



## THE REQUIREMENTS FOR AN NCI REVIEW WEBSITE

National College of Ireland

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Course Specialisation: Business Analysis

BSHTM – YEAR 4

**Declaration Cover Sheet for BSHTM4 Project Submission**

**SECTION 1** *Student to complete*

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<b>Student ID:</b> X14493852
<b>Supervisor:</b> Dr Eugene F.M. O'Loughlin

**SECTION 2 Confirmation of Authorship**

*The acceptance of your work is subject to your signature on the following declaration:*

I confirm that I have read the College statement on plagiarism (summarized overleaf and printed in full in the Student Handbook) and that the work I have submitted for assessment is entirely my own work.

Signature: Graham Uzell

Date: 11<sup>th</sup> May 2018.

NB. If it is suspected that your assignment contains the work of others falsely represented as your own, it will be referred to the College's Disciplinary Committee. Should the Committee be satisfied that plagiarism has occurred this is likely to lead to your failing the module and possibly to your being suspended or expelled from college.

**Complete the sections above and attach it to the front of one of the copies of your assignment,**

**What constitutes plagiarism or cheating?**

The following is extracted from the college's formal statement on plagiarism as quoted in the Student Handbooks. References to "assignments" should be taken to include any piece of work submitted for assessment.

Paraphrasing refers to taking the ideas, words or work of another, putting it into your own words and crediting the source. This is acceptable academic practice provided you ensure that credit is given to the author. Plagiarism refers to copying the ideas and work of another and misrepresenting it as your own. This is completely unacceptable and is prohibited in all academic institutions. It is a serious offence and may result in a fail grade and/or disciplinary action. All sources that you use in your writing must be acknowledged and included in the reference or bibliography section. If a piece of writing proves difficult to paraphrase, or you want to include it in its original form, it must be enclosed in quotation marks and credit given to the author.

When referring to the work of another author within the text of your project you must give the author's surname and the date the work was published. Full details for each source must then be given in the bibliography at the end of the project

**Penalties for Plagiarism**

If it is suspected that your assignment contains the work of others falsely represented as your own, it will be referred to the college's Disciplinary Committee. Where the Disciplinary Committee makes a finding that there has been plagiarism, the Disciplinary Committee may recommend

- That a student's marks shall be reduced
- That the student be deemed not to have passed the assignment
- That other forms of assessment undertaken in that academic year by the same student be declared void
- That other examinations sat by the same student at the same sitting be declared void

Further penalties are also possible including:

- Suspending a student college for a specified time,
- Expelling a student from college,
- Prohibiting a student from sitting any examination or assessment.
- The imposition of a fine
- The requirement that a student to attend additional or other lectures or courses or undertake additional academic work

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## 1. Requirements Elicitation & Analysis Planning

### 1.1 BUSINESS CASE AND NEED

This project is of course my own idea although it is based around reviewing NCI it is not entirely original as reviews are very common these days and a review system already exists on the NCI Facebook page however I don't think this is used frequently and efficiently enough for a member of the public to gather an honest opinion of the college. My idea is unique in the sense that it will be strictly related to the activities within National College of Ireland that will undergo review from sources past and present to help potential students pick the right college when the time comes upon them to select a college to pursue the next stage of their educational career.

With 3<sup>rd</sup> level education becoming almost mandatory in Ireland these days after completing your leaving cert, colleges and universities are competing against each other to secure new students every year. I feel that by creating a website that allows students to review NCI it will allow the public to have a look at this website and help them build an understanding of what it is like to study here at NCI. I know that most colleges including NCI hold open days to invite potential new students onto campus each year to show the public what they can offer but with a new review system the public it will just add that extra touch to how things operate at NCI.

Although NCI allows users to leave a review on Facebook I don't think that is an accurate view on what the college is all about. I will attempt to create a platform that will allow students who are past and present to express their honest opinion of the college. Examples of what will be reviewed could potentially be the library facilities or the canteen facilities etc.

This website will prove to be highly beneficial to the college if it was to be made live. As the site will be monitored carefully, I will look to fill the website with as much positive feedback as possible and any negative or irrelevant comments or reviews that are left on the site will have to be examined and perhaps deleted if it paints the college in a bad light. This website will help attract students from across Ireland as well as international students when they can read about all the good things NCI has to offer.

I feel there will be a business case here for NCI to invest into the development of the website if my requirement gathering is efficient and the overall project is a success come the end of my second semester

## 1.2 STAKEHOLDERS LIST

- NCI Students
- NCI Lecturers
- Website Developer
- Librarian
- Clubs and society's member
- Project Sponsor
- Students Union member
- Student Services member
- Alumni
- Business Analyst

The list is based off all stakeholders who are affected by the project, although some will not take part in the requirements elicitation, the results of this project and of the website being built will have an impact on each stakeholder listed either directly or indirectly

Students both past and present will be crucial stakeholders in the project as it is their voices who can help build the website to its max potential

## 1.3 Stakeholder Importance/Impact Matrix

KEY	
High	H
Medium	M
Low	L

<b>STAKEHOLDERS</b>	<b>Importance</b>	<b>Impact</b>
1. Students	H	H
2. Lecturers	L	L
3. Website Developer	H	H
4. Librarian	M	M
5. Clubs and society's members	M	M
6. Project Sponsor	H	M
7. Student union member	M	M
8. Student services member	M	M
9. Alumni	H	M
10. Business Analyst	H	H

## 2. Requirements Elicitation Techniques

Below are the requirements elicitation techniques I will be using to gather requirements for my project. I have conducted 7 techniques in total and these are: Brainstorm, Survey, Interview, Prototype, Document Analysis, Requirements Workshop and Interface Analysis



## 2.1 Brainstorming

Brainstorming is an excellent way to foster creative thinking about a problem. The aim of brainstorming is to produce numerous new ideas, and to derive from them themes for further analysis (BABOK, 2015)

A brainstorm with my fellow classmates would be ideal for this project as they are students of NCI and therefore are a key stakeholder in this project.

I will look to carry out a brainstorming session by myself to gather potential stakeholders and another one with students to gather requirements for what is desired on the site. I will look to gain different ideas from a few different class mates to help me create the best look for my website.

### Advantages of Brainstorming

- **Allows for creative thinking** – All participants will give the brainstorm their full attention and it will allow the creativity to flow, people will be able to bounce ideas off each other
- **All ideas are accepted** – The great thing about a brainstorm session is that there is no wrong or right answer, participants are free to speak their minds and all ideas will be recorded. This makes people more at ease when making suggestions knowing they can't be judged or criticised. Encourages more 'outside the box' thinking
- **Easy to construct and manage** – A brainstorm can be done in small or large groups; however, it is relatively easy to manage as the session can be done on paper or even a whiteboard and the results are easily and quickly recorded for future reference

### Objectives of the Brainstorming Sessions:

The first brainstorm session I carried out was to determine the stakeholders involved in the project. During the second brainstorming session I will meet with stakeholders of the project to gather and evaluate many ideas for the new website. I will conduct the brainstorming session with a pen and paper approach writing down any ideas obtained from the stakeholders on what they feel would be good features to have on the new website. Any further comments will be defined in the document.

### Participants:

- 1) NCI Students

### Meeting Location:

Oriel suite, National College of Ireland

### Date of Meeting:

28<sup>th</sup> of November 2017

**Time of Meeting:**

11am – 12pm

**Brainstorming Session Rules:**

- 1) All participants are requested to avoid consultation of potential ideas between each other prior to the meeting for the brainstorming session on the 22<sup>nd</sup> of November.
- 2) All participants should arrive on time with a creative mind-set
- 3) A brainstorming moderator will be established, he/she will also contribute to the session
- 4) Mobile phones or any other electrical device should either be switched off or put on silent prior to entering the meeting room
- 5) The meeting should remain professional and not lose focus of the topic at hand
- 6) If any participant is to disturb the meeting in any way, the moderator will request them to leave the session
- 7) Late arrivals will be welcome; however, these individuals will have to wait until last to voice their opinions

**10 Commandments of Brainstorming ( [www.forbes.com](http://www.forbes.com), 2010)**

- 1) Thou shalt not judge
- 2) Thou shalt not comment
- 3) Thou shalt not edit
- 4) Thou shalt not execute
- 5) Thou shalt not worry
- 6) Thou shalt not look backward
- 7) Thou shalt not lose focus
- 8) Thou shalt not sap energy
- 9) Thou shalt not compare
- 10) Thou shalt not make funny at others expense

**2.2 Survey**

A survey or questionnaire is used to elicit business analysis information—including information about customers, products, work practices, and attitudes—from a group of people in a structured way and in a relatively short period of time (BABOK, 2015)

I must define the objective of my survey which will allow to me discover my target group for the survey and once I have this, I can plan out the appropriate questions to ask in the survey to gather maximum results for what is desired to be placed on the website.

### Advantages of Survey

- **Inexpensive** – There are many free templates for creating your survey online, including google forms and survey monkey. This cuts down on the cost of printing out survey questions and there is no need to pay surveyors
- **Convenient data gathering** – It's quick and easy to gather results for a survey that can be sent over email or through social media. With results automatically developing different types of graphs and charts
- **No pressure** – With online surveys, the respondents can feel at ease when answering the questions and do not feel under pressure by the presence of researcher. This will often lead to more truthful answers which essentially will lead to more accurate results

### Survey Participants:

- 1) NCI students
- 2) Students from other colleges / universities around Ireland

### Distribution Method:

- 1) Emailed different course groups throughout National College of Ireland via Outlook (student email)
- 2) Referred survey to other current and past students via social media

### Objectives of Survey:

This survey was designed in a certain way to gather information/requirements from students associated with NCI and other colleges as their input is valid and useful. The survey responses will help build a platform for the potential content and features that will be placed onto the website. The aim is to gather at least 100 responses for the results of this survey to prove effective. Once the adequate number of responses has been obtained the results will then be documented.

### Survey Questions:

<https://goo.gl/forms/tleUb9loTyjvTpp72>

#### 1) Please state your gender

- Male
- Female

#### 2) What type of student are you?

- Full-time
- Part-time
- International

**3) Please state your college status**

- Undergraduate
- Post-graduate
- Graduated

**4) Which category does your course fall into?**

- School of Business
- School of Computing
- other (explain)

**5) How appealing would a website that allows you to review different aspects of your college be to you?**

1 – Not very appealing  
5 – Very appealing

**6) How should the rating scale be presented on the NCI review website?**

- Poor-Excellent
- 1 -> 10
- 1-5 Stars

**7) How useful would a feature be that allows you to filter ratings by newest to oldest be on the website?**

1 - Not useful  
5 – Very useful

**8) If there was an application to accompany the website, which platforms should be able to download it?**

- Apple
- Android
- Both
- Other (explain)

**9) How important is an option to report abuse / nasty reviews?**

1 – Not important  
5 – Very important

**10) How appealing would a feature on the website that allows survey students how they commute to college by explaining in detail their journey and which mode of transport used?**

1 – Not very appealing  
5 – Very appealing

**11) How often would you leave a review on any given website, e.g. food or clothes**

1 – Never  
5 – Very often

**12) How important will it be to link the NCI website to social media?**

1 - Not important  
5 – Very important

**13) Which social media platforms would be the best choice for making students aware of the new proposed website? (Select 3)**

- Facebook
- Twitter
- Instagram
- Snapchat
- YouTube
- Other (explain)

**14) When leaving a review, would you like your details to appear shown or anonymous?**

- Shown
- Anonymous
- Don't mind either way

**15) How often would you trust a review given by someone on a website?**

1 – Not often  
5 – Very often

**16) Do you think a review system could be implemented successfully into other colleges?**

1 – Not likely  
5 – Very likely

**17) How important will it be to moderate the reviews and respond to them to seek changes where necessary?**

1 – Not important  
5 – Very important

**18) Do you agree that data protection and privacy of information on the website is crucial?**

- 1 – Strongly disagree
- 5 – Strongly agree

**2.3 Interviews**

An interview is a systematic approach designed to elicit business analysis information from a person or group of people by talking to the interviewee(s), asking relevant questions, and documenting the responses (BABOK, 2015)

I will look to interview the stakeholders who have the most importance and relevance to the project. It will be key to set the right time and place to carry out these interviews and then I will have to create some detailed questions to gain as much information from the interviews as possible. The interviewing process will most likely happen in the turn of the new year.

**Advantages of Interviews:**

- **Easy correction of speech** – any mistake or misunderstanding can be easily solved in person
- **In depth analysis** - With a planned interview, an interviewer can gather a lot of valuable data or requirements from the interviewee
- **Availability** – It’s much easier to arrange an interview with one stakeholder rather than a larger group and this individual may feel more valued and could potentially contribute more to the project at a later stage if needed

**Participants:**

2 software developers

**Interview Location:**

Insomnia, Unit 1, The chq building, IFSC, Docklands, Dublin 1

**Date of Interview:**

15<sup>th</sup> February 2018

**Time of Interview:**

5pm-6pm

**Objectives of the Interview:**

I have chosen two software developers who I know very well and I know they can bring that creative spark to the table for me when I'm gathering requirements for the website. By interviewing two experts I would expect to get different answers to some of the questions being asked. The more features or content suggestions the better as it will allow me to build the foundations for the creation of the final prototype.

**Interview Questions:**

- 1) Do you think it will be relatively easy to develop this NCI review website?
- 2) Describe to me similar projects you have worked on and could you add any of the features onto the NCI review website?
- 3) Can you tell me roughly how much it will cost to build this website?
- 4) Will the development process take long? If so, do you have any requirements from myself to aid the process?
- 5) How do you plan on dealing with data protection on the website?
- 6) Will there be an administrator login that will be able to edit, update and delete content if necessary?
- 7) If users forget their password when logging in to place a review, will there be a forgotten password option?
- 8) Will all the Data collected be backup up in case of an incident and if so, what software / database is required?
- 9) What non-functional requirements need to be really focused on for the NCI review website?
- 10) At present, the NCI review website will potentially have a homepage, review page, contact page and gallery page. Could you suggest any other relevant pages that could be implemented or even potential content/layout for the initial four pages?

Commented [L1]:

**Participants:**

NCI student

**Interview Location:**

Liffey suite, National College of Ireland

**Date of Interview:**

26<sup>th</sup> February 2018

**Time of Interview:**

1pm-2pm

**Objectives of the Interview:**

I will interview one student from the national college of Ireland. The reason for this is to gather different requirements from the perspective of the most heavily involved and effected stakeholder in the project. A student might see the website in a different way and prefer a certain layout or would like to be able to leave a review about a specific part of the college.

