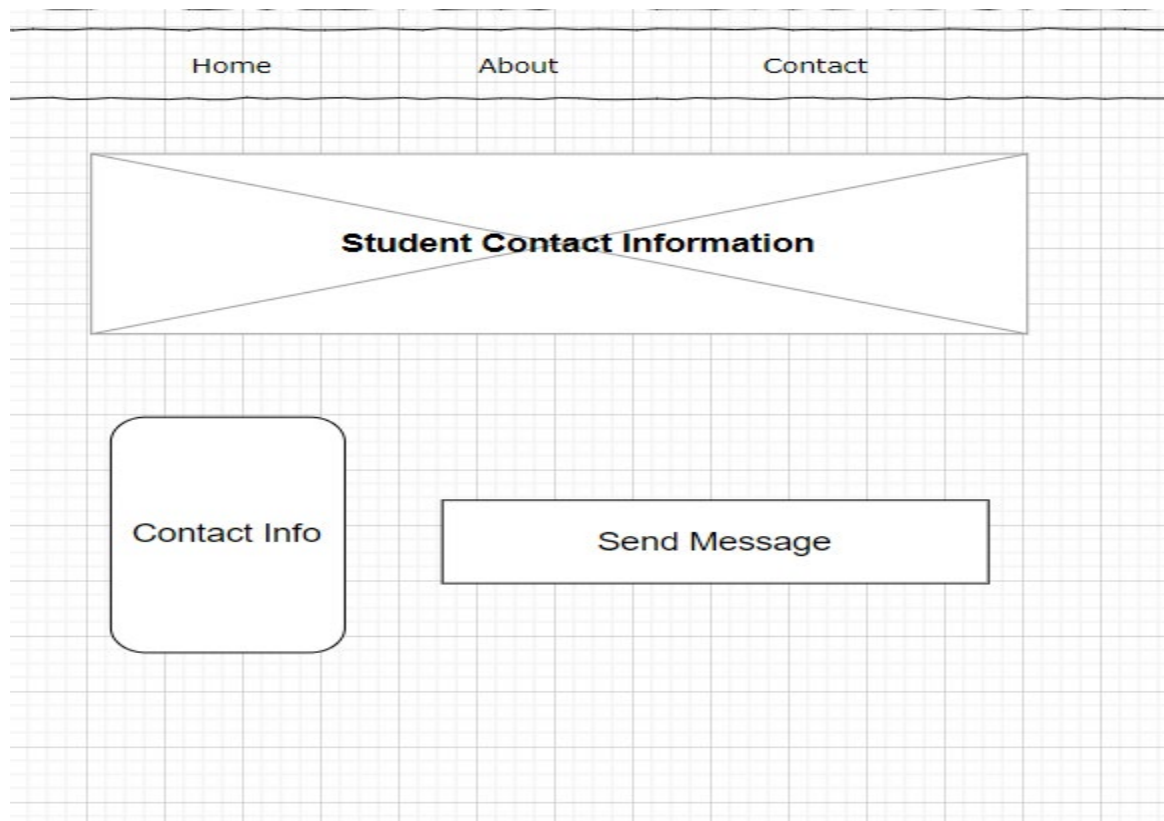
## Course Information Page



## Student Search Page



## Student Information Page



### Prototype (1) Conclusion

Using the results of the interview (three), first requirements workshop, and brainstorming session, a series of wireframes have been created in line with the suggestions put forward by stakeholders. These wireframes illustrate the features which were prioritised most during these elicitation techniques. They will play an essential role during the second requirements workshop. The workshop will be centred around this prototype, to allow the stakeholder to get more of a visual idea of what this website will be like.

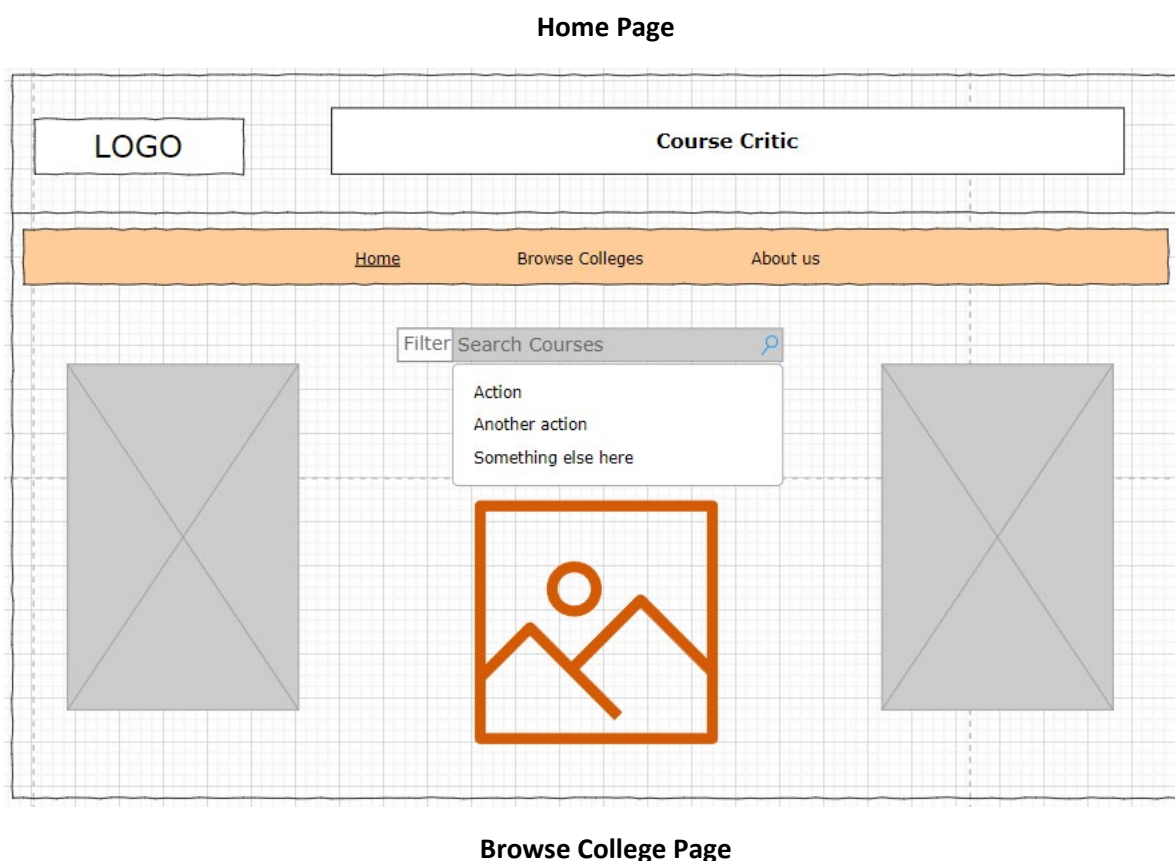
The interview, which was conducted, offered extremely valuable insight into the focus points of the project. Both students expressed frustration that they could not talk to a student from the college they are interested in. Therefore, a section for contacting students was not only mandatory but would be one of two main options provided when first accessing the website. The second option being the section for searching courses, which is a large part of the premise of this project. Both seem to be the most important features at this point in the project.

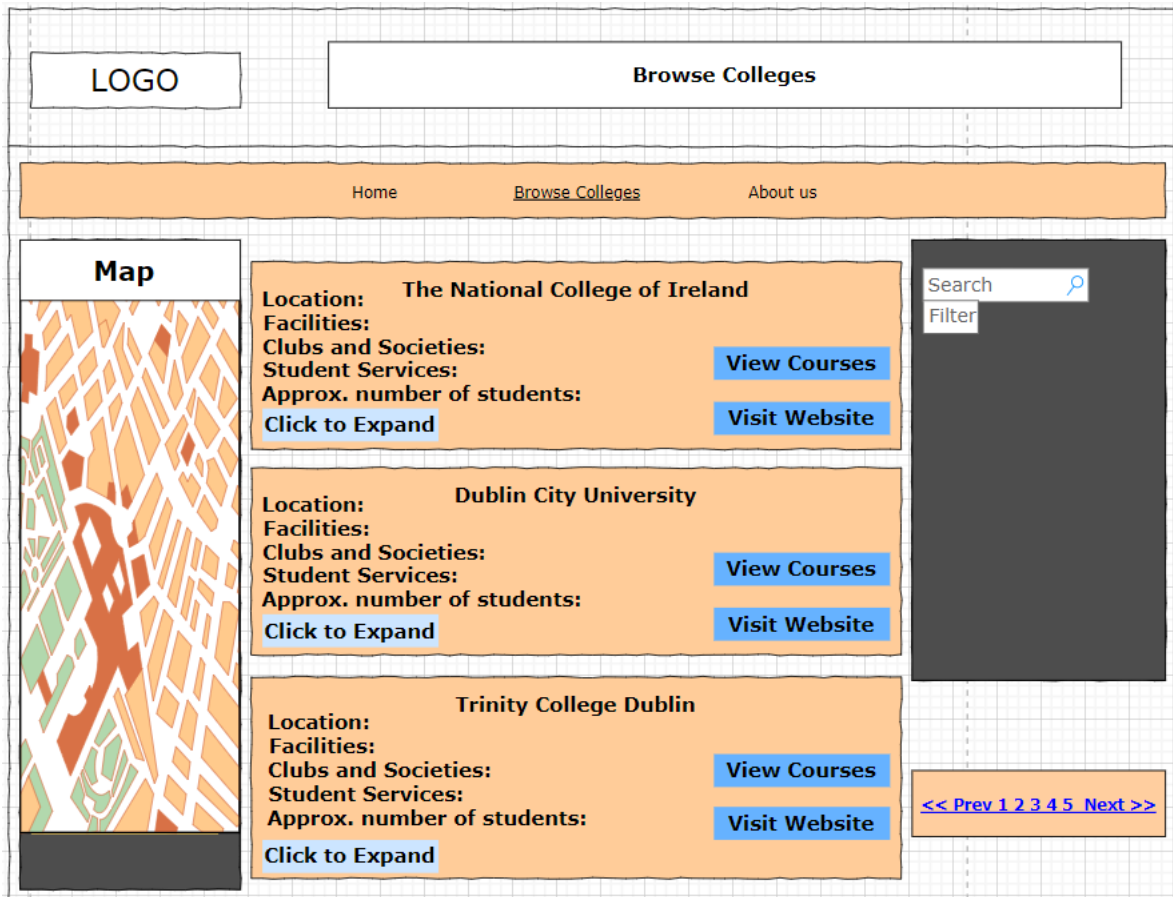
While discussing the features of the website during the brainstorming session, another idea which was unanimously agreed upon to be a vital component, was a news forum to keep students up to date with any news regarding colleges and universities. This can be added into the bottom half of the home page.

