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RENTIE
Requirements Specification Document

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Course Name: BSc (Honours) in Technology Management

Course Specialisation: Business Analysis



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Declaration Cover Sheet for BSHTM4 Project Submission

SECTION 1 *Student to complete*

| |
|----------------------------------|
| Name: Tom Howard |
| Student ID: X3532273 |
| Supervisor: Ron Elliot |

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 (summarised overleaf and printed in full in the Student Handbook) and that the work I have submitted for this assessment is entirely my own work.

Signature: Tom Howard.

Date: 7th May 2017.

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 you failing the module and possibly to you being suspended or expelled from college.

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

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Paraphrasing refers to taking the ideas, words or work of another, putting it into your own words and then crediting the source. This is an 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 particular 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 mark 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 from 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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Requirements Specification & Analysis Planning

Introduction

This project includes the documenting and collecting of requirements for the Rentie Application. I noticed in the last couple of years Ireland, and especially Dublin have run into a student-housing crisis. Not only are students up against workers trying to find accommodation, they're up against the rising price of rent. A short term solution for the majority of students and workers fresh out of college has been to stay in a host home for five or seven days a week. Currently there isn't an app similar to Rentie out there and available to students, the way you search for accommodation outside of college campus would be through property websites.

According to Ronan Lyons economist with property website Daft.ie "We can expect to see more of the same problems this year due to very tight supply, but students are flexible so they are packing more of themselves into each house". In my opinion there is a big gap for this type of app in the market place, with more and more student's attending college each year it's not possible for the college campus to facilitate all students. The current price for rent in Dublin has been inflated in the last five years which will mean there's going to be student's looking to save money in this area which in turn means a greater demand for the host. In my experience there's a need for a general revamp of the housing process.

Business Need

When looking at this Project for the Rentie app and talking about business need you have to see where the problem lies and what the opportunity is to resolve it. It's known that the student housing process has come into a bit of a crisis, not having the resources to house all the students on college campus leading to independent search for accommodation. Students have alternatively been squeezing themselves into houses close to college or moving to the outskirts of the city for cheaper rent because that's all that's available to them. The Union of Students President on the topic "In cities with a number of third-level institutions, such as Dublin, Cork, and Galway, there's a lot of students and growing number of professionals. The accommodation needs of students are different: they really just need a room." Practicality is the real winner at the end of the day, and unfortunately finding an affordable and suitable apartment isn't as easy as it once was. Staying with a host family is the practical option; it's someone's home so is bound to be of high quality and it most cases are close to the college which in turn takes away the cost of commuting daily.

I have my own personal attachment to this project since my mother decided to put one of our rooms up for rent, she happened to hear through word of mouth that DCU were looking for people with rooms to let. She thought why not she's making dinner anyway, we have a spare room, we live just ten minutes away from DCU and the extra income would come in handy. DCU contacted my mother with just the information as follows; Name, Gender, Nationality, Age, and duration of stay. Personally I find that a bit vague as you are letting this person into your home for whatever length of time. Now no doubt DCU have their own screening process but in this day and age I feel your whole online persona/profile can be valuable for both you the host and the student. So the host can see your rating as a guest and vice versa, for piece of mind and customer satisfaction.