**Interview questions:**

- 1) With the creation of this proposed NCI review website, do you feel it will be of benefit to the college to attract more students?
- 2) What aspects of the college would you like to be able to write a review about? (List as many as possible)
- 3) How do you think the results from the reviews should be displayed on the website?
- 4) Do you feel it would be able a useful feature to be able to filter reviews? If so, in what way would you like to filter specific reviews?
- 5) In your opinion, what sort of layout / design of the website would attract you and other students to the NCI review website?
- 6) Do you feel it will be important to link the NCI review website to social media? If so, which ones?
- 7) Do you think there is potential for future expansion of the NCI review website? Perhaps a mobile application and the implementation of the website to other colleges? (which would also see a change in the name of the website)



## 2.4 Prototyping

*Prototyping is used to elicit and validate stakeholder needs through an iterative process that creates a model or design of requirements (BABOK, 2015)*

### Advantages of prototyping

- Provides a visual representation for the future system or process
- Stakeholders are presented with work at early stage of design and can provide input
- Throwaway prototypes are cheap and easy to develop, if there is a mistake it's not costly either

### Objectives of the Prototype:

As my project is based on a review system I will need a platform for students to review the college which will be the website once all requirements are gathered. I will look to create a throwaway prototype to present to the stakeholders to act as the first visual representation of the NCI review website. I feel by creating a prototype I can then bring it to my stakeholders for review and together we can work on completing a very professional website. Having a prototype will allow stakeholders to have their say on what I should keep or perhaps what needs changing.

Firstly, as the business analyst I will create my own version of a prototype without any communication from key stakeholders. I will then gather the results from both brainstorming sessions, survey and interviews. These results will be examined during the requirements workshop which will involve the key stakeholders. I will bring the first prototype to the workshop and with the survey, interview and brainstorm analysis This will allow me to gather requirements for a second prototype that will be revealed to the stakeholders at a later date.

### Resources Required:

- Balsamic software
- Pen and paper

### Prototype Development Checklist:

- Gather requirements based on the results of the survey analysis.
- Interpret the views made by students during the brainstorming session.
- Examine the interview results and incorporate features into the prototype.
- Develop a comprehensive prototype for the requirements workshop.
- Implement any necessary modifications to the prototype, based on the preferences expressed by stakeholders during the requirements workshop

## 2.5 Document Analysis

Document analysis is used to elicit business analysis information, including contextual understanding and requirements, by examining available materials that describe either the business environment or existing organisational assets (Babok, 2015)

### Advantages of document analysis

- Provides a basis for analysis for business analysts as they don't need to create new content
- There is a large amount of free resources
- Results can be used to compare against other results of elicitation techniques

### Objectives of Document Analysis

I will look to research valid information from existing websites that users have the options to leave reviews. I can focus on evaluating how the reviews are presented and the process involved for the user when creating a review. I will then investigate how the results are displayed on the website. This can help build a foundation for the prototype of the NCI review website along with recommendations from stakeholders

## 2.6 Requirements Workshop

Workshops bring stakeholders together to collaborate on achieving a predefined goal (Babok, 2015)

I will look to hold a requirements workshop with some key stakeholders in the project after all the other requirement gathering techniques have been performed.

### Advantages of requirements workshop

- Achieve agreement in short time
- Mutual understanding of what is wanted/needed
- Feedback can be given quickly from different stakeholders

### Participants:

- 1) NCI Students
- 2) Developer

3) Project Sponsor

**Meeting Location:**

Oriel suite, National College of Ireland

**Date of Meeting:**

15<sup>th</sup> of March 2017

**Time of Meeting:**

11am – 12pm

**Objectives of requirements workshop**

By holding this workshop, it will conclude my requirements gathering from stakeholders. This workshop will prove to be beneficial when attempting to elicit the final business requirements that have not been mentioned already up to this point but it will allow stakeholders to expand on existing requirements if they require more detail in any way

This will be the time for stakeholders to evaluate the first prototype and request changes or improvements to the original prototype including new features and perhaps suggest design layout that has not been brought to the attention of the business analyst in the survey, interviews or brainstorm session. By having a prototype in place, it minimizes the level of misunderstanding between business analyst and stakeholders when it comes to the design of the website

**Resources Required:**

- Laptop with MS Word / Pen and paper
- First prototype
- Survey results
- Brainstorm results
- Interview feedback

**Workshop Rules:**

- 1) All participants should arrive on time ready to participate
- 2) Participants are entitled to express their ideas at any point during the workshop, but all comments should relate to the topic being discussed.
- 3) Mobile phones are permitted during this workshop unlike the brainstorm, they must only be used to conduct research regarding the project.
- 4) The facilitator will control all aspects associated with the workshop itself.
- 5) This workshop must remain professional and all participants should stay focused on the project at hand.
- 6) All participants should carefully listen to the instructions being distributed.
- 7) This requirements workshop is all about collaborating with each other to gather as much additional requirements possible. Any disruptive behaviour will not be tolerated and will result in

the workshop being postponed, or any participants being disruptive could be told to permanently leave the room

### **2.7 Interface Analysis**

Interface analysis is used to identify where, what, why, when, how, and for whom information is exchanged between solution components or across solution boundaries (Babok, 2015)

#### **Advantages of Interface Analysis**

- Clarify what interface is required
- More accurate project planning
- Provides visual insight into website features

#### **Objectives of Interface Analysis:**

Up to this stage all other requirement elicitation techniques have been conducted and analysed. It was important to complete the requirements workshop to finalise stakeholder requirements and afterwards completing the final website prototype. The final stage of the project is to develop a UML use case diagram. This diagram will illustrate how the users interact with the website. For example, a user who successfully signs into their account will be able to leave a review and change account settings, however a user without an account will not be able to leave a review on the website so must sign up to access this feature. The UML use case diagram will also demonstrate the role of the admin account, which includes monitoring, editing and updating content when necessary.

#### **Resources Required:**

- Final prototype
- Creately software tool

#### **UML Use Case Diagram Development Checklist:**

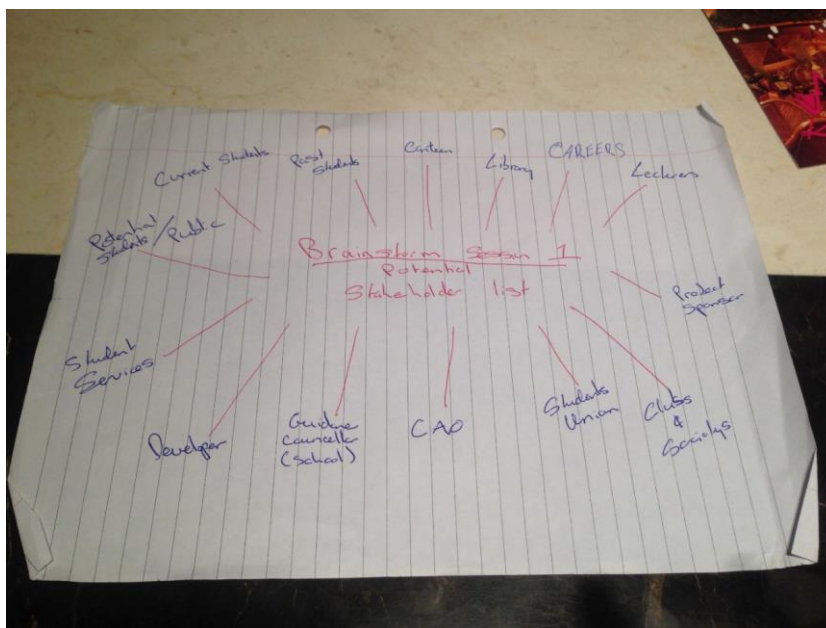
- Conducted document analysis on similar websites which present reviews
- Review the website prototype for possible user-website interactions.
- Develop a UML use case diagram for the NCI REVIEW WEBSITE explaining user interaction.
- Gather feedback from project stakeholders about the UML use case diagram and implement any necessary modifications if it's deemed appropriate

### 3. Requirements Elicitation & Analysis Results

#### 3.1 Brainstorming

##### First brainstorm:

Brainstormed myself to gather a potential list of stakeholders for the project, it was important to note this down on paper just to be clear of who my stakeholders were for the project

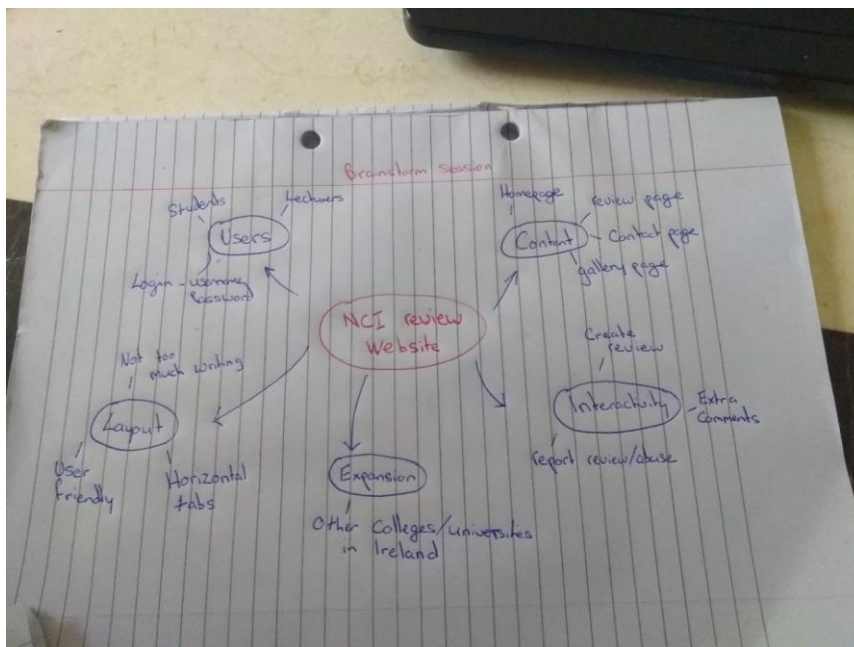


##### Second brainstorm:

The second brainstorm involved myself and two other students from NCI. I felt by brainstorming with current students I could gather some crucial requirements for the new website. The brainstorm was broken down into different sections and time was allocated for each section with ideas being written down as we went along during the session. The sections discussed included content, interactivity, expansion, layout and users.

When discussing content, we talked about what pages would be on the website. It was concluded that there should be a homepage, review page, contact page and a gallery page. Interactivity would include how the user will interact with the website and this will be done through the reviews themselves but also how the user will report a review. Another feature that was mentioned was that the user could be able to leave extra comments but they would need to be approved by the administrator before being posted on the website in case

of inappropriate content. We spoke about expansion of the website together and said that there is potential if the website is popular with students in NCI. A similar site could be developed for different colleges across Ireland, however, expansion is not a top priority of the project. The layout of any website is very important so I decided this was crucial to discuss during the session. The website being user friendly was agreed upon between all participants. The students felt that horizontal tabs across the top would be most effective layout for where the pages of the website would be located. One of the students suggested that there shouldn't be too much writing as it can look very boring. The users of the site will include students and lecturers. Users must login to the website to be able to leave a review

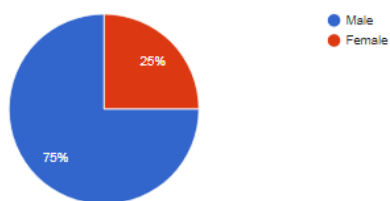


### 3.2 Survey

#### Questions 1 & 2

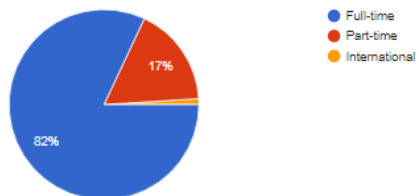
Please state your gender

100 responses



What type of student are you?

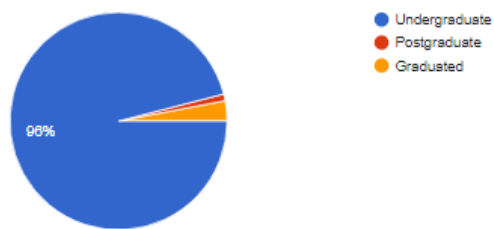
100 responses



### Question 3&4

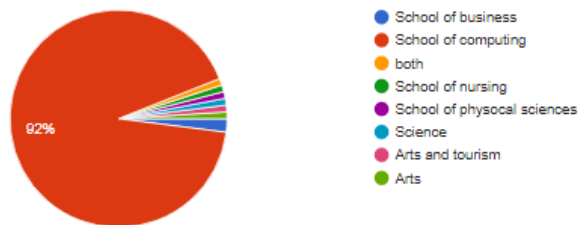
#### Please state your college status

100 responses



#### What category does your course fall into?

100 responses

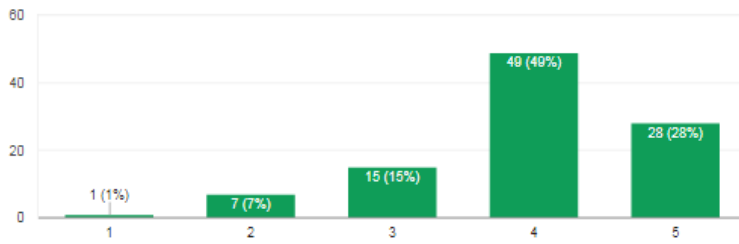


### Question 5&6



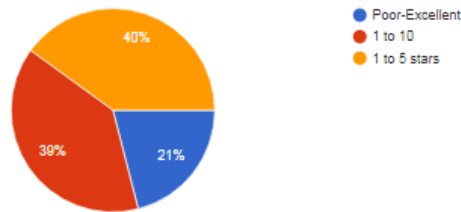
How appealing would a website that allows you to review different aspects of your college be to you?

100 responses



How should the rating scale be presented on the website?

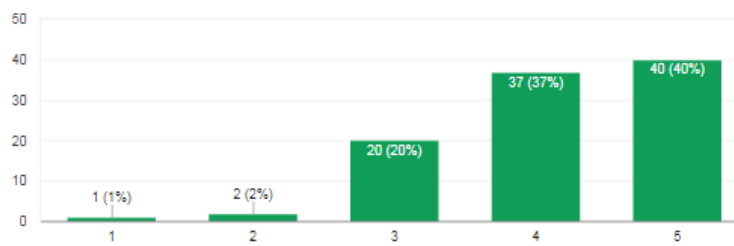
100 responses



**Question 7&8**

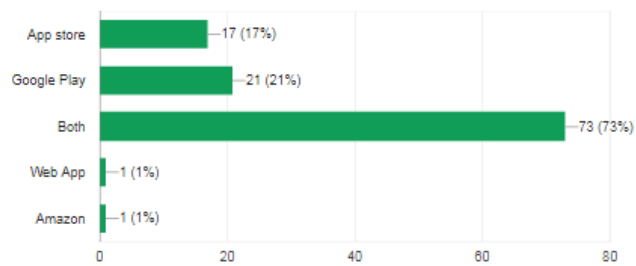
How useful would a feature be that allows you to filter ratings by newest to oldest be on the website?