To provide the website with a more complete feel, the consensus amongst stakeholders from the brainstorming session was that a page for contacting us to provide feedback and a page to let users know about who we are was needed. This has been included in the prototype.

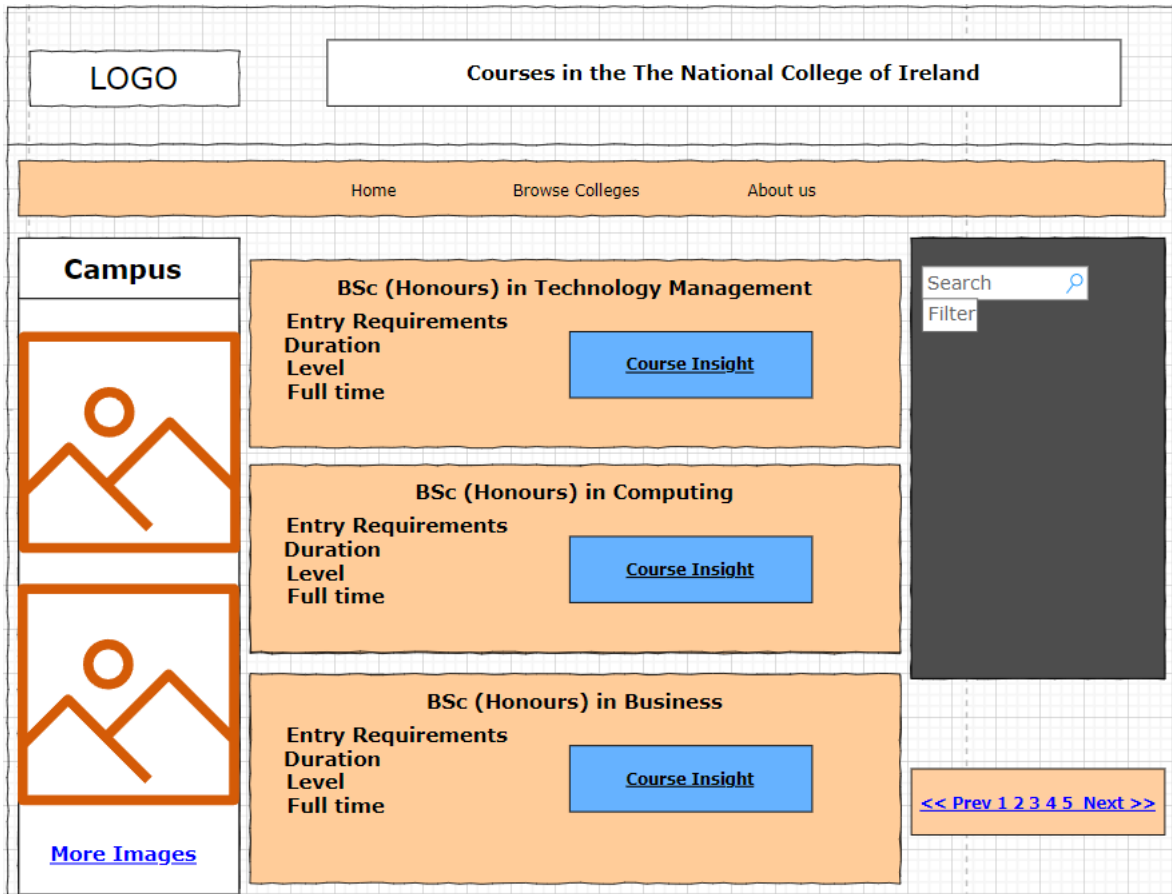
A second requirements workshop will take place to discuss the prototype and any improvements that can be made to it. Once the results of the various other elicitation techniques have been gathered, a second prototype will be developed and presented to stakeholders. The second prototype will be the final one, after which the official website will be developed.

Prototype (2) – Mock-ups





### Course Selection Page





## Course Insight Page

LOGO

Course Insight: BSc (Honours) in Computing

Home
Browse Colleges
About us

- Module 1
- Module 2
- Module 3
- Module 4
- Module 5
- Module 6
- Module 7
- Module 8
- Module 9
- Module 10
- Module 11
- Module 12
- Module 13
- Section 14
- Section 15

**Entry Requirements:** Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque

**Duration: 4 years**

**Level: 8**

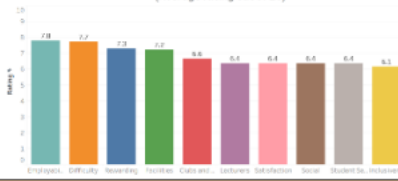
**Full time**

**Most valuable aspects of the course according to students**

- 📖 "Small class size meant more attention from lecturers"
- 🎓 "Variety of coding languages"
- 👤 "Work placement"

*"Computer Science ranks first in the National College of Ireland in difficulty and in rewarding work. Students felt 8% more employable than the average upon completing this course."*

**Computer Science Student Insights**  
(Average rating out of 10)



Category	Rating
Enthusiasm	7.8
Difficulty	7.7
Working	7.3
Interest	6.9
Career	6.5
Lecturers	6.4
Satisfaction	6.4
Social	6.2
Student St.	6.4
Incomes	6.3

- Year 1
- Year 2
- Year 3
- Year 4

Email Address


**Contact Student**


Leave your question here


*Students in this course were most pleasantly surprised with:  
Rewarding work + Employability*

Data visualisation zoomed in

### Most valuable aspects of the course according to students

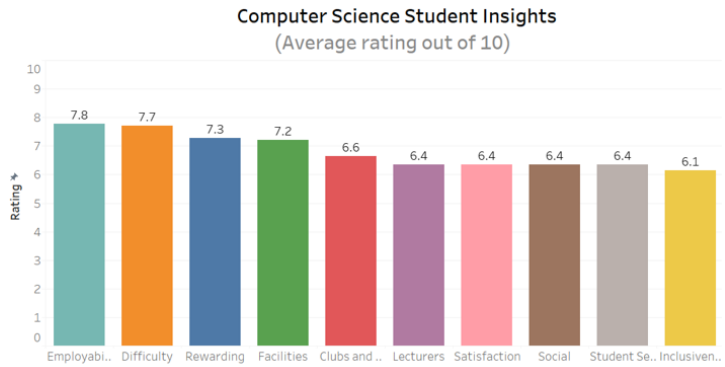
- 

*"Small class size meant more attention from lecturers"*
- 

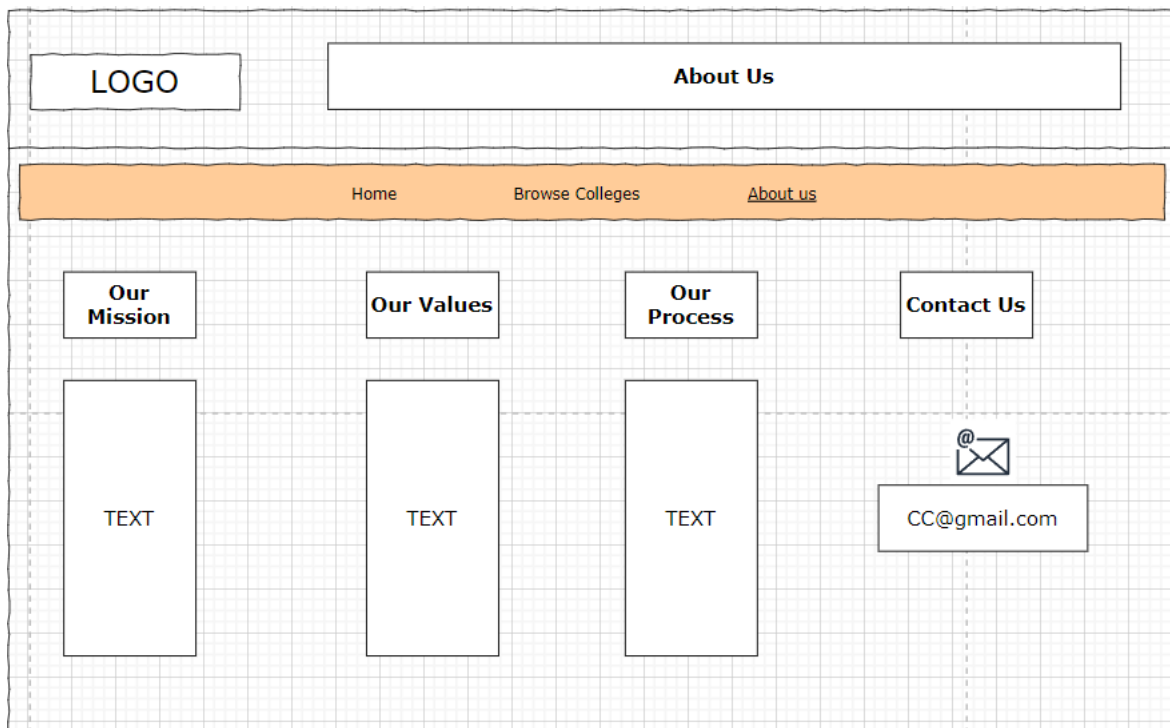
*"Variety of coding languages"*
- 

*"Work placement"*

*\*Computer Science ranks first in the National College of Ireland in difficulty and in rewarding work. Students felt 8% more employable than the average upon completing this course.\**



### About Us Page



### Prototype (2) Conclusion

A number of changes have been made to the first prototype due to the second requirements workshop which was held on February 2<sup>nd</sup>. Drastic changes have been implemented to improve the user experience. New features have been added and some old ones have been removed. The layout is different. The changes that were incorporated don't

only represent the contributions of the stakeholders involved in the requirements workshop, but those involved in the other various elicitation techniques.