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Business Case

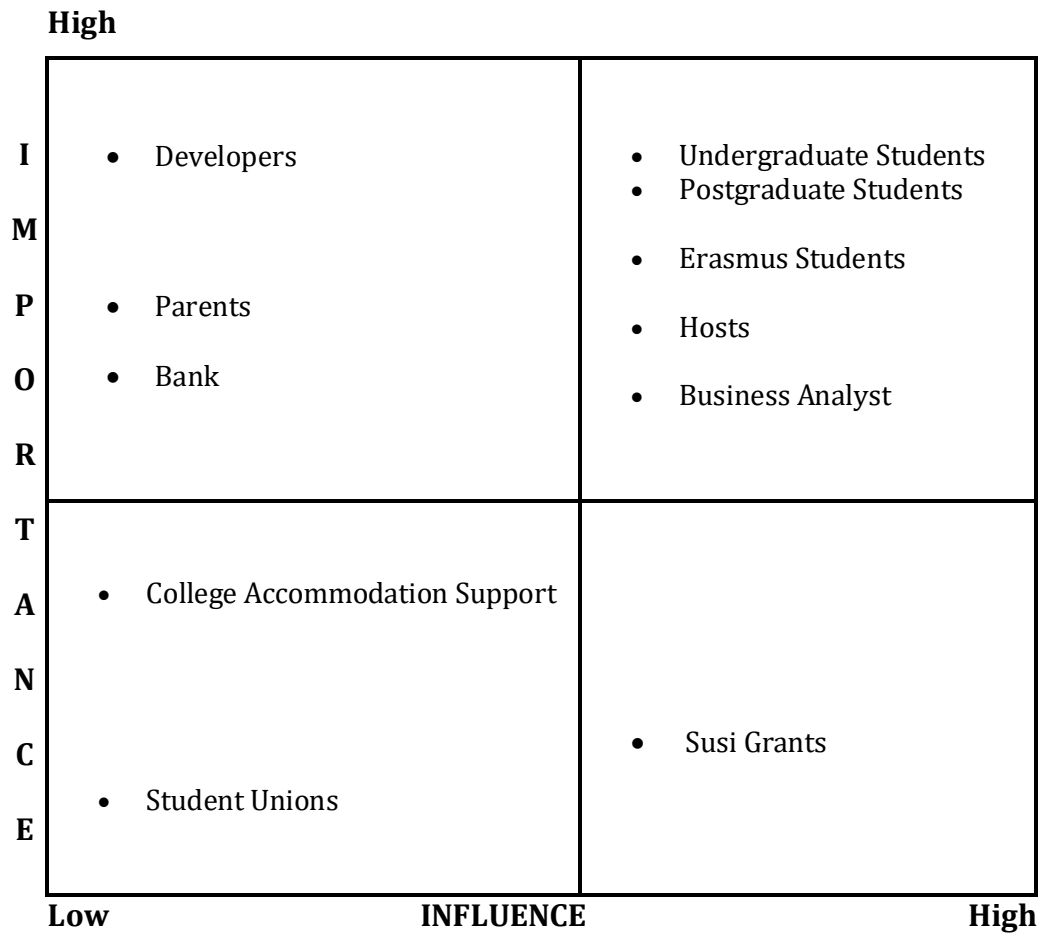
The conception around Rentie is to provide a service, which can benefit both students and the homeowners through a peer-to-peer room rental network. The idea behind Rentie is that of a sharing economy, where people hosts could use the property and assets they own, rent them out, and share them with students looking for a place to stay. A huge part of Renties philosophy will be based around the idea of community, being a platform of the people, by the people and for the people. The goal is for Rentie to be home to good hosts and good students of the community, keeping a good reputation is key. The idea around the rating system is to have a mutual incentive where both parties are looking to prove their dependability. How Rentie works would be very similar to the current travel app AirBnB, Students would be able to find a host with spare rooms or an entire house to rent, connect with that host, confirm your dates of stay whether that be five or seven days a week and pay through Rentie services provided on weekly, monthly or annual basis.

Hosts and students get to know each other through detailed profiles, personal reviews, and confirmed verifications be that through college or references. Communication is key, therefore a messaging system will be put in place for hosts and students to communicate back and forth for more details about one another or the accommodation at hand. A variety of risks come hand in hand when it comes to a application service like this, getting the right vendor to develop the application can be difficult. It's essential to keep communication high on the priority list, if any of the stakeholders needs are misinterpreted by the vendor it could be detrimental to the success of this project. Therefore all requirements should be outlined clearly and discussed on a face-to-face level, along with regular progress updates and evaluation prior to the application development.

Stakeholder List

- Undergraduate Students
- Postgraduate Students
- Hosts
- College Accommodation Support
- Erasmus Students
- Parents
- Susi Grants
- Business Analyst
- Student Unions
- Developers
- Bank

Importance/Influence Matrix



As you can see from the diagram the highly important and highly influential stakeholders are located in the upper right quadrant of this matrix. The Business Analyst, the host, Undergraduate, Postgraduate and Erasmus Students have high importance and high influence as they would be considered the main stakeholders in this project. Although the developers and the parents of the students are slightly less influential but would still be considered in the high importance category. Susi grants has high influence due to it's monetary aspects although wouldn't be up there with it's high importance stakeholders as not every student qualifies for a grant therefore would need assistance in the form of a bank loan or parental assistance. The college accommodation support and the student unions are of low importance and low influence due to their inability to provide the same amount of valuable input as the other stakeholders with high importance and high influence.

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Requirements Elicitation Techniques

Survey

I will conduct a survey to gather sufficient information from the different stakeholders involved. Current students and hosts will be encouraged to state their desired needs and wants from an application like Rentie. The survey will be used to identify these requirements and determine demand levels for specific application features. I will also look to identify the current viewpoints of both hosts and students on the way student housing is managed in recent time.

Survey Participants:

- Students living in accommodation

Distribution Method:

- Email to the relevant participants with the survey attached.
- Share through social media/messenger groups.

Objectives of the Survey:

The survey is designed to gather information from a particular group of stakeholders linked to the application Rentie. The survey will be used to identify initial requirements and demand levels of specific application features. The survey will also identify viewpoints of the stakeholders from their previous experiences of finding accommodation. The stakeholders will be encouraged to state their preferred features for the application and to outline their desired requirements.

Survey Questions:

https://docs.google.com/forms/d/18P0jZ4ljmawcPWRIezm10CTHhHAiaGjNRu00wGiVXts/viewform?edit_requested=true

What is your gender?

Male
Female

What age bracket are you in.

18 - 24
25 - 30
30 - 40
40 +

Where were you living before you started third-level education?

Choose

- Antrim Armagh Carlow Cavan Clare Cork Derry Donegal Down Dublin
- Fermanagh Galway Kerry Kildare Kilkenney Laois Leitrim Limerick Longford Louth
- Mayo Meath Monaghan Offaly Roscommon Sligo Tipperary Tyrone Waterford
- Westmeath Wexford Wicklow Another EU Country A non EU Country

Are you a...