100 responses



If an app was developed to support the website, which platforms should be able to download it?

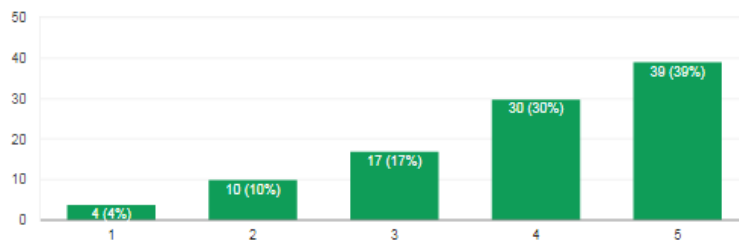
100 responses



#### Question 9&10

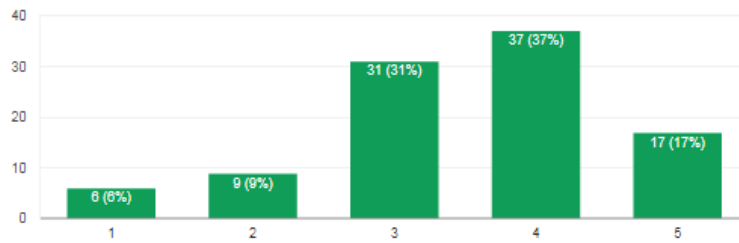
How important is an option to report abuse / nasty reviews?

100 responses



How appealing would a feature on the website that allows survey students how they commute to college by explaining in detail their journey and which mode of transport used?

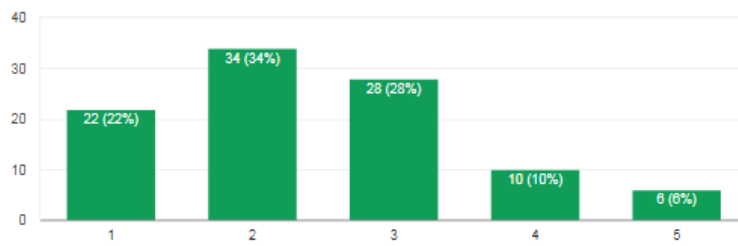
100 responses



Question 11&12

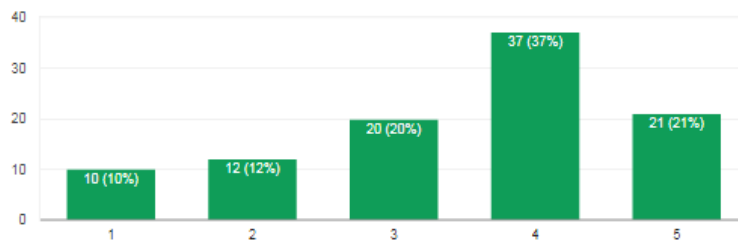
How often would you leave a review on any given website, e.g food or clothes

100 responses



How important will it be to link the NCI website to social media?

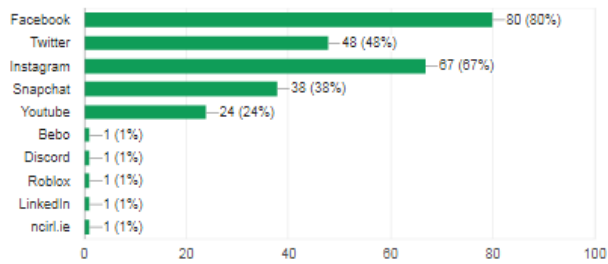
100 responses



**Question 13&14**

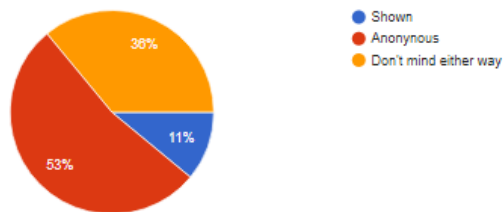
Which social media platforms would be the best choice for making students aware of the new proposed website? (Select 3)

100 responses



When leaving a review, would you like your details to appear shown or anonymous

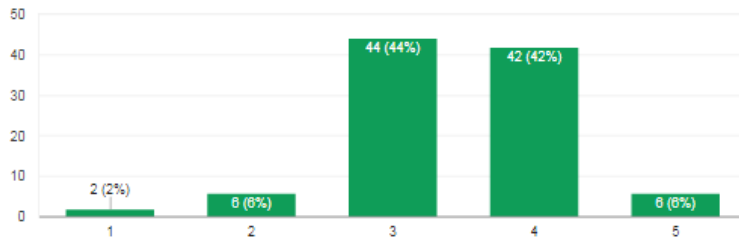
100 responses



Question 15&16

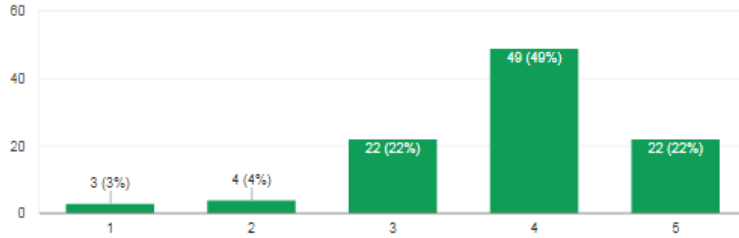
How often would you trust a review given by someone on a website?

100 responses



Do you think a review system could be implemented successfully into other colleges?

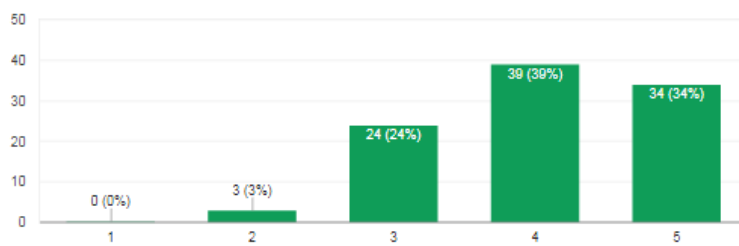
100 responses



**Question 17&18**

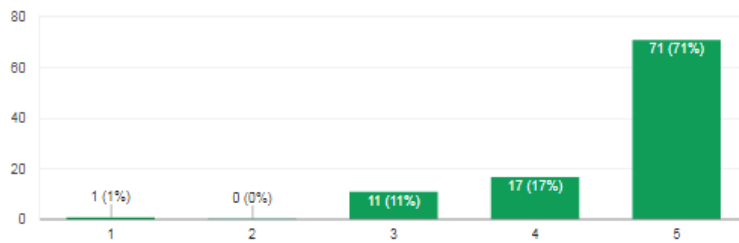
How important will it be to moderate the reviews and respond to them to seek changes where necessary?

100 responses



Do you agree that data protection and privacy of information on the website is crucial?

100 responses



**Survey conclusion:**

I was very happy with the results of the survey receiving 100 responses which proves a significant number which will help me greatly with the design of the new website. I received responses for both males and females along with students who were undergraduates, postgraduates and graduated. Most of the students who completed the survey were full-time students (82%). However part-time and international students also responded. Many respondents seemed to be studying computing (92%). It was fantastic to see that there is a demand for students to review different aspects of their college as 77% of all respondents gave between 4-5 when asked would the website appeal to them. Many different websites that allow users leave reviews have different rating scales, I asked how should the rating scale be presented. 40% said 1-5 stars and 39% said 1-10 as this is very close I'll communicate with key stakeholders to decide which would be best for the website. 77% of respondents voted that a feature that allows the user to filter ratings by newest to oldest would be a useful feature. 73% of respondents declared that if an application was developed to accompany the website it should be available to download of both the App store and Google Play store. 2% of respondents said web app and amazon should also be able to download the app however as the interest is very low this will not be likely. 69% of respondents voted that it would be important to report abuse or nasty reviews left by a user on the website. Students were asked how appealing would a feature that allowed them to describe their commute to college explaining in detail and mode of transport, 54% liked the thoughts of the feature with 31% unsure and the other 15% not interested. Majority of respondents voted it would be important to link the website to social media with Facebook being the most popular social network, followed by Instagram, twitter, snapchat and YouTube. When asked if users would like their details shown after leaving a review 11% said yes and 53% said they would want their review to be anonymous with 36% saying they don't mind either shown or anonymous. Trust can always be an issue with reviews and 48% said that they would most likely trust a review with 44% unsure if they would. Only 8% of respondents suggested they wouldn't trust a review which is good to know and would make you hopeful for trustworthy reviews to be left on the website. 71% of respondents suggested that the review system could be successfully implemented into other colleges which could prove good information for expansion at a later stage in the project. The moderation of reviews seems very important to people with 73% saying it will be important to moderate the reviews and seek changes where necessary. Finally, I wasn't surprised when 87% of respondents agreed that data protection and the privacy of information shared on the website will be crucial



### 3.3 Interviews

#### Interview One:

##### Participants:

2 Software Developers

##### Interview questions and answers:

1) **Business Analyst:** Do you think it will be relatively easy to develop this NCI review website?

**Developer 1:** The first thing I'd say is no website is ever easy, there will always be plenty of unseen obstacles. But it is most definitely achievable. You see plenty of websites with similar system for hotels, jobs, companies etc so there is no reason why there could not be one for colleges. From my own point of view, I would be comfortable working on the back-end side of things and may find that easier, as UI is not my strong point. I also think the UI would be very important in a site like this, where most end users who are in college, are so used to using top social media platforms with fantastic UI and their expectations might be quite high.

**Developer 2:** Yes, I do think the website will be relatively easy to implement. The website is a simple in that the client only sends data to the backend servers. There does not seem to be much features to be implemented and the features that are required and relatively simple.

2) **Business Analyst:** Describe to me similar projects you have worked on and could you add any of the features onto the NCI review website?

**Developer 1:** One of the more recent projects I worked on was an online training website. There were a few features in this website that I feel could be useful on the NCI one. At the end of the module in the training website, each student was asked to complete an end of module survey, a predefined set of questions asking how much they learned in the last module and how they felt about the standard of training. I believe some predefined surveys could be useful on this website for allowing user data to be collected in a consistent format.

**Developer 2:** I worked on a similar project which was adding a review/feedback tool to an internal data visualisation website that my team owns. The project went well and was completed on time. The front-end part of the project was relatively simple. Authentication/Authorisation was already implemented on the website. We only needed to add a link to the feedback page and create a simple HTML form that send the data to the backend. The work on the back-end was more difficult. There was a lot of discussion during the design on how to store the data, where to store it and for how long the data would be retained.

3) **Business Analyst:** Can you tell me roughly how much it will cost to build the website and were should it be hosted?

**Developer 1:** It would be difficult to get an estimate on the cost without finding out a lot of factors. One concept I find that gives a great breakdown of how the costs and budget will pan out is the "Time, Money & Manpower" concept. Once an idea of all these areas are gathered, I believe a cost estimate could be made. In terms of the hosting, thankfully a huge cost amount won't be necessary. Due to the website being internal I can't envisage there will be a huge amount of traffic at any one

time. I have used SquareSpace in the past and have had no problems at all and they've been very reliable.

**Developer 2:** €10,000 - €15,000. There will also be some sort of maintenance cost (Data storage, website updates etc.). The website should be hosted of the college's current IT infrastructure (if any). If there is no existing infrastructure I would recommend researching different cloud computing providers and choosing one that best suits the website's requirements

4) **Business Analyst:** Will the development process take long? if so, do you have any requirements that you need from me that can aid you?

**Developer 1:** My usual rule of thumb when trying to decide timeframes, is to breakdown each section and workout how long they should take, add all these up and then multiply it by 2. I know this sounds crazy, but every project is more complex than you can imagine. If this was to be a sole developer project and I had to give a very basic coding time estimate, I would imagine 3 months or so. However, this would not include testing, which I believe would take long as I think some customer (college students) acceptance testing will be vital to making the website reach its full potential. In terms of requirements, a group of students willing to do some Alpha and Beta testing would be fantastic.

**Developer 2:** For a software development team (6-8 people) I would imagine that the project would take four weeks to develop. The requirements documentation would be required to start the project

5) **Business Analyst:** How do you plan on dealing with data protection on the NCI review website?

**Developer 1:** First, I would make sure that the site is encrypted with HTTPS rather than HTTP. It would also be a policy on the site for requiring and storing as little personal details as possible from the users. The database would also be encrypted along with all passwords for anything on the site being hashed. These steps are vital to be General Data Protection regulation (GDPR) compliant, which comes into effect at the end of May.

**Developer 2:** Using HTTPS by default. This involves obtaining an SSL certificate. Passwords should be stored using a hash. The plain text password should never be stored in the databases. Users should be forced to create strong complex passwords. (Non-dictionary words, capital letters, numbers etc). A user should be temporarily blocked after too many failed login attempts. Choosing a service provider that has protection against DDOS attacks. Have data backed up regularly

6) **Business Analyst:** Will there be an administrator login that will be able to edit, update and delete content if necessary?

**Developer 1:** Yes, an admin backend will be included in the site. This will allow an admin user to login and manage content and users. This will also be particularly useful for filtering reviews that have been left, checking for any inappropriate content. Some validation code will automatically check for inappropriate words when a user is leaving a review, however the admin will be able to check if any personal or offensive reviews have been left and remove if need be.

**Developer 2:** There should be a root administrator user who has full power over the whole system. I do not believe this user should be used for content creation etc. Another user should be created for this role and only have permissions to do this task

- 7) **Business Analyst:** Users will login with a username and password to leave reviews, if users were to forget their password will there be a forgotten password option?

**Developer 1:** Yes, there will be a forgot password button on the login form. From here they will enter the username and a reset password email will be sent to their email registered with that username.

**Developer 2:** There must be a "forgot password" option that allows users to securely reset their password in one or more ways

- 8) **Business Analyst:** Will all data that is recorded be backed up in case of an incident? if so, what software/database is required?

**Developer 1:** Yes, daily backups of all data will happen. These will be running on our database host such as Amazon We Services or Microsoft Azure. In terms of backing up the site itself, Git will be used as our version control.

**Developer 2:** Data should be backed up regularly and in a different location to which the current data is stored. The same type of database can be used or a cheaper/slower option. You can implement backup options using your own software. The database you choose should have its own backup options

- 9) **Business Analyst:** What non-functional requirements need to be really focused on for the NCI review website?