The 'Contact us' page has been removed and instead there is now a section in the 'About us' page which will display our contact details. A 'Browse Colleges' page has been added so users can scroll through the colleges available to them before looking into specific courses. When looking through colleges there will be a description of the college and a link to both their official website and course insights. The search bar on the home page is for searching colleges and courses, you can no longer search student's profiles because the details of the students will not be made public.

A map feature has been added to show users exactly where the colleges are. This way the user can immediately decide whether they are willing to travel to the campus. There is also a filter feature for searching for courses and colleges so that user can narrow their search to the most relevant results. When scrolling through the courses that a particular college offers, there will be images of the campus on the side of the page, users will be given the opportunity of viewing more pictures of the campus and facilities by clicking onto the 'view gallery' link.

The course insight pages have remained largely the same, with some minor alterations. There will be a small box on each page which states what aspect of the course the students were most pleasantly surprised with. There will be a unique selling point for each course if possible.

### Requirements Workshop 1 Conclusion

The first requirements gathering workshop took place with a computing student and two class representatives. The primary objective of the first workshop was to suggest ideas for the layout, features and content of the website. Using these suggestions, I would then create a prototype and wireframes to try and match their vision. Once this was done, a second workshop took place. The primary objective of this workshop was to evaluate the prototype and wireframes, then suggest improvements. These recommended changes were then used to develop a new set of wireframes and prototype.

The computing student suggested that the website be split up into three sections/pages. The three pages being 'Home', 'About', and 'Contact Us' page. The stakeholders agreed that the website should be straightforward, not overcrowded with too many pages and features. The home page would be where the search functionality would take place and the other two pages were for the purposes of the Course Critic brand. The 'About' page would let the user read more about Course Critic and the background of the website, as well as our values. Interestingly, the stakeholder collectively felt that a 'Contact Us' page would be a good feature to have for receiving feedback on our own services and using it to improve the website.

A large topic of discussion was the search functionality and what would be the best way of implementing it. There was a back and forth on whether the user should be able to search for specific courses, students to contact or colleges in general. A google maps feature which would allow the user to see only the colleges within a certain radius was also mentioned but

ultimately diverged from. In the end, one of the class representatives felt quite strongly that the two biggest selling points of the website were the course insights and the ability to contact students directly. Therefore, it was decided that there would be a search bar for courses and a search bar for students which can be contacted. The students would also be found by entering course names into the search bar.

The decision to implement a student search bar would mean that the students who volunteer to be apart of the website would have to create a profile to be publicly displayed. This was a concern of mine since it might make persuading students to volunteer more difficult. However, this was the wish of the stakeholders, so I was ok with including it in the prototype.

The computer student suggested that when searching for a course or student that a drop-down menu would appear wherein students could click on the name of the course or student, and it would bring them to that page. Every course information page would be held inside a database connected to the website. All stakeholders felt that this was the best way for users to find specific courses and students.

It was agreed upon that data visualisations of the acquired student feedback should be the focus of the course information pages. The different categories of data should be displayed vertically so the user can scroll through each of them at their leisure. Above the visualisation, there should be a section with the basic information regarding the course such as entry requirements. Below the visualisations will be quotes obtained from students regarding the course. At the bottom of the page, it was suggested by one of the class reps that there be a link to a student's profile who is in that course for anyone who wants to reach out to them and ask them any further questions.

### [Requirements Workshop \(2\) conclusion](#)

The second workshop took place with the same three stakeholders and a business student, under the same conditions. After taking the advice of the stakeholders from the first workshop, I created wireframes and a prototype website to match their vision. There were a few areas that needed to be addressed and brought it up in the second workshop which was conducted after the stakeholders had evaluated the prototype and wireframes. After evaluation, there were several changes which were recommended to improve the website.

Firstly, a discussion was had regarding the layout of the website. Both class representatives recommended that the 'Contact Us' page be removed. It was mentioned that any feedback that needs to be required for the website itself can be gathered in a survey sent to the students. This website should be minimalistic and have only features that will be of use to the user.

Secondly, a major change to the functionality of the website was suggested. Rather than having student profiles which would be publicly available to search for, the identity of the students should remain anonymous, with no profiles available to view. The stakeholders felt that this would make it much easier to get students to volunteer their services for the website. Additionally, it would make the website easier to navigate if there was just one thing that users could search for - courses.

After it was decided that only courses should be available to search for, the business student added that it would be much easier for people to find courses if they were paired with the college/university that provides them. This resulted in further conversation about the best way to allow access to the course information pages. It was concluded that many users won't have a specific course in mind when using the website and we therefore needed to offer them a more convenient way of browsing courses rather searching for them one at a time. The computing student suggested that the search bar be used for searching for colleges, and once a college is selected, the user will be brought to a page with a list of all courses in the college and a link to the course information page for each of them. This would provide more structure to the users' searches.

After this was established, it was noted that not everyone will know the name of every college in the country so there should be a page added that is purely for browsing purposes. This page would consist of a list of the colleges/universities in the country, arranged in alphabetical order.

There was a lot of changes recommended in this workshop and I believe they are all positive ones. They will be applied to the second version of the prototype and new wireframes will be created to illustrate them.

## IEEE Website Requirements Specification

### Introduction

#### Purpose

The IEEE requirements specification document for the Course Critic website is being developed for several reasons. This report will clearly specify the key functional and non-functional requirements which are to be included on the website. The implementation of these requirements should result in the best possible version of the website being created. Before the website is developed, this document will be reviewed by key stakeholders to ensure a consensus is drawn as to which requirements are a necessity and which are not. Any changes that are recommended should be adopted prior to the development stage.

#### Scope

This website is being developed to assist both future college students in picking the course most suited to their interests, and colleges in gathering more student feedback and improving their services. There are limited resources available online for obtaining specific details of college courses. There are even fewer places to go where you can find student's personal accounts of their experience in a course. Most of the information available online is released by the college and can therefore be slightly biased. Choosing a college course can be a very time-consuming and stressful process which usually involves having to search for multiple sources of information. The Course Critic website looks to address these problems.

On the Course Critic website students will not have to worry about the source of the information on each course, as it will be coming directly from students currently enrolled in them. Students will give their honest opinions about the course in a range of categories such as inclusion, facilities, difficulty etc. This data will be collected and illustrated in a manner that is easily comprehensible. Further course details, such as modules, requirements, will be included on the website so users can get a complete insight into the course, all in one location. If the user has any further queries, they can request to message a current student in the course who can try to answer their questions. Leaving Certificate students (and other future college students) will not have to worry about trying to find contacts or going from website to website to get an honest summary of a course. This website provides all the information they need, so they can pick a course that is most aligned with their priorities, thus alleviating the stress of the process. This website can also benefit the colleges greatly, primarily because most of them have limited data to track student satisfaction and the strengths and weaknesses of each of their courses. By consenting to be included on the website, they will get a much better view of what the students like and dislike about the courses. It will take minimal time and resources from the college, and they will receive valuable, actionable information in return.

#### Definition, Acronyms and Abbreviations

**Stakeholder:** Anyone who is either interested, impacted, or involved in the website.

**User:** A stakeholder that interacts with the Course Critic website.

## Functional Requirements

### User Class One – User

#### Functional Requirements

The functional requirements listed below are categorised using the MoSCoW framework (BABOK v3, 2015). Requirements fall under four categories in this framework:

**Must have** – This requirement is vital to the success of the project.

**Should have** – This requirement is not completely necessary but would be beneficial to the project.

**Could have** – This requirement likely will not be included but could be implemented if extra resources were added to the project.

**Won't have** – This requirement is not within the scope of the project.

#### Identification Code:

FR1

**Title:**

Course Critic Logo Link

**Description:**

This link will be in the form of the Course Critic logo and be displayed at the top corner of every page. It should allow users to return to the home page from whatever section of the website they are on.

**Location:**

Every page on the Course Critic website.

**Reasoning:**

This will allow users to navigate the website much more conveniently. The home page will have access to every other page on the website, so it makes sense that if users are unsure of where they need to go, returning to the homepage is the first step they can take. This feature was discussed in the brainstorming session that was held with future, current, and past college students.

**Priority:**

Must have.

**Identification Code:**

FR2

**Title:**

Search bar

**Description:**

This feature will be displayed on the home page. It will allow the user to search for colleges and once they select a college, they will be brought to the reviews page where all of the information regarding the course will be displayed. Within the search bar, there should be text saying 'search courses'. When text is entered into the search bar, a drop-down menu will appear in accordance with what was typed and provide links to the college pages.

**Location:**

Home page.

**Reasoning:**

The biggest selling point of the website is the course reviews and feedback; therefore, the user should be able to access this as soon as they open the home page. The user should be able to specify a particular college they want to look to narrow their search, so the search bar is the most suited to this task. This feature was suggested at the requirements workshop.

**Priority:**

Must have.

**Identification Code:**

FR3

**Title:**

Navigation Bar

**Description:**

The navigation bar should be located on the home page of the website and act as a catalogue for the other pages that are available. It will hold links to every page of the website and be displayed clearly at the top of the home for complete convenience. It will be made up entirely of links to the other pages.

**Location:**

Home page.

**Reasoning:**

Not only do the users need to know what pages they can visit on the website, they should be able to locate them as conveniently as possible to make for a smooth experience. Having a navigation bar with labels for each of the pages allows for the user to easily find whatever page they are searching for. This feature was suggested during the brainstorming session.