Full-time Student
Part-time Student
Other:

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What programme are you currently enrolled in?

Undergraduate.
Postgraduate.
PhD.
Other:

Where do you live during this semester/academic year?

My parents/relatives accommodation.
In a college on-campus accommodation.
In a college off-campus accommodation.
In a private student accommodation.
In a dig/lodging.
In a privately rented accommodation.
Other:

What were the reasons you chose the accommodation you currently stay in?

The price was reasonable.
Accommodation suited my needs perfectly.
It was close to my college.
I couldn't find anything else.
I needed accommodation immediately.
Temporary solution.
Other:

When you were searching for accommodation, what were the biggest issues/concerns for you? (Please select all that apply)

Lack of Availability
Standard of Accommodation
Price
Landlord-to-Tenant Interactions
Location
I had no Issues/Concerns

How long were you looking for accommodation before you found one?

Less than 2 weeks.
2-4 weeks.
1-2 months.
3 months and more.

How did you find your accommodation?

Word of mouth.
Through accommodation social media group of my college.
Through my college's accommodation office.
Via social media
On an on-line accommodation service of my students union.
On other accommodation websites.
Other:

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How would you rate your experiences with looking for accommodation?

Very poor

1

2

3

4

5

Very good

If there was an app to book accommodation would you use it?

Yes

No

What key functionalities would you want in the app? (Please select all that apply)

Tailored search function for your preference

Identity verification via social media

Images of accommodation

Clear presentation of information

The ability to search by moving the map

Messaging service

Adjustable price range

What is your preferred means of communication with a landlord?

Phone call

Face to face

Text

Other messaging service

Brainstorm

Once the survey has been completed I will meet with various stakeholders to outline ideas for the new application. The brainstorming session is devised to gather various viewpoints about desired features and projected layout. All ideas, opinions, and decisions will be documented in my minutes of a meeting to help avoid confusion during the requirement classification process. The goal of the brainstorming session is to obtain a list of potential features for the Rentie application. To avoid confusion I will document all the requirements stated in this brainstorming session and rank them on importance to the project.

Brief Overview:

The brainstorming session is devised to gather various viewpoints about desired features and projected layout, which will be proposed by the stakeholders throughout the meeting.

Objectives of the Brainstorming Session:

All ideas, opinions, and decisions will be documented in my minutes of a meeting to help avoid confusion during the requirement classification process. The goal of the brainstorming session is to obtain a list of potential features for the Rentie application. To avoid confusion I will document all the requirements stated in this brainstorming session and rank them on importance to the project.

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Participants:

- 1) Two students, one undergraduate student and one post graduate student.
- 2) Two accommodation hosts.
- 3) University accommodation representative.
- 4) Enterprise Computing graduate.

Meeting Location:

Private meeting area at Na Fianna CLG (GAA club)

Date of Meeting:

Monday 27th February 2017.

Time of Meeting:

7:00pm – 8:30pm

Brainstorming session guidelines:

- All involved are requested to arrive at least fifteen minutes before the session begins to enjoy some refreshments and ensure the session starts on time.
- Mobile phones must be switched off to avoid any disturbances throughout the session.
- Specific times will be allocated to participants to share their ideas.
- Throughout the allocated time, all other participants must remain silent and reserve any comments in regards to the ideas being expressed.
- All involved should avoid consulting each other for potential ideas prior to the session taking place on 27th February.
- Should any participants be delayed or arrive late to the session their slot to share ideas will be pushed back to the end of the session.
- Prior to arriving on the 27th February, participants were requested to download the application “AirBnB” as a guideline to work off for the brainstorming session.

Interviews

Interview One:

Participants:

Undergraduate student, from Co. Clare, studying at Dublin City University

Interview Location:

Private meeting area at Na Fianna CLG (GAA club)

Date of Interview:

Tuesday 14th March 2017.

Time of Interview:

7:30pm – 8:30pm

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Objectives of the Interview:

The interview procedure is designed to gather specific details from different groups of stakeholders involved. Their answers and opinions will represent the majority group of that stakeholder and their interests in terms of the questions put forward. I would also like to gauge the amount of issues both groups of stakeholders have encountered or experienced from previous dealings in this environment. I hope to discuss appropriate options to ensure these issues are effectively resolved, for example insurance may be a concern for the home owners as nobody wants their property to be damaged especially by someone you've welcomed into your home. I hope to obtain a better outlook from the stakeholder's point of view at the end of these interviews to determine projection of this project.

Interview Questions:

1. When you were searching for accommodation, what were the biggest issues/concerns for you? How long did it take to find your current accommodation?
2. Where do you live during the academic year? What is your primary reason for choosing your current accommodation?
3. How did you find your current accommodation? What would you do differently if you were looking to find another accommodation?
4. If there was an app to book student accommodation would you use it? If yes, what functionalities would you want in the app?
5. Would you prefer to create an account on the application or sign in via social media identity verification (Facebook, Twitter, LinkedIn)?
6. What is your preferred means of communication with a landlord? If there were a messaging service on the app would you use it?