**Developer 1:** I think maintainability will be a big non-functional requirement for the website. As previously mentioned, an admin will be required to filter any offensive content on the site and I think this will be vital to keeping the site in proper order. Scalability will also be a very important factor for the database, as the website continues to grow over the years, so will the amount of data. The database needs to cope with this.

**Developer 2:** Accessibility - Users of this website will have different capabilities. The website needs to cater for this. Availability -The service should be available all the time however his is basically impossible. The service is not an extremely important one but should aim for at least 99% availability. Data Retention - How long does the college want to keep the oldest data? The longer it is kept, the more it costs. Security - To prevent false data being created and to prevent current data being destroyed.

- 10) **Business Analyst:** At present, the NCI review website will have a homepage, review page, contact page and gallery page. Could you suggest any other relevant pages that could be implemented or even potential content/layout for the initial four pages?

**Developer 1:** I would also add a My Account section. This is where users will be able to manage their account, such as changing login credentials or deleting their account. I also think it might be useful to store which area the user is studying. This might provide some more insight into each user review and allow users to filter reviews based on study area. This will also be included in the My Account section

**Developer 2:** The homepage should welcome the user and give information about pending reviews etc. It would be a nice idea to have a results page that visualised the data of everyone's reviews if the data is going to be made public

#### **Interview Conclusion:**

This interview proved crucial when gathering more technical requirements for the website. I could pull both functional and non-functional requirements from the interview which I was very content with as some of the requirements that were mentioned to me I perhaps would not have thought of myself as I see the project from a different angle than a software developer. It was great to have two software developers together in the one interview as I felt the interview flowed very well as the both developers were bouncing ideas off each other and it was very beneficial in gathering maximum requirements possible. Overall, I was very happy with the outcome of this interview.

#### **Interview Two:**

##### **Participants:**

NCI Student

##### **Interview questions and answers**

- 1) **Business Analyst:** With the creation of this proposed NCI review website, do you feel it will be of benefit to the college to attract more students?

**Student:** I believe that this would be a good benefit to college to attract more students, it would give students to have a better insight about what the college has to offer and students are able to get real information on the college they wish to attend as they have reviews of people already in the college providing reviews on their own personal experience.

- 2) **Business Analyst:** What aspects of the college would you like to be able to write a review about?

**Student:** There could be a review on the lecturers, area of study, support offices, library, extra-curricular activities and societies. There should be a review on the Student Union and their events.

There should be a review on gym and canteen facilities. There could be a review on exam procedures.

- 3) **Business Analyst:** How do you think the results from the reviews should be displayed on the website?

**Student:** I think there should be some graphs to represent the results as graphs would be easy to understand. There should be gold stars to provide ratings on some of the areas. There should also be some text and quotes from people leaving reviews.

This could be incorporated with college websites on a specific page saying reviews.

4) **Business Analyst:** Do you feel it would be able a useful feature to be able to filter reviews? If so, in what way would you like to filter specific reviews?

**Student:** Yes, I believe that it would be a useful feature to be able to filter reviews as not all reviews will need to be seen or relevant to what users are looking for.

I would like to filter reviews based on the dates they were left. I would like to filter reviews from oldest date to newest date. This can show me if there is an issue that people that has been going on for a long time. Newer reviews would also be more relevant to new students.

5) **Business Analyst:** In your opinion, what sort of layout / design of the website would attract you and other students to the NCI review website?

**Student:** I think bright colours, Images and fewer texts would be best as you need something that will grab users' attention on the review website. There should also be a responsive layout that adapts to mobile, tablet and laptops

6) **Business Analyst:** Do you feel it will be important to link the NCI review website to social media? If so, which ones?

**Student:** Yes, I believe that it would be important to link the review page to Facebook, Instagram and Twitter. It would good to be able share reviews on these platforms and allow some people to read the reviews from the platform they are using.

7) **Business Analyst:** Do you think there is potential for future expansion of the NCI review website? Perhaps a mobile application and the implementation of the website to other colleges? (which would also see a change in the name of the website)

**Student:** Yes, I think there is a potential for future expansion of the NCI review website, this would be great for students to have better insight to the college and will help them decide if they would like to be a NCI student.

An app would be a great idea for many different colleges as students who have choices of many college they have been offered to go to may be stuck in deciding which college they would like to attend. The reviews will allow them to compare against the college of their choices

#### **Interview conclusion:**

This interview was important to gather the last few important features that a NCI student would like to see on the website. Students are the stakeholders who are most involved with the college and understand their needs and wants for the website the most. It was important to clarify that this website will be of benefit to the college as this is what the

foundations of the project is built towards. I was happy that the student said it would be of benefit to the college and another section of this interview I was happy with was that the student agreed there is potential for future expansion of the idea to other colleges and universities. There is always room for expansion in any project so it is good to know this is a potential road the project could be taken down in the future.

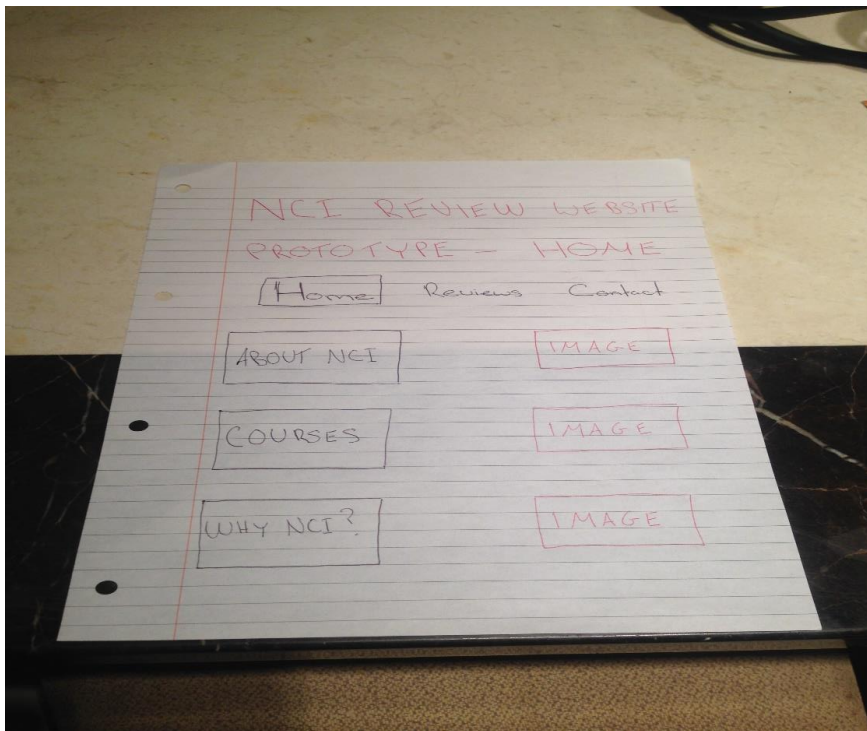
### 3.4 Prototype

#### First prototype:

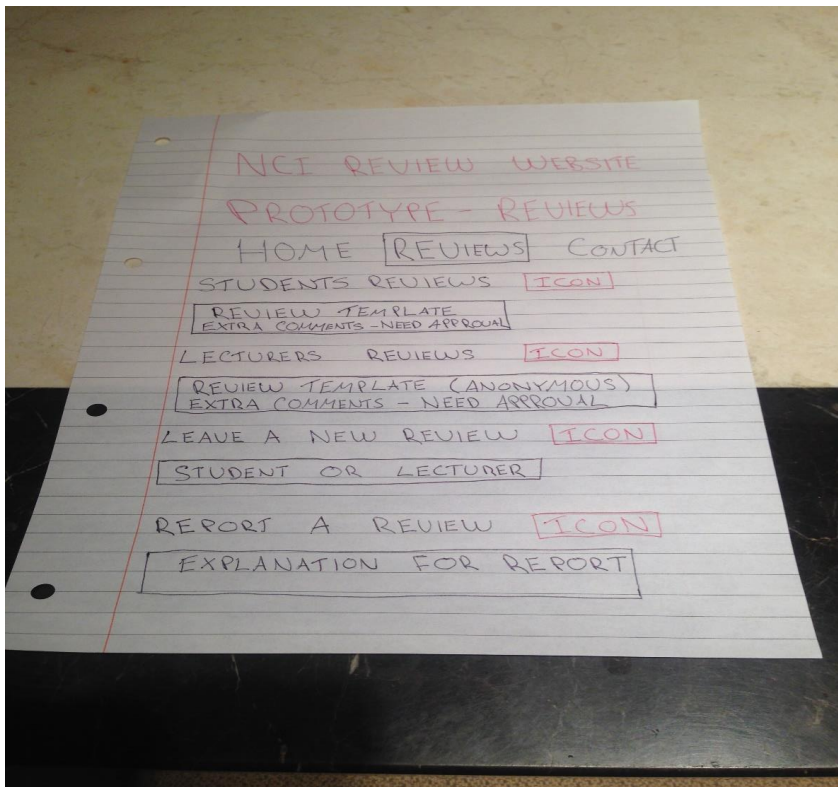
I developed a short 3-page prototype for the website. The 3 pages included homepage, review page and a contact page. I felt by having a visual representation of what the website would look like it would give stakeholders a better idea and would make it easier to build on this with more suggestions

Within the 3 pages there is a potential layout and content for the finished website, these features are not set in stone and they seek approval from the stakeholders involved. This is only the first draft as I have not yet completed my survey, brainstorm and interviews. Once they have been completed I will have more requirements for layout and design of the website

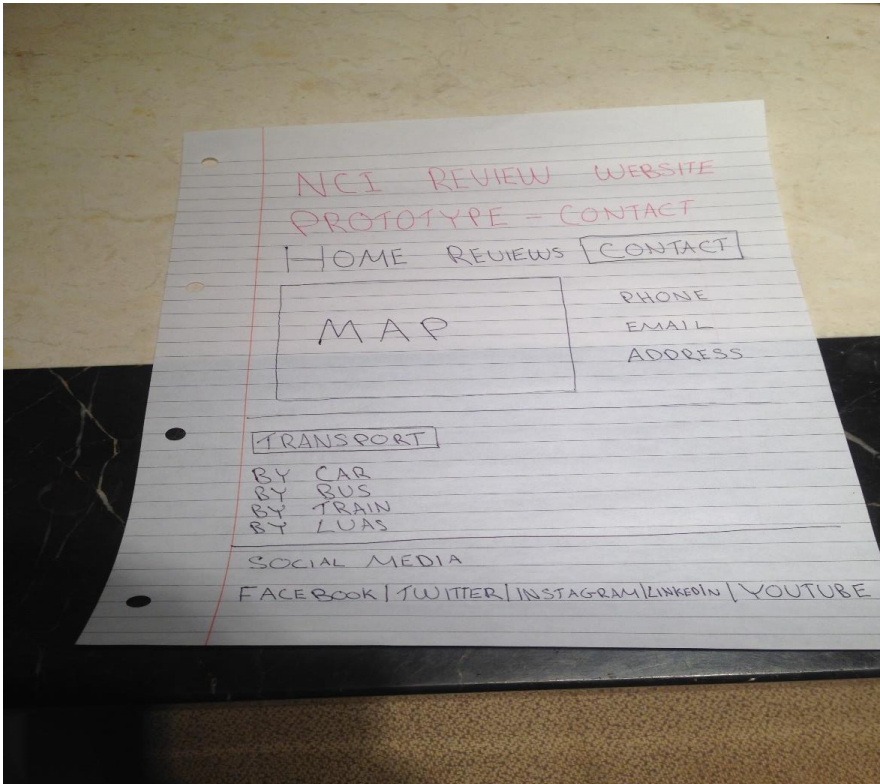
#### Homepage:



Reviews page:



Contact page:





## Second/Final prototype

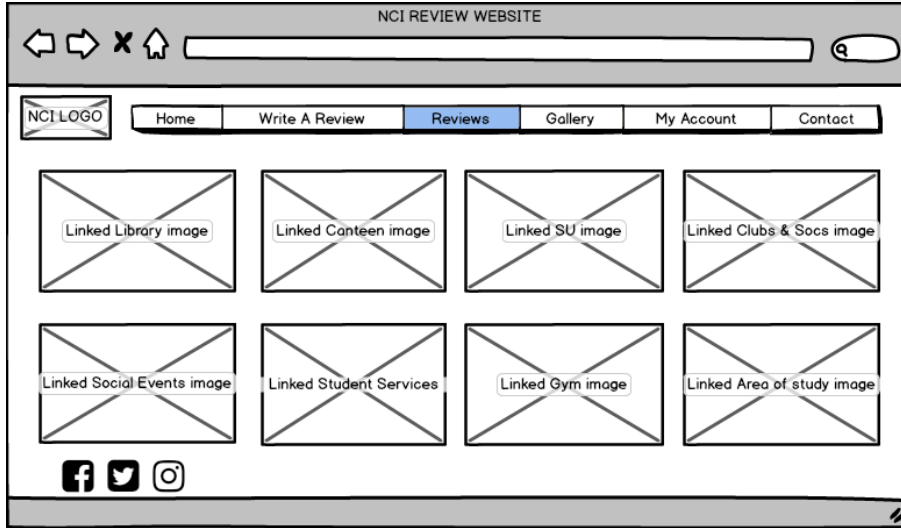
### Homepage:

The screenshot shows a browser window titled "NCI REVIEW WEBSITE". The navigation menu includes "Home", "Write A Review", "Reviews", "Gallery", "My Account", and "Contact". On the right, there are login fields for "Username / Email" and "Password", a "Sign in" button, and links for "Forgotten Username / Email?" and "Forgotten Password?". The main content area features three vertical panels on the left labeled "About NCI", "Courses available", and "Why NCI?". In the center, there are three large rectangular boxes with an 'X' through them, representing placeholder images. On the right, there is a "No account? Sign up here" button. At the bottom left, there are social media icons for Facebook, Twitter, and Instagram.

### Write A Review page:

The screenshot shows the "Write A Review" page. The navigation menu is the same as the homepage, with "Write A Review" highlighted. Below the menu, there is a heading "Rate the following from 1-5 stars". There are eight categories, each with a 5-star rating icon and a text box for explanation: "Library", "Canteen", "Students Union", "Clubs & Socs", "Social Events", "Student Services", "Gym", and "Area of study". Below these, there are two questions with text boxes for answers: "If you commute to college, could you please explain from where and the best mode of transport?" and "If you've relocated for your studies, could you rate your accomodation in tems of price, distance from college and any other relavant features?". At the bottom right, there is a "Submit" button. Social media icons are at the bottom left.