**Priority:**

Must have.

**Identification Code:**

FR4

**Title:**

About Us page link

**Description:**



This link will be located in the navigation bar at the home page. It will allow users to reach the 'About Us' page, wherein they can find out more about Course Critic. It will be displayed as a box with text labelled 'About us'.

**Location:**

Home page.

**Reasoning:**

If users want to find out more about Course Critic and our mission, they should have this information conveniently available to them on our home page. Clicking this link will send them to a home page where they kind find out more about how we gather and utilise data, our values, and our mission moving forward.

**Priority:**

Must Have.

**Identification Code:**

FR5

**Title:**

Student contact form feature

**Description:**

At the end of the course insight page, there should be a small section for users to contact the current students of that course and send a message regarding any further queries they may have. The user will be able to put their email address into a form box and a send a question directly to a student in that course. This will send an email to the students' alternate email address, where they can send an email in return to the user, addressing their query if possible.

**Location:**

Course insight page.

**Reasoning:**

This feature is one of the big selling points for the website. If all the information provided doesn't answer the users' questions, they can request further insight by sending a message to a student in the course. The two Leaving Certificate students both agreed that word of mouth was a big factor in how they were to decide on what courses they would take.

**Priority:**

Must Have

**Identification Code:**

FR6

**Title:**

Browse Colleges Link

**Description:**

This link will be displayed on the home page, in the navigation bar. The link will bring users to the 'Browse Colleges' page. On this page, the users will have a list of colleges and universities in Ireland which they can click on to see more insight into their courses.

**Location:**

Home Page

**Reasoning:**

This link is for users who don't have a specific college or course in mind that they want to look into. They will act as a catalogue for finding courses. They can click on this link on the home page, and they will be brought to a page which lists all the available colleges and universities in the country in alphabetical order. From here, they can click on a college, and they will be brought to a page which lists all of their courses. This feature was suggested in the brainstorming session.

**Priority:**

Must have.

**Identification Code:**

FR7

**Title:**

Course insight links

**Description:**

The course insight links will be displayed as the name of each course in text. They will be placed on the 'Browse Courses' page and in the dropdown of the search bar. When clicked, they will take the user to the course insight page, wherein they will find all of the information they need regarding the course. This includes data visualisations of the

student's feedback on the courses, the required number of points, reviews left by students and more.

**Location:**

Browse Colleges page + search bar dropdown menu

**Reasoning:**

These links will allow the user to see all the courses each college provides, and when selected, will bring the user to the 'Course Insight' page. The 'Course Insight' page is the biggest selling point of the website, it is where the bulk of the content will be held. Therefore, it is important that the pages are labelled clearly and convenient to access. This method of displaying the course links was agreed upon in the brainstorming session held with current students and a class representative.

**Priority:**

Must have.

**Identification Code:**

FR8

**Title:**

Data Visualisations

**Description:**

The feedback that is received from the student surveys will be categorised and illustrated in the form of charts and graphs. These illustrations will communicate the data to the user effectively and give them an insight into the strengths and weaknesses of the course.

**Location:**

Course Insight page

**Reasoning:**

The reason for the feedback being illustrated in the form of data visualisations is it makes it easier to comprehend and larger amounts of data can be understood more quickly. This website emphasises convenience and stress-free browsing, therefore the use of large amount of dull text or figures should be avoided. The stakeholders that were involved in the requirements workshop collectively agreed that this was necessary to include.

**Priority:**

Must have.

**Identification Code:**

FR9

**Title:**

Course information section

**Description:**

Apart from the data visualisations, the 'Course Insight' page also needs to have all the relevant information pertaining to the course. This should include entry requirements, modules, duration, qualification upon completion, entry cost and any unique selling points.

**Location:**

Course Insight page

**Reasoning:**

Users won't only want to see student feedback regarding a course, they will also want to know the essential information. This will be provided at the top of each page so users can read these details before they decide if they want to go any further. Unique selling points are also valuable points to include since it can attract users to that course and simultaneously advertises the positive aspects of the course, thereby putting the college in a good light.

**Priority:**

Must have.

**Identification Code:**

FR10

**Title:**

Official Website Link

**Description:**

A link will be placed inside every college details section to allow users to immediately visit the official website of the college/university they are reading about.

**Location:**

Browse Colleges Page

**Reasoning:**

The website will provide a reasonable amount of information regarding each college; however, course information will be our priority. Therefore, if users want to find out more about the college they are interested in, they should be able to visit the official page as easily as possible. In the survey that was conducted with project stakeholders, 'official college website' was the most popular answer amongst respondents when asked how they found out about the course they are in.

**Priority:**

Must have.

**Identification Code:**

FR11

**Title:**

Contact us section

**Description:**

In the 'About Us' page, users must have the ability to contact us regarding any queries or enquiries. The Course Critic email address must be placed in this section to allow users to contact us if necessary.

**Location:**

About Us page

**Reasoning:**

Colleges may look to enquire about our services. They may also look to report any issues to us regarding the information we have listed on the website. Regardless of the reason, there must be contact details provided on the website to allow users to reach us.

**Priority:**

Must have.

**Identification Code:**

FR12

**Title:**

Google Maps Feature

**Description:**

If the 'Browse Colleges' page looks too plain, a google maps feature could be implemented using the google maps API. The map would be included at the top of the page and show the user all of the available colleges to view on the map.

**Location:**

Browse Colleges page

**Reasoning:**

This feature could help those who aren't entirely sure of what colleges are in their area. For many users, the location of the college will play a big role in deciding what course they want to enrol in, therefore this feature could allow them to find out which colleges are the most accessible to them. This feature was suggested by the computing student in the second requirements workshop.

**Priority:**

Should have.

**Identification Code:**

FR13

**Title:**

Next page link

**Description:**

In the 'Browse Colleges' page and the 'Course Selection' page, there will be long lists of courses and colleges which will require the user to move onto the next page of the website to continue reading. At the bottom of these pages there should be a link to allow the user to navigate forwards, backwards, or to a specific page number.

**Location:**

Browse Colleges page + Course Selection page

**Reasoning:**

This link will make navigating these pages much more seamless. It is particularly important in these sections of the website to have this feature since there will be several pages of content to view. As discussed in the brainstorming session held with stakeholders, simplicity and seamless navigation need to be a priority for this website.

**Priority:**

Must have.

**Identification Code:**

FR14

**Title:**

College facilities and services section

**Description:**

When users are on the 'Browse Colleges' page, there should be some information about the colleges underneath the link to their courses. Each college should be displayed in a box which includes the link to their courses at the top and a concise list of their facilities and services underneath. This list should include the clubs and societies that are available, recreational facilities and student services.

**Location:**

Browse Colleges page

**Reasoning:**

Even though the focus of the website is on the courses, it is also important that users have an idea of what the college/university that provides the course is like as well. Many users will have an interest in sports or clubs and societies, some may require extra services to be provided by the college. This section will provide them with all they need to know.

**Priority:**

Should have.

**Identification Code:**

FR15

**Title:**

Image gallery

**Description:**

Next to the list of courses that are available at the college, there should be a gallery of images which the user can explore. The images should be of the campus and the facilities. There should be one or two photographs automatically displayed on the page and a link underneath them to allow the user to access more photographs.

**Location:**

Course Selection page

**Reasoning:**

As well as searching for information pertaining to the college and its courses, users will likely want to have a look at what the campus is like to get a better understanding of everything about the college.

**Priority:**

Should have.

**Identification Code:**

FR16

**Title:**

Student Representative video interview

**Description:**

To get a deeper understanding of each course, the student representative of the course could be asked to participate in a video interview. The video interview could consist of the representative being asked a series of questions similar to the one conducted during the requirements gathering phase of this project. The questions would relate to their favourite things about the course, what they found the most challenging and any advice they might have for a student enrolling in the course for example.

**Location:**

Course Insight page

**Reasoning:**

The video interview would serve as a further look into the students' experience in each course. It could be a positive feature from the colleges' perspective as it would highlight the best parts of the course. For this feature to be implemented, we would need the full cooperation of the college. It was discussed briefly during the brainstorming session which was held with future, current and former college students and it was concluded that this feature was outside the scope of the project but could possibly be beneficial to implement in the future.

**Priority:**

Could have.

**Identification Code:**

FR17

**Title:**



## Filter Feature

### **Description:**

When browsing through each course that a college provides, the user should have a filter feature which allows them to list the courses in accordance with certain criteria. For example, if inclusiveness is a big priority for a user, this feature would allow them to list college's courses from most inclusive (based off student feedback data) to least. Or if the user only wants to view courses in a certain sector such as computing, they should have the option to filter out any courses that are not related to computing.

### **Location:**

Browse Colleges page

### **Reasoning:**

This feature would allow the user to find the pages they are looking for more efficiently and remove any unwanted pages. It would make for a more enjoyable experience while on the website and save the user a lot of time.

### **Priority:**

Should have.

## **Identification Code:**

FR18

### **Title:**

Student Profiles

### **Description:**

Early in the project, it was suggested that each course have one student who creates a profile on the website and is publicly available for users to contact with any questions they have about the course. The student's profile would include details about them such as what year they're in, their favourite modules and a chat box where messages could be sent directly to them.

### **Location:**

Student Contact Page

### **Reasoning:**

This was recommended with the experience of the user in mind but when later reviewed by stakeholders, the idea was voted against. It was decided that it would be too difficult to persuade students to voluntarily create a public profile and that there was no need to share any personal information on the website. Anonymity is best suited to this project.

**Priority:**

Won't have

## Functional Requirements

### User Class Two – Administrator

**Identification Code:**

FR19

**Event:**

Administrator login

**Dependency:**

An administrator must login before making any updates on the website. Updates could potentially include adding in new course requirements, application dates for courses, adding or deleting pages. Before any of this, the administrator must provide a valid username and password to access the website and implement any changes.