Interview Two:

Participants:

Two homeowners, from Dublin, whom rent out spare rooms (Digs)

Interview Location:

Private meeting area at Na Fianna CLG (GAA club)

Date of Interview:

Wednesday 15th March 2017.

Time of Interview:

7:30pm – 8:30pm

Interview Questions:

1. How long have you been renting out a room? Do you take lodgers throughout the whole year or just the academic year?
2. Do you advertise your accommodation? How do you acquire lodgers?
3. If there were an application to advertise your accommodation, what functionalities would you want in the app?
4. Would you prefer to have a high level involvement with the University or be known as an independent accommodation?
5. How would you feel about lodgers reviewing their stay in your accommodation and would you be willing to leave a review about the lodger?

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Prototyping

Objectives of the Prototype:

The prototype development will involve creating the application wireframe which will be used to showcase where I'm at design-wise when it comes to the mid point presentation. Once I've completed the prototype I'll go through an evaluation process with my peers and stakeholders. To ensure the app meets expectations, I will implement any changes that are suggested by the stakeholders. This will be the first real visual representation of the Rentie Application, and should hopefully display all the stakeholders' needs and wants. I will take the interviews, survey and brainstorming session into account when developing the prototype. I hope to gain some feedback from my stakeholders during my requirements workshop and discuss any areas that may need improvement. If the stakeholders do have various recommendations for the prototype then a second version of the prototype will be created.

Resources Required:

- MacBook Laptop with Gliffy.
- Gliffy will be used to construct the prototype.
- The results of the survey, the brainstorming session, and the two interviews will be used to develop the first prototype of the Rentie application.

Prototype Development Guidelines

- Calculate requirements based on the results of the survey analysis.
- Interpret the views made by stakeholders 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.

Participants:

1. Two students, one undergraduate student and one post graduate student.
2. Two accommodation hosts.
3. University accommodation representative.
4. Enterprise Computing graduate.

Prototype Due Date:

Wednesday 14th April 2017.

Prototype Date of Completion:

Monday 11th April 2017.

Requirements Workshop

Objective

One of the main objectives behind the requirements workshop will be used to discuss application features that haven't been mentioned in previous requirements specification sessions. This can be achieved by focussing on application features currently being used by competitors, and how we could utilize some of these aspects for our own project. We would also progressively discuss the design elements around Rentie. The objective is to obtain a general understanding around the layout and design so we can gain some ground in regards to the project prototype.

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Workshop Preparation:

- ✓ Identify suitable contributors that will attend the requirements workshop.
- ✓ Organise the location, date, and time that the workshop will take place.
- ✓ Create a description of objectives and the anticipated outcome of the workshop.
- ✓ Prepare the requirements workshop agenda.
- ✓ Identify a detailed list of the resources required in the workshop.
- ✓ Finalise all the resources prior to the requirements workshop commencing
- ✓ Invite all participants via email or text message. Refer to the location, date, and time of the workshop, and attach a copy of the agenda and rules.
- ✓ Ensure that all participants are available to attend the workshop.

Participants:

- Business Analyst – facilitator & scribe.
- One Accommodation Host.
- One Undergraduate Student living in accommodation.
- Enterprise Computing Graduate.

Workshop Location:

Private meeting area at Na Fianna CLG (GAA club)

Date of Workshop:

Tuesday 17th April 2017

Time of Workshop:

7:00pm – 8:30pm

Agenda

- Explain the purpose of the requirements workshop to participants.
- Clearly outline the ground rules of the requirements workshop.
- Plan the final deliverables and what needs to be accomplished by the completion of the requirements workshop.
- Evaluate the first prototype with all the participants.
- Research some of the opponent applications with the participants.
- Identify additional features, which are required on the new application.
- Obtain a general agreement relating to the websites design, layout, and the desired features amongst all the participants.

Resources Required:

- Private meeting area at Na Fianna CLG (GAA club)
- Apple MacBook laptop
- Solid internet connection
- Smart phones, tablet/ipad or laptops.
- Microsoft Word to document any comments made during the workshop
- Gliffy to display the first prototype of the new website.
- Round table, four chairs.

Workshop Guidelines:

- All involved are requested to arrive at least fifteen minutes before the session begins to enjoy some refreshments and ensure the session starts on time.
- Mobile phones are permitted during the workshop in order to conduct research throughout the session as stated in the agenda.
- Prior to arriving on the 7th March, participants were requested to download any applications considered to be competitors to conduct additional research on competitor applications.
- The facilitator will control all aspects involved in the workshop and scribe.
- All participants must remain professional and follow the instructions given to them prior to the requirements workshop.
- The requirements workshop is focused around collaboration, it's important to stay focused on the task at hand.

Workshop Final Deliverables:

- ❖ A Microsoft word document, which includes a list of updates to the design of the prototype, along with an outline of new application features.
- ❖ A gliffy document that includes second prototype version of the Rentie application, based on the preferences from the stakeholders.