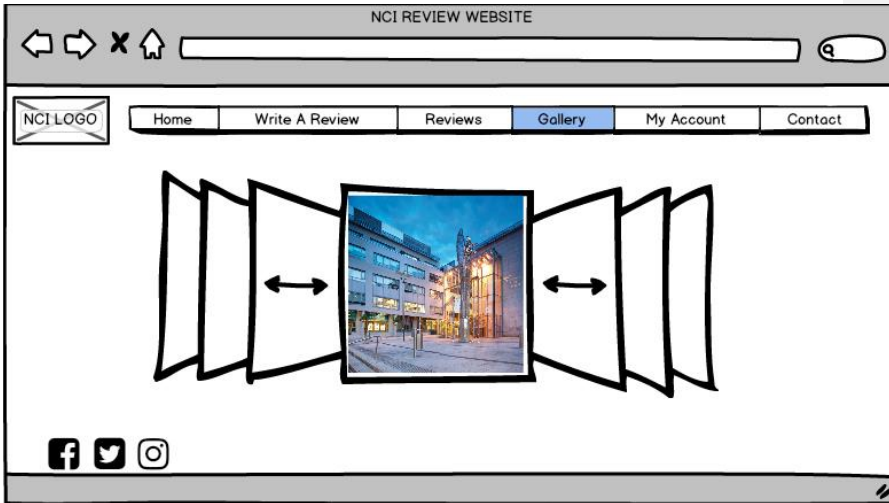
Reviews page:



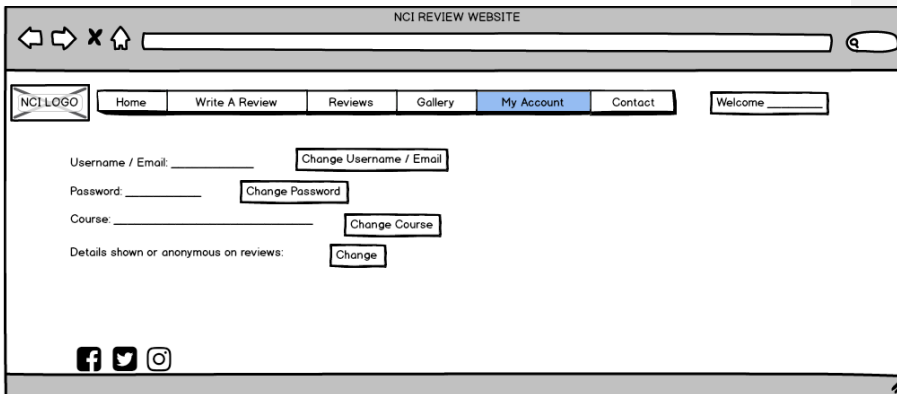
Library Review page: (all review pages will follow the below layout)



Gallery page:



My Account (Signed-in)



### My Account (Not Signed-in)

NCI REVIEW WEBSITE

Home Write A Review Reviews Gallery My Account Contact

Username / Email Password Sign in

Forgotten Username / Email? Forgotten Password?

Create a new account, It's free and always will be.

Username / Email: \_\_\_\_\_

Password: \_\_\_\_\_

Male / Female: \_\_\_\_\_

Course: \_\_\_\_\_

Details shown or anonymous on reviews:  Shown  Anonymous

Sign Up

f t i

### Contact page:

NCI REVIEW WEBSITE

Home Write A Review Reviews Gallery My Account Contact

Phone Number

Email

Address

Transport Links

Car

Luas

Train

Bus

f t i

#### **Prototype conclusion:**

The final prototype was constructed based on all the gathered requirements from the stakeholders. It was discussed in greater detail in the requirements workshop after all other techniques had been performed this can be seen in the results of the requirements workshop

### **3.5 Document Analysis**

As the foundations of the website is built on reviews left by users, I decided to undergo some document analysis on large companies were reviews play a big role on their online website and why the reviews they receive are crucial when it comes to gaining competitive advantage. I wanted to find out how exactly companies were approaching how they allowed users to leave users, format, content layout etc. It proved very beneficial as not all reviews are the same so I was able to pull some different ideas from my research.

*'More than **88% of online shoppers incorporate reviews** into their purchase decisions. Businesses are told to get more reviews on review websites to keep attracting new customers. And, as consumers, we are constantly being asked to leave a review for almost every transaction we complete' ([www.vendasta.com](http://www.vendasta.com))*

I will list a few benefits of online customer reviews for the business, retrieved from [www.business.qld.gov.au](http://www.business.qld.gov.au)

- **Free advertising** – Each review posted online by a customer is a form of advertising. The name of business and who you are and what you do is exposed to readers.
- **Peer recommendations** – Research shows that consumers generally trust peer recommendations more than trust advertising. Consumers are most likely to trust recommendations from people they know but many consider online sources to be credible
- **Constructive criticism and suggestions** – Online reviews may raise concerns or suggest improvements related to your business. This can be a good opportunity to resolve customers problems or listen to some valuable suggestions

When I was deciding on how the rating scale should be presented for different features on the website I searched around the multinational companies to see how they were letting customers leave reviews. Below are the companies I investigated

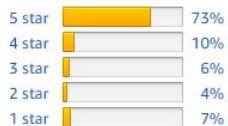
**Amazon** – Amazon have a standard 5-star rating scale and this where I got the idea to ask students in the survey what type of rating scale they would like to be able to utilize when leaving a review. 1 star obviously being very poor and 5 stars being an excellent review. In addition to the 5-star scale.

Product	Price	Rating	Reviews
Sony Noise Cancelling Headphones WH1000XM2: Over Ear Wireless Bluetooth Headphones ...	\$348.00 ✓prime	★★★★☆	766
BÖHM Wireless Bluetooth Over Ear Cushioned Headphones with Active Noise Cancelling ...	\$109.99 ✓prime	★★★★☆	892
COWIN E8 Active Noise Cancelling Headphone Bluetooth Headphones with Mic Hi-Fi Deep...	\$149.99 ✓prime	★★★★☆	163
Bose QuietComfort 35 (Series II) Wireless Headphones, Noise Cancelling - Silver	\$349.00 ✓prime	★★★★☆	882

**Customer Reviews**

★★★★☆ 4,103

4.5 out of 5 stars ▼



Share your thoughts with other customers

Write a customer review

See all 4,103 customer reviews ▸

(Credit: [www.amazon.com](http://www.amazon.com))

Amazon allows users to rate and comment on individual features of a certain product, such as 'comfort' of a pair of headphones as well as saying if the review was helpful and there is also an option to report abuse about any of the reviews that may be posted

★★★★★ **Fantastic product. Seriously- life (and GRADE) saving!! HIGHLY RECOMMEND!!!**

on December 2, 2016

Color: Black | Style: Headphones only | **Verified Purchase**

As someone who has an incredibly hard time focusing on anything and who is easily frustrated by people who talk in the library, squeaky chairs, and people conversing loudly during lab when we're supposed to be working, these are a DREAM. For the first couple days, the noise reduction feels a bit like "pressure" but you quickly get used to it and I don't know how I've gotten this far in my collegiate career without owning a pair of these headphones.

The sound quality is great, the battery is plenty long enough for a couple 8 hour days without charging and they charge extremely fast. These are worth every single penny I spent on them. The noise reduction is at its best when music is also playing, but even without, things like the hum of the a/c, a fan clicking noise or your neighbor's music are completely canceled, while voices and the tv are taken down to a more manageable and MUCH less distracting level. For anyone who has trouble with sensory overload, or who has ADHD, these are AMAZING.

Another thing these are great for is just replacing corded headphones. While I didn't buy these with that in mind, I can't tell you how handy it is to have a pair of cord quality headphones. I use them to listen to podcasts while baking so I can actually hear the show and keep my phone out of the kitchen somewhere. Also, great for watching TV without waking someone up or distracting somebody else in the room. They come with an AUX cord so you can plug them in if you run out of battery, though the sound reduction won't be available nor will the sound quality be as good; they also come with an airplane audio jack adaptor that can be single or double pronged.

Lastly, if you're concerned with whether they'll fit over any ear piercings, I haven't run into any problems yet, and I have two cartilage piercings as well as the standard single lobe piercings, though I do take off any dangling earrings (and store them in the case) while wearing them.

14 people found this helpful

| [Comment](#) | [Report abuse](#)

(Credit: [www.amazon.com](http://www.amazon.com))






**TripAdvisor** – TripAdvisor take a different approach with their rating scale compared to Amazon but are equally successful in term of gathering reviews on hotels, restaurants and things to do in different cities. They allow users to rate certain features by a Terrible-Excellent rating scale. So, I asked in the survey would users rather be able to review in this format or 5 stars rating.

## Overview

4.5 

2,397 reviews



Excellent		64%
Very good		30%
Average		4%
Poor		1%
Terrible		1%

Free Wifi

Parking

Breakfast Buffet

Air Conditioning

Restaurant

Room Service

★★★★★

4 Star Hotel

(Credit: [www.tripadvisor.com](http://www.tripadvisor.com))

**Glassdoor** – The final company I considered during my research was Glassdoor. Glassdoor gave me motivation to focus my project on a review website for National college of Ireland but I always had intention to expand it to a lot more colleges and universities than just one.

Glassdoor’s mission statement is the following ‘To help people everywhere find jobs and companies they love’. As Glassdoor holds a massive database of millions of companies reviews it got me thinking what if there could be a database of millions of college and university reviews.

Glassdoor is very successful and has some useful features such as pros, cons and the ability to filter reviews by popularity, rating and date of postings.

Overview 8.7k Reviews 7.4k Jobs 18k Salaries 8.4k Interviews 2.6k Benefits 326 Photos

Your trust is our top concern, so companies can't alter or remove reviews.

7,036 Employee Reviews Sort: Popular | Rating | Date

**Pros** "Work life balance is very good here" (in 437 reviews)  
"Free food and baristas in every building" (in 689 reviews)

**Cons** "Work life balance is difficult to manage" (in 329 reviews)  
"Still trying to figure out how to be a big company" (in 286 reviews)

[More Pros and Cons](#)

(Credit: [www.glassdoor.ie](http://www.glassdoor.ie))



### 3.6 Requirements Workshop

This requirement gathering workshop took place with two NCI students, a software developer and the project sponsor. As the business analyst I brought along some resources including the brainstorm results, survey results, interview analysis and a first draft throwaway prototype that consisted of only 3 pages as it was created earlier in the requirements gathering stage. These resources were very beneficial in helping the workshop run smoothly as we did not want to overlap on requirements that had already been mentioned. After a review of all supporting resources we could kick off with a productive workshop session.

It was established that a 3-page website was not enough for the website, instead a 6-page website was proposed and all stakeholders were content with this. This website will include: homepage, write a review page, reviews page, gallery page, my account page and a contact page. It was decided in the workshop to run through each page in detail to ensure all stakeholders were content with features and design.

**Homepage** – It was decided that the homepage would not be filled with too much detail along with all the pages as this was established during the brainstorming session. All participants were happy with the original content of the first prototype which included a section about NCI, courses available and why NCI which they said should have a scroll function to read through the information along with some images. Users will be prompted to sign in on this page and if they have not got an account they will be redirected to the account page to set one up if they click the link provided. Also, there is a forgotten user / password option on this page for users who may have forgot their details.

**Write A Review page** – This page will be the core of the website. It is where students will leave their reviews and then these saved reviews will be available to view of the reviews page. Gathered from most students said they would like to have a rating scale of 1-5 stars so this will be implemented into the final prototype along with students getting the chance to explain their reasoning for given a certain star and all extra comments will need to be approved by the admin before getting posted.

It was decided amongst the stakeholders that a certain few aspects of the college would be reviewed to help standardize and have consistent reviewing. These aspects include: Library, Canteen, Students Union, Clubs & Societies, Social Events, Student Services, Gym and Area of study.

There will be a section for students to survey their commute to college in detail, mode of transport etc. A requirement that was gathered from the stakeholders for this page during the workshop was for students who have relocated to Dublin for their studies, allowing them to rate their accommodation. At the end of the page the student will submit their review.

**Reviews page** – It was decided amongst stakeholders that there is potential for lecturers to leave reviews but this will be something for the future of this website and for the moment only students will be able to leave reviews.

The stakeholders liked the idea of having linked image for each type of review. For example, there will be an image to click of the library that will bring you to all reviews about the library. Then within the library page there will be an overall rating based on average of all reviews, there will be the shown users name or anonymous deciding on that user's preference, the rating they gave with the explanation of a rating and the date of posting. Below each review there will be an option to report abuse if the review is deemed inappropriate. Another feature of this page will allow the user to filter their reviews. They will be able to filter the reviews by highest rating, lowest ratings, newest to oldest and oldest to newest. Each review category will have this layout.

**Gallery Page** – This page was decided to be very basic with no wording on the page. All that will be displayed on this page will be a slideshow feature that will allow the user to scroll through different images of the college and its facilities.

**My Account page** – There will be two forms of my account page. One for when the user is signed in already. The user will be greeted in the top right corner of the page by their username. This page will then allow them to change their username, password, course studied and if they want their details to be shown or anonymous when they leave reviews on the website. The second type of this page is where the user does not have an account already, they will be redirected here to sign up and fill out the appropriate details. It is important to note that a user cannot leave a review unless they are signed into their account.

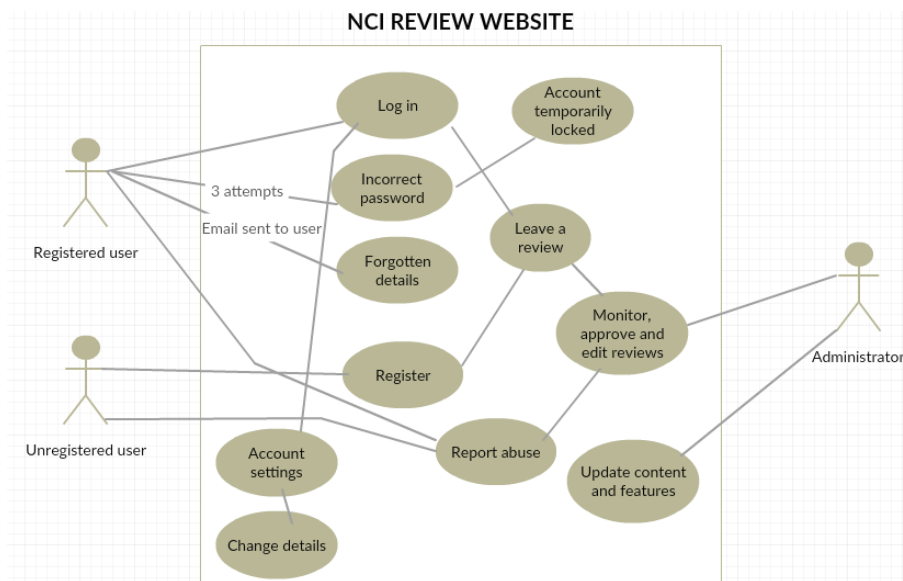
**Contact page** – This is the last page of the website. The stakeholders explained it would be a good feature to have a google maps plug-in with the exact location of the college. The phone number, email and address of the college should also clearly be visible. A transport links section was recommended to show how to commute to the college and which public transport is available.