**Outcome:**

If the administrator successfully logs onto the website, they will be granted permission to modify aspects of the website that are directly related to courses, such as the ones previously mentioned. It will be the job of the administrator to ensure that the course details listed on the website are correct.

**Identification Code:**

FR20

**Event:**

Database entries

**Permissions:**

Administrator

**Description:**

The course insight pages will be stored in a database. Over time, colleges and universities will change what courses they provide. They may add new courses and remove old ones. The details of each course will also change year-to-year. They may have new entry requirements and modules. Therefore, a database administrator will be needed keep the stored data up to date.

**Outcome:**

The information provided on the website will be accurate, updated, and dependable.

**Identification Code:**

FR21

**Event:**

Data warehouse management

**Permissions:**

Data Engineer

**Description:**

In order to automate the process of retrieving data and outputting data visualisations, a data warehouse will need to be constructed. This will remove the need to spend large amounts of time manually handling data. Instead, a data warehouse will be developed wherein data is retrieved via the student surveys, exported into an OLAP database, and outputted in the form of data illustrations. The data warehouse will need to be monitored, adjusted and troubleshooted.

**Outcome:**

The need for manual data entries will be minimised and data visualisation process will be streamlined.

**Identification Code:**

FR22

**Event:**

Survey Management

**Permissions:**

Business Analyst

**Description:**

Somebody must be responsible for creating surveys which are effective in gathering as much data as possible. Surveys will also have to be updated occasionally. This will be the job of the business analyst. Additionally, they will be tasked with ensuring these surveys are sent to the right people and that the colleges involved have consented to their distribution.

**Outcome:**

The right surveys will be administered to the right parties in a timely fashion.

## Non-Functional Requirements

### Security Requirements

#### **Identification Code:**

FR19

#### **Event:**

Administrator login

#### **Rationale:**

The administrator will be granted access to highly confidential data. They should be the only person apart from the data engineer that is authorised to access this data and measures must be taken to ensure this is the case. The administrator must keep their login username completely restricted from other individuals. Additionally, they will be required to change their password every 90 days as a precaution. When an updating any areas of the website, the administrator must save the changes that have been made or else the system will revert to the last successful update. If there is a failed login 5 times consecutively, the login should be locked, and an alert sent out to the business analyst. Only when the business analyst consents to another login attempt, will the system allow it

#### **Identification Code:**

FR21

#### **Event:**

Datawarehouse Management

#### **Rationale:**

The data engineer will be tasked with handling a vital part of the website's functionality and consequently will have access to confidential data. The same protocol will apply to the data engineer as the administrator.

#### **Identification Code:**

FR11

#### **Title:**

Contact us section

**Rationale:**

In the case of the business analyst and students' representatives for each course, they will be handling sensitive information. Their email login credentials must be kept private, and no emails can be shared with anyone outside of the team.

Performance Requirements

**Identification Code:**

FR5

**Title:**

Student contact form feature

**Rationale:**

When a user sends a question to the student representative of a course, using the contact form feature, they should be notified within 30 seconds if the message was successfully delivered. This notification should come in the form of a confirmation email. If there is an error sending the message, perhaps if they entered their email address incorrectly, an error message should appear on the webpage. The contact form must be capable of sending several messages simultaneously.

**Identification Code:**

FR17

**Title:**

Filter Feature

**Rationale:**

To make searching for courses as convenient as possible for the user, each college and course should have tags linked to them which allow the user to filter what they are looking for. For example, a college that is based in Dublin will have a Dublin tag, when the user filters the locations of colleges to just those from Dublin, that college should be presented. The filter feature should take no longer than 3 seconds after being selected to update the list of available colleges and courses.

**Identification Code:**

FR2

**Title:**

Search Bar

**Rationale:**

The search bar must have a dropdown menu which provides users with options related to what they're typing. Users will likely not know the exact title of the course or college they are searching for is. With every letter they type, the dropdown menu should update the options to give the users the ones that are most relevant to what they are typing. These options should appear within one second of the user typing a letter into the search box.

Business Requirements

**Identification Code:**

BR1

**Event:**

Email response

**Permissions:**

Business Analyst

**Description:**

On the 'About Us' page of the website, there will be a section with our contact details. It will be the job of the business analyst to regularly monitor the website's official email address and ensure all messages are responded to when appropriate.

**Outcome:**

All queries and inquiries directed to the website will be addressed.

**Identification Code:**

BR2

**Event:**

Contacting students

**Permissions:**

Business analyst

**Description:**

In order for each course to have a student representative that can answer the questions that users have, a student must volunteer their services. Preferably, the college will elect the student representative from each course to take on this responsibility. However, if this is not possible, students should be sent an email from the business analyst requesting their services. In return, the students will be sent a certificate to prove their involvement in helping future students.

**Identification Code:**

BR3

**Event:**

Pricing strategy

**Permissions:**

Business Analyst

**Description:**

Before offering our service to colleges and universities around the country, a pricing strategy will have to be constructed which makes financial sense. The business analyst will have to calculate the least we can charge clients for our services, while remaining financially viable.

**Outcome:**

The website will remain profitable year by year.

**Identification Code:**

BR4

**Event:**

Contact potential clients

**Permissions:**

Business Analyst

**Description:**

The website's primary revenue stream will be through the subscription fee charged to colleges for collecting this data, delivering it to them, and advertising the selling points of their courses online. As a new company and website, nobody will be aware of the services

we provide. The business analyst will be tasked with reaching out to college's, marketing our services, and attempting to gain as many clients as possible.

**Outcome:**

More colleges will be aware of the services we offer, and we will consequently gain more clients.

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2019. *Course correction: Helping students find and follow a path to success*. [ebook] Ellucian. Available at: <<https://www.ellucian.com/assets/en/2019-student-success-survey-results.pdf>> [Accessed 6 November 2021].

2015. *BABOK Guide*. 3rd ed. [ebook] Available at: <[https://book.akij.net/eBooks/2018/September/5b8a80dd494ce/BABOK\\_Guide\\_v3\\_Member.pdf](https://book.akij.net/eBooks/2018/September/5b8a80dd494ce/BABOK_Guide_v3_Member.pdf)> [Accessed 8 November 2021].

## Appendix

### Project Proposal

#### Objectives

The primary objective of my final year project is to create a highly detailed requirements specification document for a website which shows college course's strengths and weaknesses in accordance with student's experience of them. As well as this, it will allow users to contact current and past students. I plan to achieve this by gaining an insight into the thoughts of a variety of stakeholders within National College of Ireland (NCI). Therefore, the project will firstly involve gathering requirements from anyone who would either be interested, involved, or impacted by the development of this website. Furthermore, I will cover other facets of the website such as design, layout, navigation, features, content, as well as other areas during the elicitation stage of the project. A variety of elicitation techniques will be used to gather requirements, which will then be documented and used to create a highly detailed requirements specification document. Other tasks that will need to be achieved for the successful completion of this project include the project proposal, midpoint presentation, final submission, final presentation and lastly displaying my project and project poster at the project showcase on the 23<sup>rd</sup> of May 2021.



The goal of this website is to provide information, feedback, and guidance regarding the courses in NCI. Current students will share their opinions and experiences to help form a clear image of what each course involves. Each course will be broken down into several categories which they will be rated on. This will aid future students in selecting a course that is best suited to them, hopefully leading to a decrease in NCI's drop-out rate. Additionally, it will help the college in targeting the areas in each course that could be improved.

As the project advances, I'll have to stick to a strict schedule, which is detailed in the project plan. Attempting to finish other tasks and assignments for other modules will undoubtedly reduce the amount of time I have available. As a result, I'll have to manage my time more carefully throughout the year. For this project, I have established a fundamental goal for myself to produce all deliverables on schedule and to a strong standard. This will ensure that submission deadlines are met and that no unnecessary marking reductions occur.

## Background

I have chosen this project because choosing the right course for me was something I struggled with when I was younger. I struggled to find unbiased and accurate information on college courses and would have loved to have a website at my disposal which had first-hand opinions of the courses available, as well as a Q/A forum where I could reach the students directly. I also have several friends that struggled with this decision, many of whom dropped out of their selected courses. In Ireland, 1 in every 4 college students will drop out of their course before completion (Kennedy and Kennedy, 2020). I believe that this is primarily due to a lack of available, objective information. Many students are enrolling into courses when they do not have a thorough understanding of what it involves.

Choosing a college course is a massive decision and one that usually needs to be done at a young age. This can lead to students feeling enormous amounts of pressure and anxiety. A survey of 1000 students, conducted by Ellucian found that 1 in 3 students were unsure whether their course was aligned with their career path and 2 out of 3 students felt "*overwhelmed*" by the process of choosing one (2019). Furthermore, 18% of students said their college was unclear in providing guidance regarding their course.

As previously stated, I will be using several elicitation techniques to create an in-depth requirements specification document for this website. The website will be a tool students can use to alleviate the stress of choosing a college course.

## State of the Art

There are several websites already in operation that serve a similar purpose to my proposed website but none that provide all the selling points which mine will. Careersportal.ie and qualifax.ie both operate within Ireland and allow users to search for courses around the country. However, they do not include current and past student's feedback on these courses and offer no means to getting in touch with these students.

UCAS.ie is a strong competitor as it allows users to search for courses and contact the students directly. However, they do not operate in Ireland and don't place an emphasis on in-depth student reviews of the courses. Similarly, Unigo.com operates in the US and has the same shortcomings.

lagora.com is one of the few websites of this nature that include reviews for Irish colleges and universities, but they do not have reviews of the specific courses within them. Moreover, they don't allow users to contact students.