Interface Analysis

Objectives of Interface Analysis:

Once the completion of the application prototype and the requirements workshop was finalised, I plan to develop a UML use case diagram. I hope to demonstrate the different interface types associated with the application through this detailed diagram. The diagram should aid the development process to ensure mistakes will be prevented. Since the application will be a peer-to-peer type network, both stakeholders will only have access to either the host or the student aspect of the application at a time. For example, a student cannot choose the price of the accommodation only the host will have that ability. The in depth diagram will show the behaviour, application structures, and interface types associated with the application.

Resources Required:

- MacBook Laptop with Gliffy.
- Gliffy is an online diagram software and will be used to construct the UML use case diagram

UML Use Case Diagram Development Agenda:

- Evaluate previous elicitation results to pinpoint possible interface varieties.
- Implement document analysis on similar projects that have transpired.
- Examine the application prototype for potential stakeholder-application interactions.
- Develop a UML use case diagram for the Rentie application.
- Gather feedback from project stakeholders about UML use case diagram and implement any necessary adjustments if it's deemed appropriate.

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UML Use Case Diagram Name:
Rentie Application.

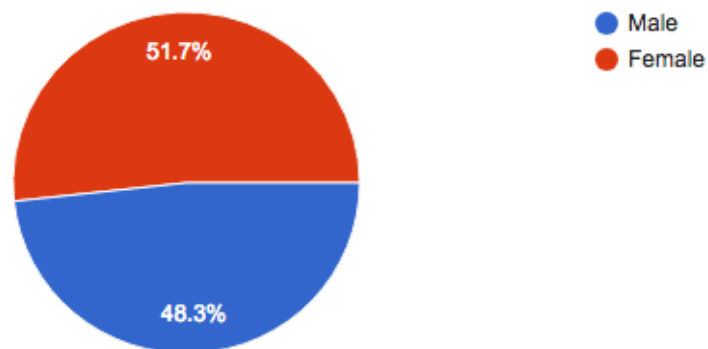
UML Use Case Diagram Actors:

1. University
2. Host
3. Student/Lodger

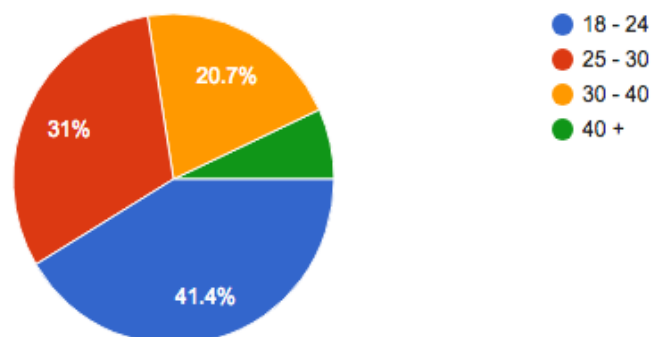
UML Use Case Diagram Date of Completion:
29th April 2017.

Requirements Elicitation Techniques Survey

What is your gender?

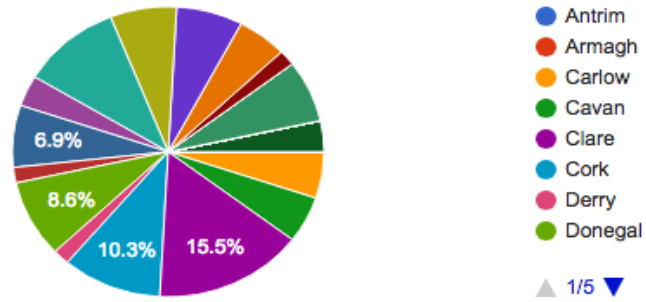


What age bracket are you in...

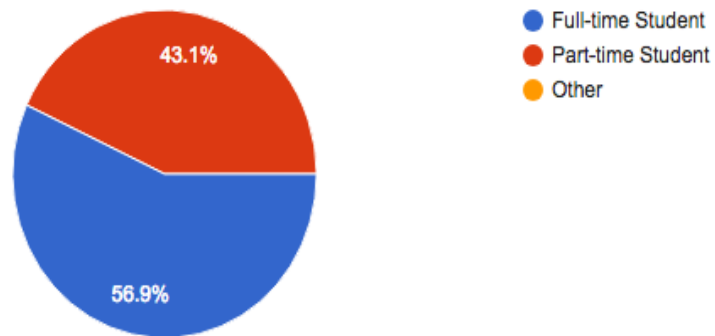


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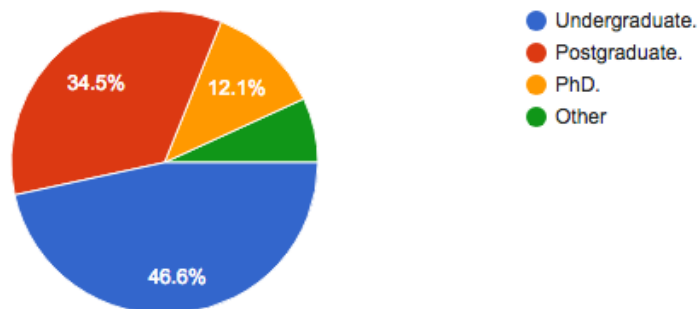
Where were you living before you started third-level education?