**All pages** – It was concluded by all stakeholders that the NCI logo will be present in the top left-hand corner of all the pages of the website. It was also stated there will be a Facebook, Twitter and Instagram icon at the bottom left of every page to link the users to the social media pages. Horizontal tabs will run across the top of each page with the 6 pages linked together making the website user friendly.

I will take all the information gathered from this session and apply it to creating the finished prototype which I will create with the balsamic software rather than drawing it on paper as balsamic will create a more professional look on the final prototype.

### 3.7 Interface Analysis

#### UML Use Case Diagram:



#### UML Use Case Diagram Conclusion:

This UML use case diagram visually represents how the users of the website will interact with it. The main stakeholders involved with leaving reviews will be students past and present of course. The actors involved are registered user, unregistered user and administrator. All actors have a different set of relationships with the website and these are illustrated above. For example, a registered user will be allowed leave a review once they are signed into their account. If they type the incorrect password in more than 3 times their account will be temporarily locked and if the user cannot remember their username or password they will be able to receive this via email. An unregistered user may look at reviews on the website but not leave one themselves, therefore they will be prompted to create an account. Users both registered and unregistered can report abuse about inappropriate content however they must give a valid reason for the report. The administrator will be in charge of monitoring reviews, approving explanation of review ratings and updating and editing content.

## 4. Methods & Materials

While gathering requirements for my project I used 7 requirement elicitation techniques referred from Babok: Brainstorming, Interviews, Surveys, Prototype, Document Analysis, Requirements Workshop and Interface Analysis.

Earlier in the document I described the advantages to each technique and in turn this would be the main reason for executing them in the project. I felt I needed to do all the techniques mentioned to tie my project together. However, there was a process to completing each technique. I began with my survey which was not easy for me, as before this project I never seen a survey from a requirement gathering point of view so I had to structure my survey in a way that allowed me to gather as much requirements as possible. I met with Eugene to go over draft copies before my survey was at the correct standard to be made live. I was very happy to receive 100 responses, my survey proved to be very effective. Brainstorming was a very good technique to undergo, as it was the first session were ideas are flying around for the project and you as a business analyst can take some really information from it and more importantly crucial requirements for the project. I gathered a lot of requirements which would later be expanded on in more detail by the stakeholders. I was happy to complete two interviews to focus on certain areas of the project with a current NCI students and software developers. The developers interview was very helpful in gathering more technical requirements for the website. Document analysis benefited me by allowing me to see how other websites are allowing users to leave reviews whether it be 1-5 stars or poor-excellent it gave stepping stone to kick off my requirements gathering. Prototyping was a key part of my project as it allowed me to present a visual representation of the website to stakeholders. The prototype links up with the Interface Analysis which explains how the user interacts with the website and this can be seen in the finished prototype. Requirements Workshop was perhaps my most effective technique of them all. As I had a good number of requirements from other techniques none of them were completely set in stone until after this workshop. During the session it clarified exactly what was needed/wanted on the final prototype. This made it very easy for me when developing the final prototype as I had a clear set of requirements gathered from all key stakeholders in the workshop.

It is important to note that certain techniques must be completed in sequence. For example, a business analyst may complete surveys, interviews and brainstorms separately but should consider holding the Requirements Workshop last as it will prevent the overlapping of the same requirements being documented twice. The prototype must be completed before Interface Analysis because if the prototype doesn't correspond with the UML use case diagram this can be confusing to the stakeholders as to the usability of the website and its features.

If I had more time and more resources I had have liked to carry out more elicitation requirements techniques to bring the project to the next level of detail. However, I feel I completed all my desired techniques to the best of my ability with the time and resources available.

Throughout the lifespan of the project I implemented agile project management which I have been studying over the course of the semester. Agile project management looks to move away from the traditional project management which can see a big rush towards the end of a project. Instead the project should be completed in iterations which are essentially mini deadlines to complete certain

aspects of the project. These mini deadlines would be completed during sprints which are short spells of work to be completed to be presented usually at a weekly scrum meeting. As Eugene was my supervisor he worked as the scrum master in the project and instead of weekly scrum meetings we would have a meeting every 3-4 week where he would check my progress, I could explain what I intended to do next and if I had any issues. One of the key principles of agile project management is to not fear change even late in development of the project. My using agile it allowed me to implement late changes where necessary and it would not affect the overall project. By completing the project in iterations, it would cut down on the workload required towards the end of the project, leaving more time to focus on my project website and poster.

It was crucial that I used certain technical resources, these included MS Office which had aided me to use Word, PowerPoint, MS Project and other features. Dropbox was key when it came to store and saving my document as I continuously worked on it to avoid a possible disaster I knew my work would always be backed up online. I chose Google Forms for my survey as it is a free service that was very easy to use and the results of the survey display it nice charts and graphs with mixed colours which make it more appealing to the reader. For developing my final prototype, I chose Balsamic as it is very simple to work and in within a few hours you become familiar with all the shapes and objects making it easy to construct the prototype you desire. I found by drawing it out on paper first and then using the tool to complete the prototype worked best for me in achieving exactly what I wanted the prototype to look like. Again, this tool was free for 1 month when signing up, this gave me plenty of time to complete the prototype and include it into this document. I chose a website called Creately when developing the UML use case diagram, it made it very easy to construct the actors and processes into one diagram which is very visible and understandable. WordPress was my choice of software for the project website as it is a free service and there are plenty of tutorials online which aided me when designing the website. We got two tutorials in college on how to host and design the website which made the process a little easier. The last piece of software I required for the project was Photoshop. Photoshop was used for the creation of my project poster that can be seen in the appendix of this document. Photoshop was beneficial when it came to get my poster looking like I envisioned it should be. Overall, I'm very happy with all my materials and methods implemented to complete this project.

## 5. MoSCoW Analysis

I will be using MoSCoW analysis to prioritise all my website requirements.

According to [www.business-analysis-excellence.com](http://www.business-analysis-excellence.com), This is the breakdown of the MoSCoW analysis:

### M = Must

'Must' level requirements are those requirements which will be included to be delivered. There is no negotiation around whether they will be delivered and are considered mandatory requirements.

### S = Should

'Should' level requirements are those requirements which should be included if possible. If the project has capacity and time and it will not jeopardise any of the "Must" requirements, then these requirements should be delivered or included in whatever the prioritisation is done for.

### C = Could

The 'Could' level requirements are the requirements which could be included if it doesn't have any impact on any of the 'Should' or 'Must' requirements.

### W = Won't

The 'Won't' level requirements tend to be the requirements which will not be included to be delivered or implemented this time but are requirements that would be favoured for a future delivery or implementation

### 5.1 Functional Requirements

Functional Requirement 1	
Identification Code:	FR1
Title	Home page link
Description	This home page link will be present at all times along the horizontal tabs at that top of the website and will bring users back to the homepage
Priority	Must
Justification	Gathered in brainstorming session

<b>Functional Requirement 2</b>	
<b>Identification Code:</b>	FR2
<b>Title</b>	Write A Review page link
<b>Description</b>	This Write A Review link will be present at all times along the horizontal tabs at that top of the website and will bring users to the Write A Review page
<b>Priority</b>	Must
<b>Justification</b>	Gathered in requirements workshop

<b>Functional Requirement 3</b>	
<b>Identification Code:</b>	FR3
<b>Title</b>	Reviews page link
<b>Description</b>	This Reviews page link will be present at all times along the horizontal tabs at that top of the website and will bring users to the Reviews page
<b>Priority</b>	Must
<b>Justification</b>	Gathered in requirements workshop

<b>Functional Requirement 4</b>	
<b>Identification Code:</b>	FR4
<b>Title</b>	Gallery page link
<b>Description</b>	This Gallery page link will be present at all times along the horizontal tabs at that top of the website and will bring users to the Gallery page
<b>Priority</b>	Must
<b>Justification</b>	Gathered in brainstorming session

<b>Functional Requirement 5</b>	
<b>Identification Code:</b>	FR5
<b>Title</b>	My Account page link
<b>Description</b>	This My Account page link will be present at all times along the horizontal tabs at that top of the website and will bring users to the My Account page
<b>Priority</b>	Must
<b>Justification</b>	Gathered in interview with software developers

<b>Functional Requirement 6</b>	
<b>Identification Code:</b>	FR6
<b>Title</b>	Contact page link
<b>Description</b>	This Contact page link will be present at all times along the horizontal tabs at that top of the website and will bring users to the Contact page
<b>Priority</b>	Must
<b>Justification</b>	Gathered in brainstorming session

<b>Functional Requirement 7</b>	
<b>Identification Code:</b>	FR7
<b>Title</b>	NCI Logo link
<b>Description</b>	This logo will be present on every page of the website and will direct the user back to the homepage when clicked
<b>Priority</b>	Must
<b>Justification</b>	Gathered in requirements workshop

<b>Functional Requirement 8</b>	
<b>Identification Code:</b>	FR8
<b>Title</b>	Horizontal tabs
<b>Description</b>	The links for each page of the website will be placed along horizontal tabs across the top of the website on every page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey

<b>Functional Requirement 9</b>	
<b>Identification Code:</b>	FR9
<b>Title</b>	Social media links
<b>Description</b>	There will be three social media icons (Facebook, Twitter and Instagram) located at the bottom left corner of each page. These will redirect the user to each social media page
<b>Priority</b>	Must
<b>Justification</b>	Gathered in requirements workshop and student interview

<b>Functional Requirement 10</b>	
<b>Identification Code:</b>	FR10
<b>Title</b>	User login
<b>Description</b>	A user will be able to login to their account in the top right-hand corner of both the homepage and my account page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey



<b>Functional Requirement 11</b>	
<b>Identification Code:</b>	FR11
<b>Title</b>	Forgotten Username link
<b>Description</b>	This link will be located under where the user signs in to their account and it will allow the user to type in their password to reset their login details
<b>Priority</b>	Must
<b>Justification</b>	Gathered from software developer interview

<b>Functional Requirement 12</b>	
<b>Identification Code:</b>	FR12
<b>Title</b>	Forgotten Password link
<b>Description</b>	This link will be located under where the user signs in to their account and it will allow the user to type in their email to reset their login details
<b>Priority</b>	Must
<b>Justification</b>	Gathered from software developer interview

<b>Functional Requirement 13</b>	
<b>Identification Code:</b>	FR13
<b>Title</b>	No account link
<b>Description</b>	There will be a link on the right side of the homepage that will redirect a user with no account to sign up
<b>Priority</b>	Must
<b>Justification</b>	Gathered from requirements workshop

<b>Functional Requirement 14</b>	
<b>Identification Code:</b>	FR14
<b>Title</b>	Scroll function
<b>Description</b>	This scroll function will be used on the homepage of the website that will allow user to scroll through the information on the three sections: About NCI, Courses available and Why NCI? And on the Contact page for the transport links section
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and requirements workshop

<b>Functional Requirement 15</b>	
<b>Identification Code:</b>	FR15
<b>Title</b>	Feature allowing students to survey their commute to college
<b>Description</b>	This feature will be below the ratings and explanation area on the Write A Review page. Students can describe where they commute from and the best mode of transport from that area to the college. Perhaps even include rush hour times to avoid certain transport
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey

<b>Functional Requirement 16</b>	
<b>Identification Code:</b>	FR16
<b>Title</b>	Explanation of rating
<b>Description</b>	This feature will be below the 1-5 stars rating on the Write A Review page and it will give the user the opportunity to explain why they gave an area a particular rating
<b>Priority</b>	Must
<b>Justification</b>	Gathered from brainstorm

<b>Functional Requirement 17</b>	
<b>Identification Code:</b>	FR17
<b>Title</b>	Rating scale
<b>Description</b>	The rating scale will be present on the Write A Review page and it will consist of 1-5 clickable gold stars from which the user can decide how many stars they would like to give a particular area
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey

<b>Functional Requirement 18</b>	
<b>Identification Code:</b>	FR18
<b>Title</b>	Feature allowing students to rate their accommodation
<b>Description</b>	This feature will be below the commute feature and could allow students to rate their accommodation in terms of price and distance from the college to benefit potential future students
<b>Priority</b>	Should
<b>Justification</b>	Gathered from requirements workshop

<b>Functional Requirement 19</b>	
<b>Identification Code:</b>	FR19
<b>Title</b>	Submit button
<b>Description</b>	This button will be at the bottom of the Write A Review page and will submit and save the users review
<b>Priority</b>	Must
<b>Justification</b>	Gathered from requirements workshop

<b>Functional Requirement 20</b>	
<b>Identification Code:</b>	FR20
<b>Title</b>	Linked library reviews image
<b>Description</b>	Located on the Reviews page. This link will bring the user to the library review page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and student interview

<b>Functional Requirement 21</b>	
<b>Identification Code:</b>	FR21
<b>Title</b>	Linked canteen reviews image
<b>Description</b>	Located on the Reviews page. This link will bring the user to the canteen review page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and student interview

<b>Functional Requirement 22</b>	
<b>Identification Code:</b>	FR22
<b>Title</b>	Linked student's union reviews image
<b>Description</b>	Located on the Reviews page. This link will bring the user to the students review page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and student interview

<b>Functional Requirement 23</b>	
<b>Identification Code:</b>	FR23
<b>Title</b>	Linked Clubs & Societies reviews image
<b>Description</b>	Located on the Reviews page. This link will bring the user to the Clubs & Societies review page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and student interview

<b>Functional Requirement 24</b>	
<b>Identification Code:</b>	FR24
<b>Title</b>	Linked Social Events reviews image
<b>Description</b>	Located on the Reviews page. This link will bring the user to the Social Events review page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and student interview

<b>Functional Requirement 25</b>	
<b>Identification Code:</b>	FR25
<b>Title</b>	Linked Student Services reviews image
<b>Description</b>	Located on the Reviews page. This link will bring the user to the Student Services review page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and student interview

<b>Functional Requirement 26</b>	
<b>Identification Code:</b>	FR26
<b>Title</b>	Linked Gym reviews image
<b>Description</b>	Located on the Reviews page. This link will bring the user to the Gym review page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and student interview

<b>Functional Requirement 27</b>	
<b>Identification Code:</b>	FR27
<b>Title</b>	Linked Area of study reviews image
<b>Description</b>	Located on the Reviews page. This link will bring the user to the Area of study review page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and student interview