In short, there are no other websites that offer the combination of benefits which I intend to offer:

- Based around Irish colleges and universities.
- In-depth and categorized reviews of courses (not just colleges).
- Q/A forum to allow users to reach out to current/past students
- Data visualization for clear insight

## Technical Approach

The project will consist of 4 stages:

1 – Requirements Collection and Documentation: In this stage, my focus will be on meeting stakeholders. I will identify stakeholders as anyone who is involved, impacted, or interested in this project. I will use frameworks such as RACI and stakeholder grids to specify the importance and appropriate level of involvement of each stakeholder. During this phase of the project, I will be meeting with the stakeholders to discuss different aspects of the website such as the website's target audience and what features will be the most useful. The elicitation techniques I will be considering using includes the following: surveys, focus groups, interviews, questionnaires, document analysis, prototyping, requirements workshops. Using these techniques, I will gather and document the requirements for this project.

2 – Prototype Development: This will consist of creating a website wireframe, which will potentially be included in my midpoint presentation. Once completed, I will discuss it with key stakeholders and assess whether it meets the criteria. I will note any suggested changes/improvements that could be made and make sure they are implemented into the website.

3 – Project Website Development: In this stage, the requirements and documentation I have gathered will be utilised to develop the website. The goal is to ensure all requirements are met. Upon completion of the website, I will use my requirements as a measure of how successful the website is. Once this done, I will be happy to display it at the project showcase.

4 – Post Project Website Creation: This will involve reviewing the completed project website with my supervisor and making any necessary modifications before the showcase if my supervisor demands them. The website will be launched online after I am confident that my project supervisor is completely satisfied. My list of stakeholders will be sent a project feedback survey to evaluate my performance throughout the duration of the project. This report will be included on the website itself.

In addition to completing the project in this 4-phase structure, there are 6 critical success factors for eliciting requirements which I will be adhering to. These factors were identified by P.G. Daly in 2003 and are as follows:

Meet with the customer early and often.

Ask questions.

Clarify what the system will not do.

No technical jargon allowed.

Document and reconfirm.

Revisit the requirements often.

Lastly, I will be breaking the project up into tasks, activities, and milestones using a Gantt chart which will be included under my project plan.

### Technical Details

My website will be created using WordPress as I was instructed by my lecturer to use this tool. Since I currently lack the expertise necessary to build a website to a high standard using WordPress, I will need to use the following resources to improve my abilities:

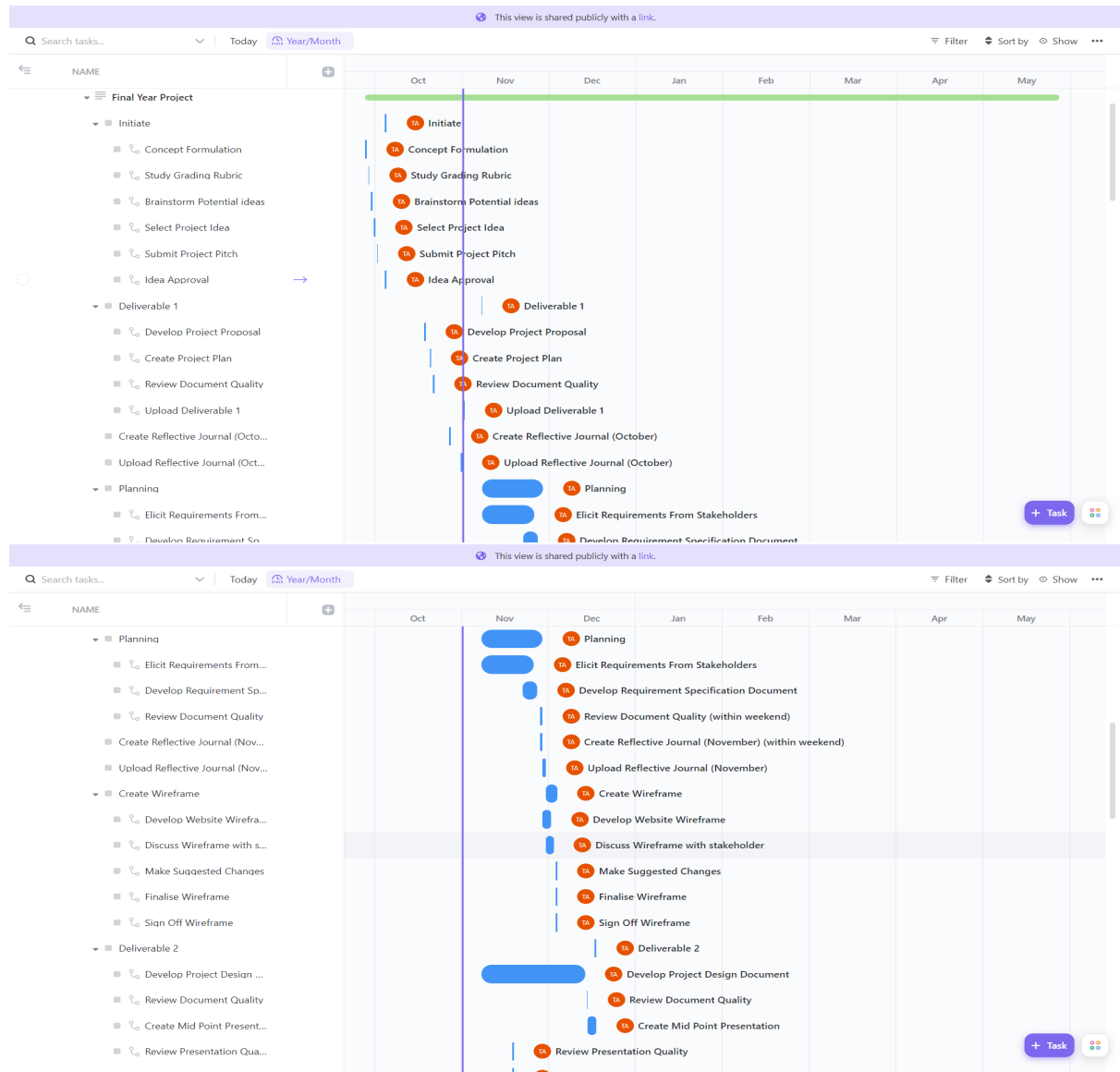
- 1) Moodle notes.
- 2) Additional written tutorials on how to use WordPress.
- 3) YouTube tutorials on how to incorporate various features on WordPress.
- 4) Websites which were previously constructed using WordPress.

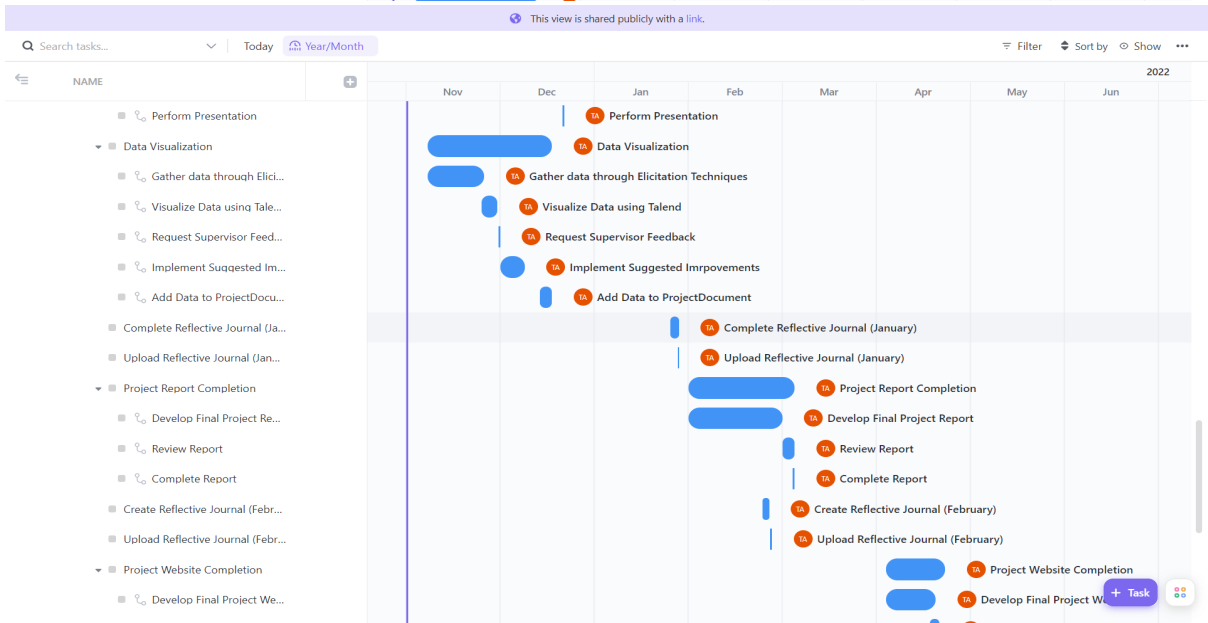
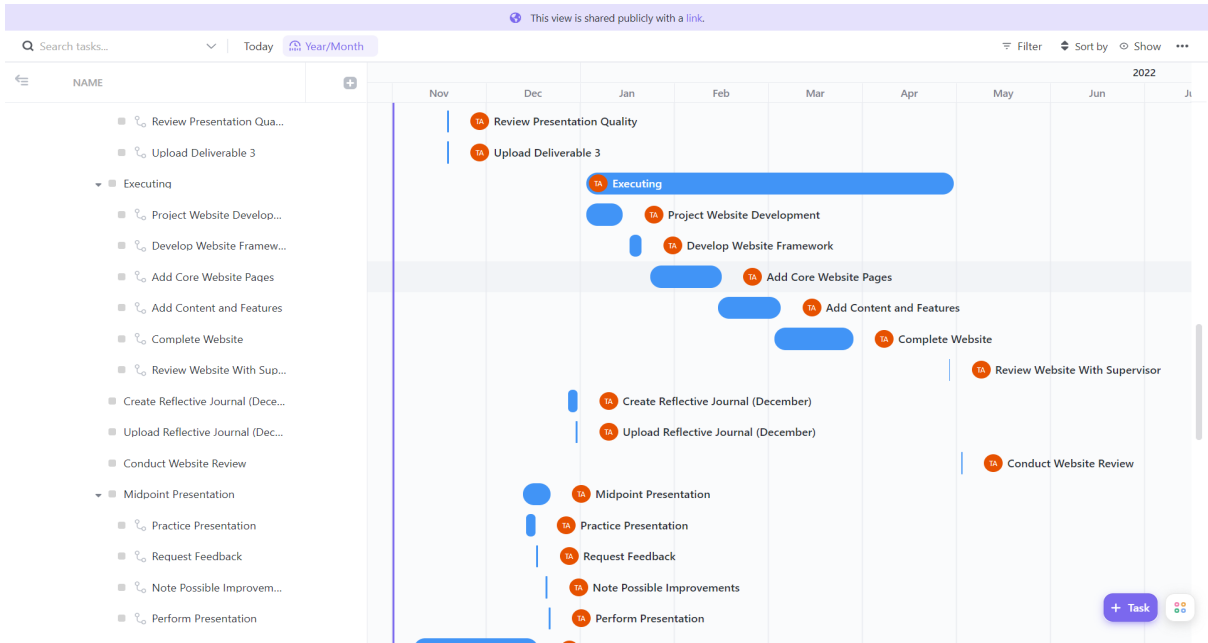
I will also be using these technologies/resources:

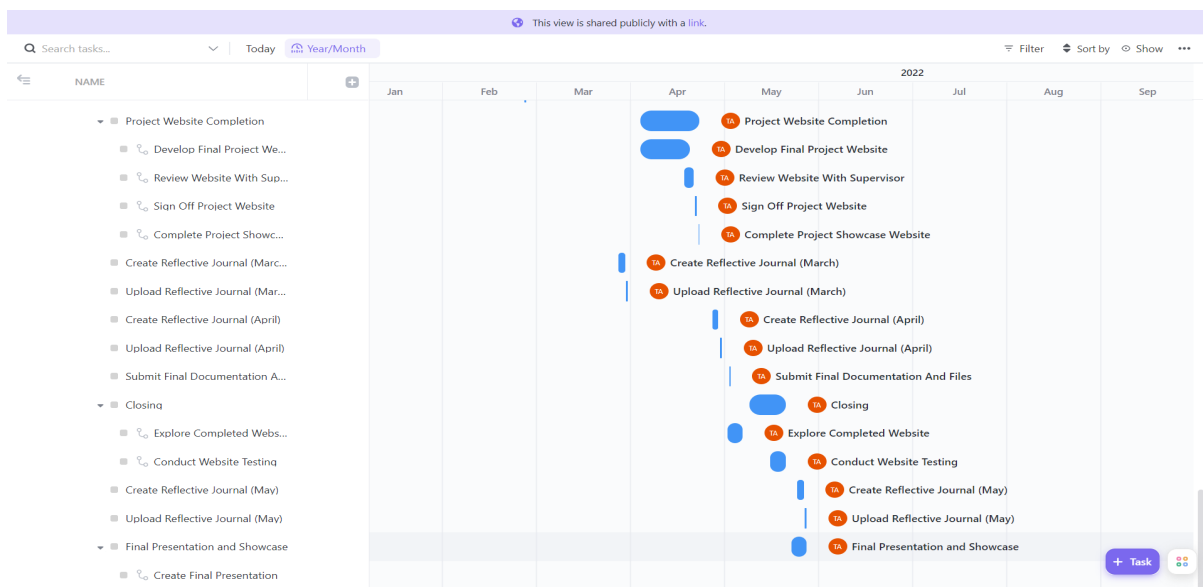
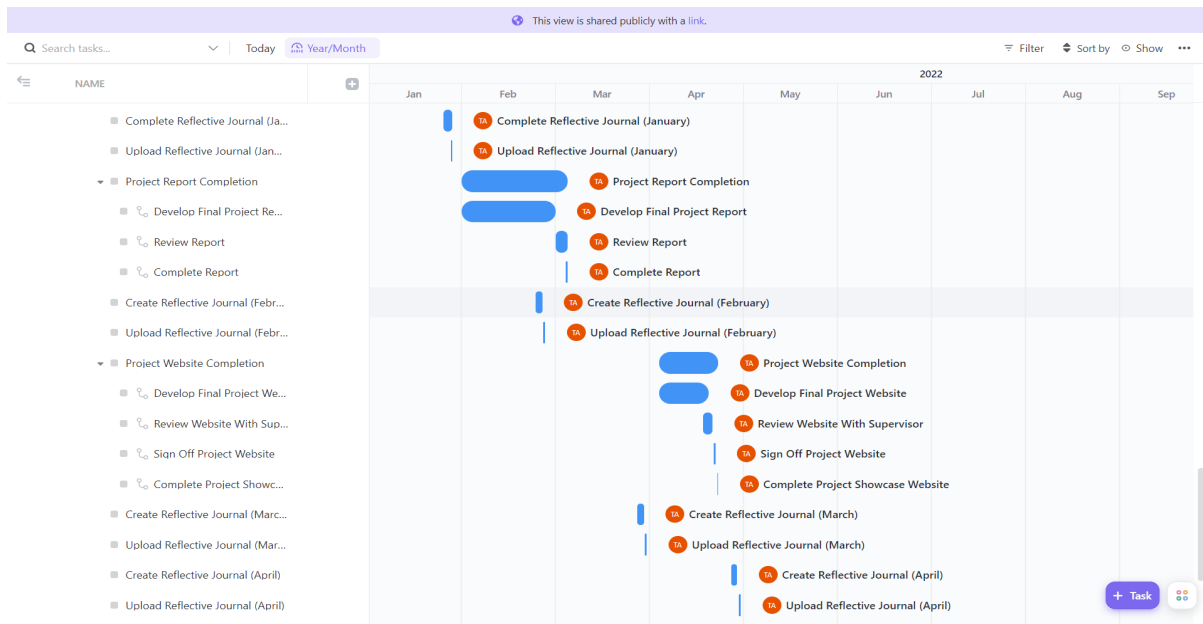
- 1) Acer Swift laptop.
- 2) MS Teams.
- 3) Dropbox to backup project related files and content.
- 4) A website wireframe construction tool such as Lucidchart.
- 5) Data visualisation tool such as Tableau.
- 6) Surveying tool such as Google Forms.
- 7) MS PowerPoint for presentations.
- 8) MS excel for storing and analysing collected data.
- 9) Business Analysis Body of Knowledge (BABOK volume 3).

## 10) Microsoft Word for documentation.

## Project Plan







## Validation/Verification

I will be referring to the validation methodology of BABOK Guide v3 (2015) to ensure each of my requirements are valid and verified. BABOK states there are 8 characteristics of high-quality requirements:

1. Cohesive – The requirement must be applicable within the context of the other requirements.
2. Complete – The information covers all aspects of this user function.
3. Consistent – The information for this user requirements is entirely consistent with no conflicting statements.
4. Correct – The item is completely error free.
5. Feasible – The item can be implemented using existing techniques, technologies, resources, and employees while staying within budget and time restrictions.
6. Modifiable – The requirements should be easy to update and possible to change.

7. Unambiguous – Should not involve technical jargon. Should be as specific as possible. If you're going to utilize formal notations, make sure they're simple to grasp. Tables and graphs are useful, but they must be explained.
8. Testable – The requirement should be testable, and the test case should be defined early.

By using these 8 measures, I will be able to verify each requirement that will be included in my requirements specification document.

## Monthly Reflective Journals

### October

I started my final year of college in late September. I am excited to be back and take on the challenges that final year will bring. Our course voted for Business Analysis as our specialization, and I was really happy with this since that is the career path I want to pursue after college. I'm frustrated to still be doing primarily remote lectures this year. I had high hopes I would be back on campus. Nevertheless, I am absolutely set on making the most of this year and working to my full potential.

October has been a very busy month for me, as I have had to come up with my project pitch and balance 5 other modules. A lot of my time has also been allocated to applying and interviewing for graduate programs. To make matters worse, I really struggled to decide on a project idea. I put a lot of pressure on myself to think of the perfect idea because I'm determined to get a 1<sup>st</sup> this year. I brainstormed and chatted to other students but was still undecided on what to do.

The last thing I wanted was to get a late start to my project and feel like I had to catch up. So, I allocated a lot of time to sitting down and focusing on what project idea would be best for me. Eventually, I tried to lean on my own experiences of things I have struggled with in the past and I remembered how lost I was after completing my Leaving Cert. I had no idea what direction I wanted to take my career and the pressure of choosing a college course caused me great amounts of stress. Through this thought process I came up with the idea of creating a website that is designed to make this choice as easy as possible. A website that tells you exactly what students think of their current/past college courses and allows you to get in touch with them about any further queries you may have. This is the idea I have chosen. I have submitted my project pitch video and am currently waiting on approval and feedback.

Until then, I am going to start working on my proposal as I was told to do so by a lecturer. I really hope my supervisor Eugene McLaughlin likes my idea and sees the potential with it. I'm anxious to get started as I know a lot of the deadlines for my other assignments are due in November and this might negate me from doing as much work as possible on my project that month. Hopefully, Eugene will get back to me as soon as possible and I can hit the

ground running. I can't wait to see what he thinks is the best way to move forward. I've always been the type of person who asks a lot of questions. I love to find guidance in whatever I'm doing. Therefore, I'm excited to have a project supervisor who can do exactly that. I plan on putting together a list of questions, so I remember to ask everything I want to ask to Eugene during our first meeting.

I really feel like I have the potential to put together a great project and it is just a matter of committing myself as much as possible. In November I want to get a lot done and get my project off to a good start. I hope to meet with my supervisor once a week and keep him updated with where I plan on going with the project. I will also put together a Gantt chart for myself to follow throughout the year and effectively manage my time.