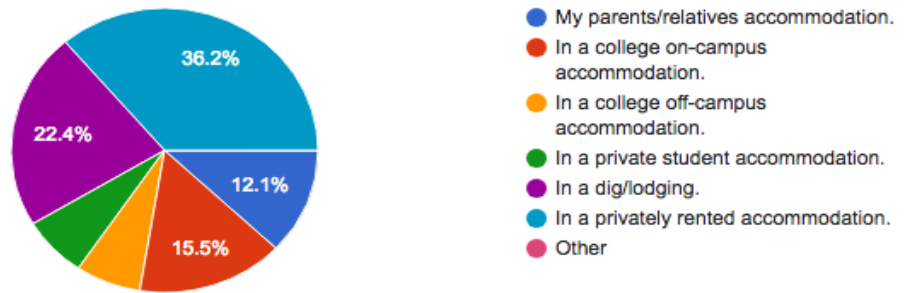
Are you a...



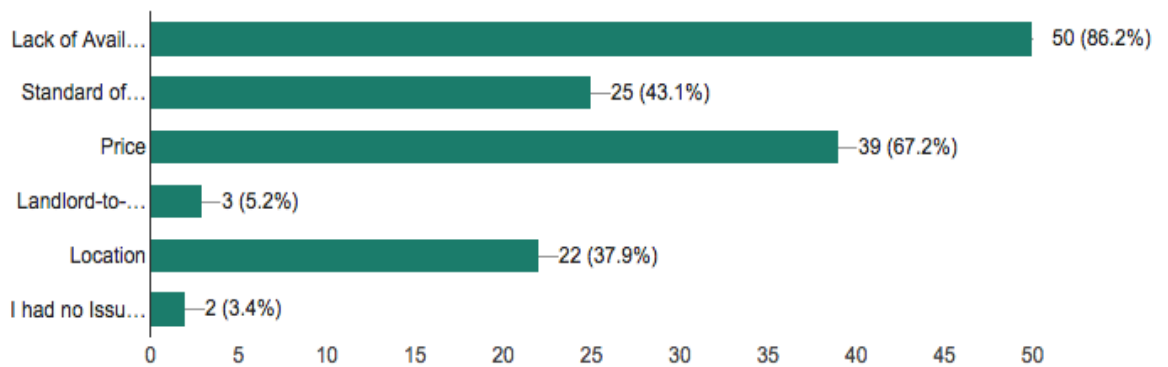
What programme are you currently enrolled in?



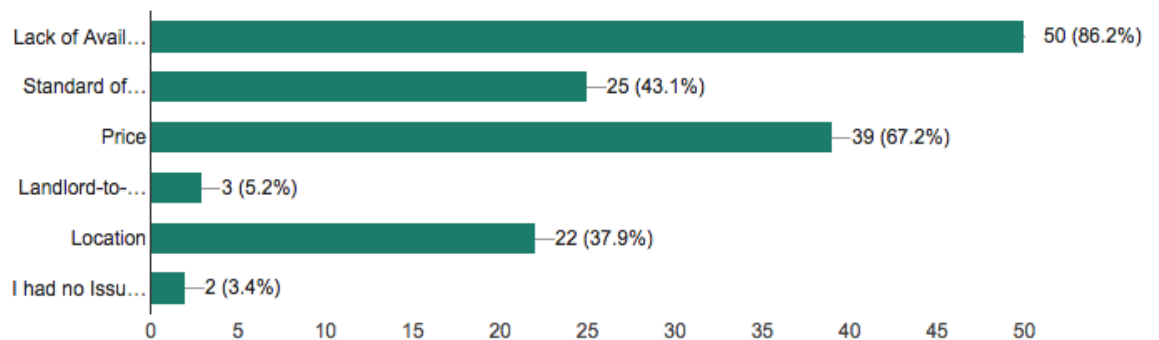
Where do you live during this semester/academic year?



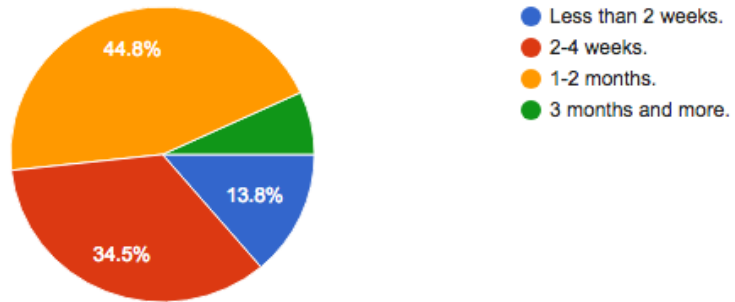
What were the reasons you chose the accommodation you currently stay in?