<b>Functional Requirement 28</b>	
<b>Identification Code:</b>	FR28
<b>Title</b>	Overall rating
<b>Description</b>	This will be a rating from 1-5 stars of the overall rating of each review page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from requirements workshop

<b>Functional Requirement 29</b>	
<b>Identification Code:</b>	FR29
<b>Title</b>	Individual review
<b>Description</b>	This will show the individual rating from a user. It will include the anonymous/shown user, the rating they gave, the date of review and the approved explanation of rated review
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and requirements workshop

<b>Functional Requirement 30</b>	
<b>Identification Code:</b>	FR30
<b>Title</b>	Report abuse
<b>Description</b>	There will be a report abuse button under each individual review
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey

<b>Functional Requirement 31</b>	
<b>Identification Code:</b>	FR31
<b>Title</b>	Filter reviews
<b>Description</b>	This feature will be located on the individual reviews page and it will allow the user to filter reviews by: oldest-newest, newest-oldest, highest rating and lowest rating
<b>Priority</b>	Must
<b>Justification</b>	Gathered from survey and requirements workshop

<b>Functional Requirement 32</b>	
<b>Identification Code:</b>	FR32
<b>Title</b>	Picture slideshow
<b>Description</b>	This feature will be located on the gallery page of the website. It will consist of different photographs of the college that a user can flick through to see all the facilities of NCI
<b>Priority</b>	Must
<b>Justification</b>	Gathered from brainstorm

<b>Functional Requirement 33</b>	
<b>Identification Code:</b>	FR33
<b>Title</b>	Create an account template
<b>Description</b>	This template will appear on the My Account page to a user that doesn't have an account. They will be asked to enter a username/email, password, their gender, course studied/studying, and if they would like their details to be shown or anonymous on reviews
<b>Priority</b>	Must
<b>Justification</b>	Gathered from brainstorm and requirements workshop

<b>Functional Requirement 34</b>	
<b>Identification Code:</b>	FR34
<b>Title</b>	Change details
<b>Description</b>	A user who is logged into their account will be able to change their details on the My Account page
<b>Priority</b>	Must
<b>Justification</b>	Gathered from requirements workshop

<b>Functional Requirement 35</b>	
<b>Identification Code:</b>	FR35
<b>Title</b>	Welcome user
<b>Description</b>	If a user is signed into their account, they will be greeted in the top right-hand corner on the My Account page
<b>Priority</b>	Should
<b>Justification</b>	Gathered from requirements workshop

<b>Functional Requirement 36</b>	
<b>Identification Code:</b>	FR36
<b>Title</b>	Google maps plug-in
<b>Description</b>	This will be located on the contact page of the website and will allow the user to see exactly where the college is located on google maps
<b>Priority</b>	Should
<b>Justification</b>	Gathered from requirements workshop

<b>Functional Requirement 37</b>	
<b>Identification Code:</b>	FR37
<b>Title</b>	College Information
<b>Description</b>	This will be located on the contact page. Will include the colleges phone number, email and address of the college
<b>Priority</b>	Should
<b>Justification</b>	Gathered from requirements workshop

<b>Functional Requirement 38</b>	
<b>Identification Code:</b>	FR38
<b>Title</b>	Transport links
<b>Description</b>	This will be located on the contact page. The available and most convenient transport links for getting to the college including car, train, luas and bus
<b>Priority</b>	Must
<b>Justification</b>	Gathered from requirements workshop

<b>Functional Requirement 39</b>	
<b>Identification Code:</b>	FR39
<b>Title</b>	Lecturer reviews
<b>Description</b>	A feature originally thought about in the first prototype, however it can potentially cause some issues with the project and will not be included in this iteration
<b>Priority</b>	Wont
<b>Justification</b>	Gathered from brainstorm

<b>Functional Requirement 40</b>	
<b>Identification Code:</b>	FR40
<b>Title</b>	Cross platform App
<b>Description</b>	Unfortunately, there was not enough time to develop a prototype for an application, it won't be included in this iteration but it would be included in the next one given more time
<b>Priority</b>	Wont
<b>Justification</b>	Gathered from survey

<b>Functional Requirement 41</b>	
<b>Identification Code:</b>	FR41
<b>Title</b>	Additional social media pages
<b>Description</b>	For now, the website will be linked to the three most popular social media platforms justified from the survey and interview. In the future, more social media pages may be created to cater users' needs
<b>Priority</b>	Wont
<b>Justification</b>	Gathered from survey and interview

## 5.2 Non-Functional Requirements

### 5.2.1 Performance requirements

Non-Functional Requirement 1	
<b>Identification Code:</b>	NF1
<b>Title</b>	Login credentials
<b>Description</b>	When a user attempts to login to the website they should be notified within 15 seconds if their login was successful or un-successful. The user will either successfully login and will be redirected to the homepage or will be prompted to login again if the email or password was incorrect.
<b>Priority</b>	Must
<b>Justification</b>	There should be no delay for the user to know if their login attempt was successful or un-successful

Non-Functional Requirement 2	
<b>Identification Code:</b>	NF2
<b>Title</b>	User friendly/Easy navigation with not too much writing
<b>Description</b>	The website must be friendly to the users who visit, must be easy to navigate for all users. The buttons must be easy to read and all pages must be easy to navigate. There won't be too much writing covering all the pages.
<b>Priority</b>	Must
<b>Justification</b>	Users should easily be able to find the main features of the website gathered from brainstorm and student interview

Non-Functional Requirement 3	
<b>Identification Code:</b>	NF3
<b>Title</b>	Log out
<b>Description</b>	When a user clicks log out they should be logged out of the website within 10 seconds.
<b>Priority</b>	Should
<b>Justification</b>	Slow website speed creates frustration for users. If a user is attempting to logout they should be able to immediately.

Non-Functional Requirement 4	
<b>Identification Code:</b>	NF4
<b>Title</b>	Page load time
<b>Description</b>	Every page should load within 10 seconds of the user clicking the button.
<b>Priority</b>	Should
<b>Justification</b>	If load time is longer than 10 seconds users will stop using the website. Between 4 and 10 seconds is acceptable however beyond 10 seconds is not acceptable.



<b>Non-Functional Requirement 5</b>	
<b>Identification Code:</b>	NF5
<b>Title</b>	Website host
<b>Description</b>	Website will need to be hosted when made live. Important to use the correct provider when doing so, SquareSpace was advised
<b>Priority</b>	Must
<b>Justification</b>	Gathered from software developer interview

### 5.2.2 Security requirements

<b>Non-Functional Requirement 6</b>	
<b>Identification Code:</b>	NF6
<b>Title</b>	Password criteria
<b>Description</b>	Password must contain a minimum of 7 letters, 1 uppercase letter and 1 special character.
<b>Priority</b>	Must
<b>Justification</b>	A strong password policy act as an extra layer of security protecting accounts against hackers – gathered from software developer interview

<b>Non-Functional Requirement 7</b>	
<b>Identification Code:</b>	NF7
<b>Title</b>	Account lockout
<b>Description</b>	If a user types in an incorrect password 3 times their account will be temporarily locked
<b>Priority</b>	Must
<b>Justification</b>	Must be put in place to stop potential hackers gaining access to accounts–gathered from software developer interview

<b>Non-Functional Requirement 8</b>	
<b>Identification Code:</b>	NF8
<b>Title</b>	Website encrypted with HTTPS
<b>Description</b>	Obtaining an SSL certificate
<b>Priority</b>	Must
<b>Justification</b>	GDPR regulated - Gathered from software developer interview

<b>Non-Functional Requirement 9</b>	
<b>Identification Code:</b>	NF9
<b>Title</b>	Storing as little personal details as possible from the users

<b>Description</b>	The system wants to keep as little personal details as possible as it does not want to be held accountable if the website is hacked
<b>Priority</b>	Must
<b>Justification</b>	Gathered from software developer interview

<b>Non-Functional Requirement 10</b>	
<b>Identification Code:</b>	NF10
<b>Title</b>	Username criteria
<b>Description</b>	Use either an email address or a username with a capital letter and a number
<b>Priority</b>	Must
<b>Justification</b>	Gathered in software developer interview

<b>Non-Functional Requirement 11</b>	
<b>Identification Code:</b>	NF11
<b>Title</b>	Username rejection
<b>Description</b>	System should reject a user attempting to create a second account with the same username
<b>Priority</b>	Must
<b>Justification</b>	Gathered in brainstorming session

<b>Non-Functional Requirement 12</b>	
<b>Identification Code:</b>	NF12
<b>Title</b>	Administrator login
<b>Description</b>	The login details will only be provided to those who should know them and this account will be used to monitor, edit and approve reviews. While it can also be used to add new content and features
<b>Priority</b>	Must
<b>Justification</b>	Gathered in brainstorming session

<b>Non-Functional Requirement 13</b>	
<b>Identification Code:</b>	NF13
<b>Title</b>	Reviews can only be left by a user who has an account
<b>Description</b>	If a user isn't signed into their account they cannot leave a review
<b>Priority</b>	Must
<b>Justification</b>	Gathered in requirements workshop

<b>Non-Functional Requirement 14</b>	
<b>Identification Code:</b>	NF14
<b>Title</b>	Encrypt Database
<b>Description</b>	Database will need to be encrypted along with all the passwords on site being hashed
<b>Priority</b>	Must
<b>Justification</b>	Gathered from software developer interview

<b>Non-Functional Requirement 15</b>	
<b>Identification Code:</b>	NF15
<b>Title</b>	Accessibility
<b>Description</b>	Users of this website will have different capabilities. The website needs to be aware of this
<b>Priority</b>	Must
<b>Justification</b>	Gathered from software developer interview

### 5.2.3 Recoverability requirements

<b>Non-Functional Requirement 16</b>	
<b>Identification Code:</b>	NF16
<b>Title</b>	Creation of database
<b>Description</b>	Database should be created on any chosen software
<b>Priority</b>	Must
<b>Justification</b>	Gathered from software developer interview

<b>Non-Functional Requirement 17</b>	
<b>Identification Code:</b>	NF17
<b>Title</b>	Daily backup database
<b>Description</b>	Daily backups are very important in case of tragedy, Amazon web services can be used for the backups
<b>Priority</b>	Must
<b>Justification</b>	Gathered from software developer interview

<b>Non-Functional Requirement 18</b>	
<b>Identification Code:</b>	NF18
<b>Title</b>	Version control of website
<b>Description</b>	It is very important to implement version control on the website, as you may need to fall back to a previous version if necessary
<b>Priority</b>	Must
<b>Justification</b>	Gathered from software developer interview

### 5.2.4 Reliability requirement

<b>Non-Functional Requirement 19</b>	
<b>Identification Code:</b>	NF19
<b>Title</b>	Reliability of the website
<b>Description</b>	Website must be reliable for all users. They should be able to easily enter information into all fields and the website should not crash when being used.
<b>Priority</b>	Must have
<b>Justification</b>	If website is not reliable users will stop using the website – gathered from software developer interview

### 5.2.5 Maintainability requirement

Non-Functional Requirement 20	
Identification Code:	NF20
Title	Maintainability of the website
Description	admin will be required to filter any offensive content on the site and I think this will be vital to keeping the site in proper order
Priority	Must
Justification	Gathered from software developer interview

### 5.2.6 Capacity requirements

Non-Functional Requirement 21	
Identification Code:	NF21
Title	Data Retention
Description	How long does the website want to keep the oldest data? The longer it is kept, the more it costs
Priority	Must
Justification	Gathered from software developer interview

Non-Functional Requirement 22	
Identification Code:	NF22
Title	Scalability
Description	Very important factor for the database, as the website continues to grow over the years, so will the amount of data. The database needs to cope with this
Priority	Must
Justification	Gathered from software developer interview

### 5.2.7 Availability requirements

Non-Functional Requirement 23	
Identification Code:	NF23
Title	Availability of website
Description	The service should be available all the time however, this is basically impossible. The service is not an extremely important one but should aim for at least 99% availability
Priority	Must
Justification	Gathered from software developer interview

Non-Functional Requirement 24	
Identification Code:	NF24
Title	Responsive layout
Description	The website should still be available on other devices adapting its layout to suit mobiles, tablets and laptops
Priority	Must
Justification	Gathered from student interview

## 6. Conclusion:

I'm very happy and proud to complete this document to the best of my ability. What seemed like a daunting task at the start of the project turned out to be quite an enjoyable one especially interacting with different stakeholders to gather different sets of requirements I really enjoyed this aspect of the project. However, no project is perfect and if I had more time I would have liked to do a few more things including designing a prototype for an app on a user's phone or any other device. Most of the requirements would be similar but there would also need to be some new requirements to cater the applications needs. I would have liked to use more elicitation techniques during the project and if I had more time this is one thing I would have done. A risk management plan would have been a good addition to the project along with a risk register to control and have a plan in place to tackle any potential risks to the project, in the industry this would be completed without hesitation but in college you lack the resources for certain parts of a project. This leads me on to my final point, I would love to develop this website with all the work that has been put into it but it is not realistic right now for me and I feel the website would still need more requirements gathered before it could be put into development but overall, I'm very content with the outcome of this document and feel it is of good standard to recognised by a potential project sponsor.

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## 8. Appendix

### 8.1 Project Proposal

#### 8.1.1 OBJECTIVES

The primary objective of my final year project is to generate a highly detailed requirements specification document for a new college review system for National College of Ireland. This will be completed by gathering relevant information from students who will be the main stakeholder in this project. I will be looking to cover such areas as the design of the website for how people will be able to review the college, along with layout and what features are required for the website to function correctly. Firstly, I will have to gather all my requirements for this project and these will be gathered using various requirement elicitation techniques and tasks some of which will be explained later in this document in very high detail. Along with this project proposal I will be conducting a series of tasks and meeting certain deadlines such as the mid-point presentation, requirements spec, submitting the final report and presenting the project website along with a project poster at the project showcase which will take place sometime in May of 2018.

The objective of the new website will be to provide a surface to review National College of Ireland. I think this will be very beneficial to the College as it will allow people to get a good understanding of what it is like to study at NCI. With this review system people will be able to gain an insight into different years in the college from your first year to your final year within certain areas of study. Also, what appeals to students about the college can be included. I feel that if this project was made live by the college it would attract more students from all over Ireland but also international students which make up a big percentage of the population of the college also.

During the year I will have my project deliverables deadlines, but also other assignments will be due, so I will attempt to continually work away at my project over the coming weeks to the best of my ability. I will attempt to complete as much requirements as possible which will be set out by the stakeholders and hopefully the project is deemed a success at the end of the second semester.