## November

This month has been the busiest of my academic career. I had several assignments due and multiple graduate programme application processes to prepare for. To add to the mayhem, I also started a new job this month. It has been an extremely tiring few weeks. As a result of this, I did not accomplish very much in terms of my project. I have researched similar websites to the one I plan to create and have been looking at past projects. Outside of this, I have not done as much as I would have liked. I met with my supervisor once but was hoping to do so more often.

Although it was a tough month and I didn't get as much done as I wanted, I remain determined to get back on track. I have a lot of my assignment out of the way now and I plan on going full steam ahead into December.

I am also happy with the amount of research I managed to do for my project even when I was short on time. I feel I now have a better idea of what I want my project to look like and the deliverables that need to be accomplished. Furthermore, after chatting with my project supervisor, I was able to narrow the scope of my project, as he felt it was too broad. This has given me added confidence as I now have a better vision for my website. There will still be plenty of challenges to face in the next few weeks. Balancing assignment, career prospects and the project will remain as a huge task for me moving forward. I'm confident I will be able to come out on the other side with a project I am proud of and the grade I am determined to achieve.

The first thing I need to address is communication with my supervisor. I need to make time each week to meet him and get his feedback. This will be a priority of mine moving forward. I need to continue to structure my weeks in a manner that allows me to work on my assignments but leaves time for me to work on my project. Even though I was disappointed with the amount of work I accomplished to my project in November, I am very proud of the work I got done in my modules. I need to maintain this work ethic and make sure to prioritise my project more than I have been. I also must use my Gantt chart I created for my project plan as an indicator for exactly how to keep up to date with my project. If I can accomplish these, I am confident I will be in much better shape by the end of December.



## December

This month has been very productive, and it was much needed. The midpoint deadline was quickly approaching, and I had to get plenty done since it accounts for such a large percentage of the overall project grade. I had a meeting with Eugene early into the month and asked him what aspects of the project I should be prioritising in the lead up to the deadline. I told me I need to complete as many elicitation techniques as I can document the results. He also mentioned that I need to make sure to look at the grading rubric for the midpoint since it varies slightly from the final project deadline. I was determined to get as much done as possible since I spent November mainly worried about assignments. I documented the five elicitation techniques I would use for the project and conducted 3 of them. I interviewed two Leaving Certificate students and held a brainstorming session with a Leaving Certificate student, two current college students and a former college student. The results of which I have documented. Based off feedback gathered from stakeholders, I developed the first prototype for the website and created wireframes.

Once all of this was completed and documented, I turned my focus to putting together the video presentation which was a part of the midpoint deadline. I completed the PowerPoint and recorded my presentation. Shortly after the midpoint I was able to conduct my first requirements workshop. I was a bit frustrated that I was not able to conduct it before the midpoint but was still happy to get it done as early as possible. The agenda for the workshop was the website layout, content, and features. After receiving the feedback from the stakeholder, I made some adjustments to the first prototype which I will be discussing in the second workshop in a few weeks.

Overall, I am quite happy with where I stand with my project now. I would even say I am slightly ahead of schedule. I have more assignment deadlines quickly approaching so that will take up most of my time over the next two or three weeks, so I'm glad I got as much as possible done when I could.

Moving forward, I need to make sure I don't take a back step now after having a successful month. I want to stay in contact with Eugene as much as possible and continue to gradually put this project together rather than leaving to the last month or two. Ideally, I would like to conduct all of my elicitation techniques by the end of next month and have everything documented by early February so I can move onto requirement specification.

## January

This month I was quite pleased with the progress made thus far in the project. After having completed my midpoint presentation, I felt much more in control of the direction of the project than I did in the earlier months. I'm happy to have a prototype for the website this early into the year and plenty of wireframes which I can use to get more feedback from stakeholders. I didn't get much of a break as I had several important assignments due from early to mid-January. This essentially meant that as soon as I finished my midpoint presentation, I had to immediately begin tackling the assignments. The first two weeks of January were extremely stressful, I was facing deadline after deadline. I was happy with the amount of work I managed to get done in that time, but definitely needed a break afterwards. Therefore, I took the 3<sup>rd</sup> week of January to relax and enjoy myself before getting back into the scheme of things in the last week, which I mostly spent planning the timeline for the rest of the work that had to be done.

Even though January wasn't a particularly productive month for my project, I'm still happy with the position I'm in and the work that has been completed thus far. I had a lot of other assignments to address and still managed to put together a list of the milestones left to accomplish and the dates that I want them to be done by. I've been able to get my 5 elicitation techniques documented and

already have the results for 2 of them. In the agile methodology, which I've incorporated for this project, progress is measured in deliverables and thus far, I have a prototype and wireframes. So, I feel like I'm on track. I think a lot of the work I've completed so far is to a high standard, and I want to make sure to maintain this for the duration of the project.

I still have a lot of work left to do but first thing on my agenda is to meet with my supervisor (Eugene) and figure out what parts of the project I should be prioritising at this stage. I'm still in two minds as if I should add another elicitation technique, or if the ones I have now are enough to effectively gather all the requirements I'll need. This is another thing I want to mention to Eugene. Once I get the results from my surveys there's going to be plenty of work to be done to take this data and retrieve actionable information from it. Before any of this though, I'll need to discuss the work I've already completed with Eugene and see if there's anything that can be improved or added in to enhance the quality of the work. After this is done, we can talk about where to go from there.

## February

I met with my supervisor this month and we discussed what could be added to the project to improve its quality. Firstly, he expressed to me that he was concerned that some students may give unfairly negative opinions towards the course or lecturers that could put them in a bad light. Secondly, He felt I should conduct more interviews than I initially planned, to gather as much feedback as possible. Thirdly, he wanted me to make sure I spoke to someone from the careers department to see if there any data regarding dropout rates and employability that I could possibly include in the project. I was also contacted about my project showcase profile. The deadlines to create a profile is coming up soon so that is something I need to give my attention to.

I took Eugene's advice and decided to add in an assumptions section that would state that we must assume that the feedback from students is their objective opinion. Furthermore, I decided I have to be careful with how I word things on the website. After all, this website is supposed to be beneficial to the college as well as future students, so I want to make sure their reputation is not unfairly slandered. I've also arranged extra interviews to make sure I gather as much feedback as possible, and I can ask more open-ended questions. The opinions of the interviewees will help me to shape the layout and content of the website. I've contacted the careers department in the hopes they have some useful data I can use, or someone that I can interview. I have sent surveys to a handful of people but I'm aware that I will need more respondents to make the findings in the data more legitimate. I got a decent amount done this month but will need to ramp things up over the next two months to get everything comfortably finished on time.

I'm glad I met with Eugene this month because I have a better idea of what direction to take the project in over the coming weeks. I was able to get a few key areas that I need to work on, and they'll be my focus for the next month. I'm aiming to have all the results of my elicitation techniques wrapped up in the first half of March, so that I can spend the latter half of the month getting my requirements specification

## March

This month has been extremely busy. I had several deadlines for important assignments that had to be met and this took up the majority of my time. I was hoping to get more of my project done than I did but it was tough with the amount of time that I had to put into the assignments. I managed to conduct a couple of interviews and put my project showcase profile together. My project showcase profile consisted of some information on myself and a breakdown of what my project was about, along with some pictures. I'm glad I got that done because it's one less thing to worry about. I wanted to wrap up the results of my elicitation techniques this month but couldn't quite manage it.

Most of the results have been documented I just need to write up the conclusions of the interviews I conducted this month.

Even though March hasn't been as productive as I hoped, I'm pretty much finished my modules now except for one exam that I have left in the beginning of April. Therefore, all my focus can go into the project and getting things up to date. I'm still in a good position to get everything finished up on time. I won't be adding in any more elicitation techniques at this stage since I feel like I have enough done to gather a good number of requirements for the website.

Now that I have a solid idea of what is needed for the website, I can begin to put together functional and non-functional requirements. I'll be spending the next couple of weeks on my second prototype which I will shape around the requirements gathered through the stakeholders. I need to meet with Eugene again soon to make sure I'm on the right track and I haven't forgotten to include anything going into the last few weeks of the project. I also need to be aware that I'll have to put together a poster for the project showcase and I don't want to leave that too late since I've heard from a few people that it may take longer than I think. With so many different loose ends that need to be tied, I'm going to make a plan for myself to make sure everything gets done on time and nothing is overlooked. I always work better when I have a plan and even though I started off this year with one, I feel like I need an updated one to suit my new schedule. When putting together a plan, I like to make sure that I give myself two things to focus on and finish each day, that way I feel less overwhelmed and can prioritise the work that's left to be done.

## April

This month has been quite busy. Even though I finished my modules up early in the month, I've had plenty to keep me busy with my project. I've managed to finish my elicitation techniques and get most of my requirement specifications outlined. The bulk of the project is done, I just need to put together the finishing touches. I spoke to Eugene, and we decided it would be good to add in a critical path diagram or some sort of timeframe to getting the website actually developed. Also, just a short section to outline the financial aspects of the project. I conducted some very interesting interviews early in the month, which I was happy to add to the documentation.

There's now a little over two weeks left until this project is due and I still have a few things I need to sort out. I need to create a new prototype website based on my requirements which I've documented. This will hopefully take me a day or so. I need to add in my critical path diagram, as well as a few other sections which I think will improve the quality of the documentation. I want to show Eugene the final prototype before I'm finished to see if there's anything he thinks can be improved. I also want to use the data I've collected in the surveys and visualise it. A key feature of my website is the way in which data is illustrated. I want to have effective data visualisations that convey as much information as possible and are easy to comprehend. So, that is another focus that I'll have going into the final two weeks of the project.

This project has been a great experience for me, and I've loved having the responsibility of managing my own workload with it. I think I've handled it quite well and am in a good place coming into the tail-end of it but don't want to slow down now. It's important that I thoroughly review everything I've done up to date to make sure it is all in order. I will hopefully have one last meeting with Eugene where we can outline any last-minute adjustments that can be made. Apart from that, I need to continue working hard as I have been doing and seeing this project through.