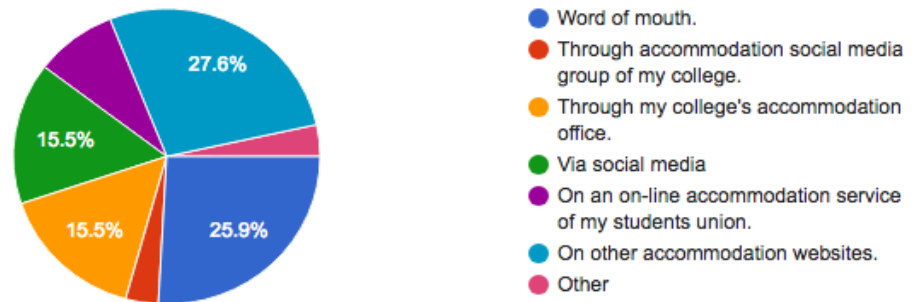
When you were searching for accommodation, what were the biggest issues/concerns for you? (Please select all that apply)



How long were you looking for accommodation before you found one?



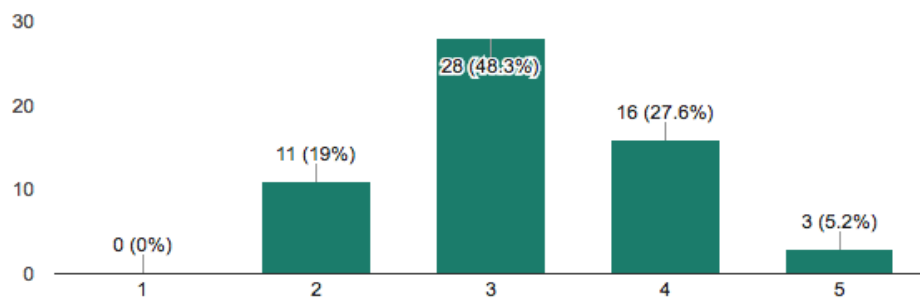
How did you find your accommodation?



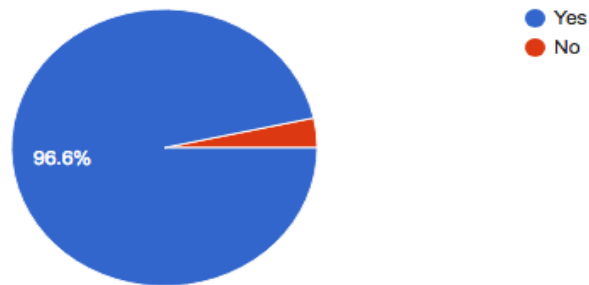
How would you rate your experiences with looking for accommodation?

1 Being Very Poor

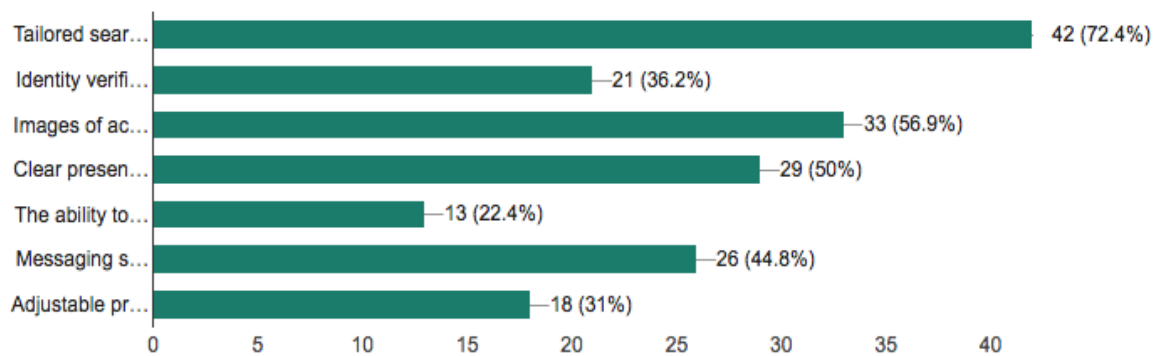
5 Being Very Good



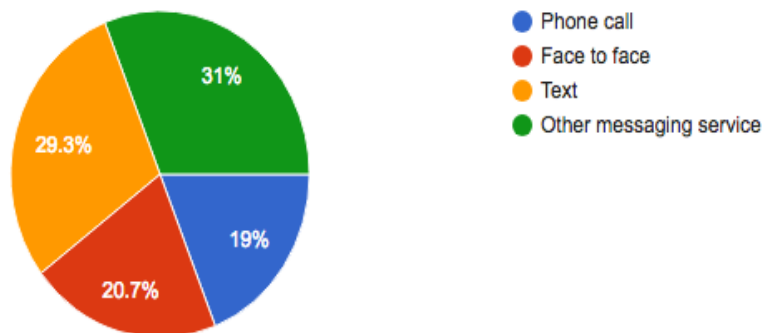
If there was an app to book accommodation would you use it?



What key functionalities would you want in the app? (Please select all that apply)



What is your preferred means of communication with a landlord?