#### 8.1.2 BACKGROUND

I have chosen this idea for my final year project as I was once a secondary school student who was in his leaving cert year. I knew I wanted to go to college, but I wasn't sure what college I wanted to dedicate another 4 years of my life to, in fact I didn't have any clue where I wanted to study I was more concentrated on just completing my leaving cert. I remember in guidance class our teacher would get us to research colleges, but I could never find any valid reviews for most colleges apart from any given colleges Facebook page. I believe the reviews on a Facebook page can be misleading and mostly when people are leaving a review on a public page such as Facebook it tends to be more of a complaint than a good review. I end up applying for NCI purely because it was recommended by a friend of mine who was attending at the time. I never even heard of NCI before this, 4 years ago the college wasn't advertising itself like it does today.

From my personal experience I felt that this project would be helpful to students leaving school and entering the world of college and help those who are a mature student and are returning to education. Choosing a 3<sup>rd</sup> level institution can be a very daunting task and I know personally I would have liked a bit more guidance or help with my options in the end NCI suited me and I don't regret coming to the college but there might be others out there who felt the same I did and at least this review system can be a stepping stone to helping potential students chose their college wisely and hopefully positive reviews will attract more people to enrol themselves into National College of Ireland.

### 8.1.3 TARGET MARKET

The target market for my project would be aimed towards school leavers who are looking to further their education by attending college straight after finishing school. However, this project is not just for school leavers but in fact for anyone who wishes to return to education weather they are 25 or 55 my project will hopefully into a platform where users can discover as much information as possible about NCI and in turn convince them to study at the college if it meets the right criteria

### 8.1.4 TECHNICAL APPROACH

After selecting my idea, it was then time to think about the technical aspect of the project. Although I am pursuing the business analyst specialisation and my project is based mainly around requirements I still must present a mock website which will portray the potential website. As I will not be coding the website myself there is a wide variety of website building tools available. Last year I was exposed to WIX, this tool is a very neat tool for dragging and dropping sections of a website, adding colour and text to the site also. However, after some research and some inspiration from past projects I will use a tool called WordPress to construct my website as it appears this tool provides the most features for me to build a successful website, I'm looking forward to using a new tool to better my skills.

The website won't just be created overnight. There will have to be some steps put in place to successfully construct a valuable website.

Firstly, I will have to gather all requirements from stakeholders for what exactly they think should be presented on the website. So, this will involve discussing requirements with stakeholders using different techniques. Once I have gathered all the data I need it will paint a better picture for myself to know what features should be present on the site and then it can lead me onto sketching up a prototype. A prototype will be very beneficial to me when going about the design of this website as it works as a rough copy to show stakeholders but also can be included in my midpoint presentation in which it will display my progress. I will create a throwaway prototype first on paper to help me and the stakeholders visualise what the site could potentially look like when it is developed using a suitable tool. Once my final document is finished I can then focus on adding content to the webpage.

The content will be pulled from my final document which will be reviewed by all relevant stakeholders involved. After I add all the content needed to light up the webpage I can then review the website with my supervisor to see if it is up to standard for the project showcase. If there are changes required I will carry out with these to improve the website as much as possible before the project showcase.



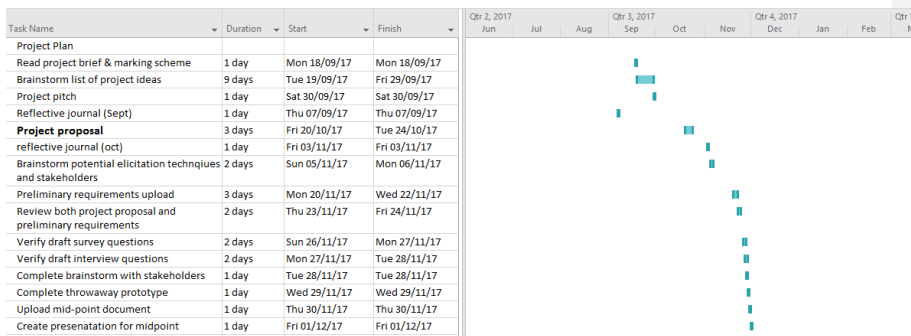
### 8.1.5 SPECIAL RESOURCES REQUIRED

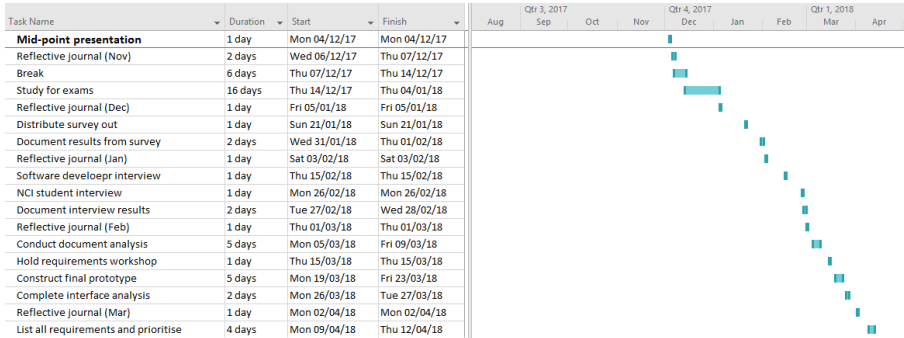
At this moment I lack the knowledge to construct a website with WordPress however I will need to upskill. To do this, I will have to research into some potential tutorials on how to use WordPress which will benefit me perhaps YouTube would be the best option. I could also liaise with other students if they are using this same tool to pick up some helpful tips and consider current websites that are constructed using WordPress.

Below are a few resources I will need to complete a successful project

- Laptop
- Dropbox
- Microsoft Office
- Wireframe – written and tool (balsamic)
- UML Use Case – Creately
- A Guide to The Business Analysis Body of Knowledge 2015 (BABOK)
- IEEE requirements documentation templates
- Survey application (google forms)
- Photoshop
- WordPress

### 8.1.6 Project Plan – Gantt chart





Study for exams	8 days	Mon 16/04/18	Wed 25/04/18
Complete project poster for showcase	3 days	Fri 27/04/18	Tue 01/05/18
Complete project website	2 days	Tue 01/05/18	Wed 02/05/18
Reflective journal (Apr)	1 day	Thu 03/05/18	Thu 03/05/18
Proof read document and upload	2 days	Wed 09/05/18	Thu 10/05/18

### 8.1.7 Evaluation

I will be using a wide variety of requirement elicitation techniques for my project and these will build a solid foundation for a successful requirements document. Some of the techniques I will be using will include brainstorming sessions, surveys and interviews just to name a few. Completing these topics will be key to gather as much information for me to populate the website. I will be able to gather majority of the information for the website after I have completed the requirements specification document that is due in November and then all other information will be added and monitored up until the end of next semester.

Regarding research into the competitors of my website to evaluate my idea, there are some websites including whatcollege.ie and study-ireland.com. Although these websites have some reviews on National college of Ireland the reviews are outdated and there is not enough of them to construct an opinion of the college.

I will continue to evaluate my project and website with my supervisor as I go along to achieve maximum results

## 8.2 Journals

### 8.2.1 September

I started back college this month after completing a 9-month internship, that summer flew in. Currently in my final year and its mad how quick the years have gone by. I'm studying the Technology management course here at National College of Ireland.

It was only our first week back and we were getting lashed out of it about all the assignments. Especially this project. Had to begin brainstorming for an idea as the project pitch was within 2 weeks of returning to college. I found it difficult to pool ideas but in the end, I came up with idea of implementing a website that will review NCI. I am a little unsure of exactly what is required of me for the project but I'm sure I will find out over time when I am assigned my supervisor

### 8.2.2 October

October began, and it was time to pitch our ideas to the 3-man panel. Luckily my idea was accepted first time which was a relief. Now that I knew my project was accepted I was happy.

It was now time to think more into my project who the stakeholders were going to be and what techniques would I be using to gather requirements.

It was a few weeks after the pitch when we got assigned our supervisors the list was posted online, and I was very pleased that I had received Eugene as my supervisor.

A few assignments were due at the end of October usually around reading week. I completed my project proposal before reading week so that was one less thing to be worried about.

Hoping to really push on with the project in November as the requirements spec is due and then mid-point presentation not long after.

### 8.2.3 November

November was a very busy month for me. It was my 21<sup>st</sup> birthday so I celebrated that with a party and a trip over to Manchester to see man united. In between all that I was juggling all my college work and in all fairness, I feel I dealt with everything fine and met all the deadlines in all my modules including the project.

I had two assignments due for other modules during November. We had to submit the requirements spec midpoint document. I was continuously working on the midpoint document and I was happy enough with what I submitted I feel I have done some good work and made a bit of progress with the project.

During the month I met up with Eugene three times to discuss different aspects of the project including my survey and interview questions as well as what exactly was required for the midpoint document upload. Me, Mayo and Andrew had a group meeting with Eugene where he explained what was due for our mid-point presentation. I will take note of his comments and will implement any recommendations into my slide show at the start of December.

I was also very happy to get a brainstorm session complete with two students from my course, discussing potential features and layout of the project

Late December and January will see little progress in my project as I have 5 exams to study for as well as finishing off the last of my assignments

### 8.2.4 December

December was a hectic month. We finished up college for the end of the semester after successfully meeting all my assignment deadlines as well as keeping up to date with the deadlines for my project including the mid-point presentation, I felt I had completed some good work in the build up to the presentation and I felt over all it went very well, it seemed both Eugene and Ron were happy with

what I had to present and this is reflected in my result. I explained what I intended to do next at the end of my presentation and I gained some valuable feedback that I will consider for the future.

I did not meet with Eugene as I spoke to him during class time and when I was presenting my mid-point presentation. I will look to arrange meeting times for next semester with him

Christmas is my favourite time of the year so I decided to take a week off to wind down and enjoy the festive period but the exams were creeping up and I had to get my head into the books as I had 5 exams to study for which is a lot to study for especially with the pressure of final year

#### 8.2.5 January

After a busy Christmas period, January quickly came around my full focus was on my exams.

It was the last time I would be sitting January exams at NCI and it felt quite strange to be honest. It was stressful enough in the build-up to the exams, as our class had 5 exams to be studying for which was a lot considering it is our final year and all exams are very important to our overall grade.

One of the exams went horrible for me on the day and it was the first one! I had to kick on and try my best to get back on track with the rest of them. Thankfully the rest went fine and I was happy enough with the next 4 exams but they were very stressful and took a lot out of me to be honest

After exams we had a week off to chill out which was nice. The following week I headed off to Vegas for my brother's stag as he is due to get married in June. When I returned I was straight back into college work starting my two new modules for semester two. Looking forward to the new semester and the two new modules. And we'll only have 2 exams instead of 5 which will make things easier coming up to exam time again

I plan to meet with Eugene early February to clarify with him what is due next in the project. I could post my survey live to gather results from students, the responses were fantastic I got 100 in around a week so I was delighted with that. I will now gather the requirements from the survey and clarify with Eugene when we meet soon

#### 8.2.6 February

Its February now and the semester is off to a flyer. I am really enjoying our two modules, agile project management and business process management which is making life easier when it comes to the assignments. We have received them and I will look to work on them gradually along the semester while also doing work on my project.

I was looking to really kick on with the project this month while I had some time. I met with Eugene discussing work completed up to now and I also wanted to show him interview questions I was intending on asking to a software developer and a current NCI student. He was happy enough with the list of questions I had for each stakeholder and I only had to make minimal changes. He was happy that I would gather good requirements for the project from the questions being asked.

The first interview was with two software developer and it was a great success I got a lot of valuable information from there and most importantly got the requirements necessary to build the website. The second interview was with a first-year student in NCI and she was very helpful and provided some requirements for the website. Overall, I was happy with both interviews.

Next month I will look to complete a requirements workshop with several key stakeholders to gather more requirements from which I can start to build the prototype. Other techniques I intend to complete are interface analysis and document analysis and I will meet with Eugene again to discuss the best approach from doing these.

#### 8.2.7 March

March was a very busy month as the semester is now in full swing. It was important to do a bit of work on the project this month to try get as much work done as possible. The reason for this is that both modules will have assignments due at the start of April both worth 30% of the overall grade for the module. It was important to balance the work on the assignments to attempt to gain a good grade in both but also work on the project.

At the start of March, I held a requirements workshop with key stakeholders and it was very beneficial to me for gathering requirements that had not been mentioned before by any of the stakeholders. By having several people sharing ideas together it really got peoples thinking caps on.

We had to design our showcase profile this month as it needed to be submitted late March to avail of the 3% that was available to students for completing it successfully. We also had to submit an ethics form regarding the type of research we were conducting for the project and if it was feasible.

Up to this point I have brainstorm, interviews, survey and requirements workshop complete and I am happy with my progress considering all the other factors including exams and other assignments. I will look to construct document analysis and complete both interface analysis and the prototype before the deadline in March. Of course, after all techniques have been complete I can focus on prioritising the requirements by using Moscow analysis. The project poster will also need to be completed to be presented at the showcase. The last thing to complete will be the project website where I will be able to present my project and its findings / results online and in the final presentation.

Really on the home stretch now with the project and college as this month will see my last two college exams after 4 years here at NCI which won't really sink in until after I complete them. I will be mainly focusing on these exams but will try to get a bit done with the project as well. From the point of finishing my exams to the project deadline I will meet with Eugene to apply the finishing touches to the document and I will ask him any other relevant questions in the final few weeks to try present the best piece of work possible.

8.3 Project Poster:

**National College of Ireland**

# NCI Review Website

by **Graham Uzell**

BSc (Hons) in Technology Management

The NCI Review Website allows students in National College of Ireland to rate many aspects of the college that matter to them such as the Library, Student Services, Clubs & Socs, the Gym & more. It also enables students to give an explanation on why they rated how they did to help current and prospective students understand NCI better.

## WHAT?

## WHY?

Attempting to attract more students to the college from Ireland and across the world

Learn more about your college

#### 8.4 Acknowledgements

I would first like to thank Eamon Nolan who was the lecturer for our project class over the two semesters. He was always very helpful and supportive throughout the project explaining the project deadlines and organising relevant seminars to assist us in the project.

A huge thank you goes to my project supervisor Eugene O'Loughlin. I have had Eugene for a few modules during my time here and was very happy when I knew he was going to be my project supervisor. He was very helpful to me during the project and he always had an open-door policy which made communication and organising supervisor meetings very easy.

I would like to take the opportunity to thank all the individuals who made my requirements gathering possible by getting involved in interviews, brainstorming and the workshop. I'm very grateful for all the people who completed my survey also.

Finally, I would like to thank the National College of Ireland for an incredible 4 years here. From day one I knew I was going to like to enjoy my studies here. I've made plenty of friends and contacts for life from my time here, had plenty of fun and learned a lot along the journey

#### 8.5 Project Website URL

<https://ncireview.000webhostapp.com/home>