Survey Conclusion

The survey was aimed at select group of stakeholders, with around sixty responses. The survey shows that the results vary for all questions but mainly the questions as follows; gender, age bracket, and living destination prior to third-level education. It's almost fifty/fifty in terms of the gender, but the females edge it with 51.7%. It was close again for the age bracket but the eighteen to twenty fours come out on top with a 41.4% followed by twenty-five to thirty with 31%. Asking the stakeholders where they were living before they started third-level education lets you see how vast the audience can be across the nation, and looking at the answers the students come from across the whole country from Donegal to Cork. To get a more detailed insight to our audience we wanted to figure out if they were a full time or part time student doing either an undergrad, postgrad or PHD. The results from the survey show that the majority of students are undergrads and full-time both leading the poll by just over 10%.

When trying to figure out where the most popular accommodation to live during the academic was, it was surprising to see both privately rented accommodation and digs were leading the results. It just goes to show that there's not enough accommodation available to students on campus anymore. Looking then at the reasons behind the students accommodation decisions both convenience and price were the two winners here with "The price was reasonable" at 53.4% and "it was close to my college" at 60.3%. Price plays a major role for the students when looking for accommodation not only being a reason for making decisions but also one of the biggest concerns. Coming in at 67.2% behind lack of availability it's clear again that the choice for these students just isn't there anymore and all the on campus locations get snapped up and it seems to be a lottery then to find a good place to stay. By the looks of the results it takes way too long for students to find accommodation; twenty-six people say it takes one – two months, followed by twenty people claiming it took them two – four weeks.

How students found their accommodation was interesting, majority of them from word of mouth and accommodation websites, followed evenly by their social media and the college accommodation office. This shows that people talk, and a good reference goes a long way. The goal here is to turn all these options into one community by connecting users through the college and sharing their experience with others to grow the community. It was clear from the results that if there were an application to book accommodation the students would use it, with a strong 96.6% saying yes. Onto the key functionalities wanted for this application. The Rentie app will definitely contain a tailored search function to suit the preference of the user, images of the accommodation, clear presentation of information, and identity verification via social media. The rest of the functionalities will be further discussed in the other elicitation techniques later down the line of the process. The application will have a messaging service as it was one of the top functionalities from the results with 44.8% and was the preferred means of communication with hosts at 31%.

Brainstorming

Two Students

The features on the application should simplify and utilize the potential opportunities for student accommodation. An easy to use search engine with just the destination you're looking for, the dates on the calendar, and the amount of guests is all you need. Therefore you put all the details necessary for your search in at the start rather than a step-by-step process. If they're looking at several different potential accommodations that suit their needs but just can't decide at the time they want to be able to save them for later or the next time they're on the app, rather than having to search for them again. Obviously a messaging feature is needed to communicate with the landlord or host of the accommodation to inquire about dates and your needs. Along with that they would like an option to turn on/off notifications therefore any responses will come through to your phone like a normal text instead of having to open the app to check messages.

On your profile feature they would like to have the option to add a personal touch and write a bit about themselves along with their main details such as email address and phone number. They would also like to be able to edit such details should their email address/phone number change or if they're simply not happy with the description about themselves. Once you've stayed in the accommodation and you've either moved to a different location or just don't need to stay there more the students requested that you could have a history log of where they stayed. Therefore if they had a great experience they could refer this accommodation onto a friend and then that works to the advantage of everyone; the host gets more lodgers and the student finds an accommodation that they know has a good reputation.

Two Accommodation Hosts

Both accommodation hosts want no hassle with the application; the usability needs to be suited to those of a non-tech savvy nature. A step by step process to simply list a room or house, by adding the crucial details needed by both the university and the student/lodger. Throughout the process they simply describe the accommodation they're offering; starting off with shared home or entire house, then the location/ house details such as max guests, amount of beds, amount of bathrooms. Once you fill in those core details you then want that as your base layer and from there you add in the essentials to turn the listing from a basic advert into a personalised listing. The listing should be filled with photos, a brief description and detail of the accommodation such as: Location, Amenities, Wireless Info (Wi-Fi name/password), rooms/beds, and house manual.

On the main page of the application they want to have the option to access five main features: Messages, Calendar, My Listings, Profile, and Settings. The inbox for their messages from lodgers inquiring about the listings is of high priority and should be very clear and basic to ensure a smooth communication from host to student. The calendar will be there for the host once the listing is published to see the dates they've deemed their listing to be available and if anything changes they can edit these dates. The my listings function was brought up by one of the hosts for those landlords who may have several listings and just to see your listing as it is to the public on the app. The hosts expresses how they would like to have their own profile feature where they can write a thing or two about themselves and give contact details such as email address and phone number. One of the hosts suggested a help and support feature that could have

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frequently asked questions and if there were a question that wasn't on the FAQ's there'd be an email address for university accommodation support in this section.

University Accommodation Representative

For the universities system they want to be able to gather the right information needed from both the host and the student. From the student side they want to have the students upload their student cards to their profile as proof of identity. As well as the core details such as name, age, sex, course, year of course, and student number. With the host side the university would like to be heavily involved with the step-by-step process to ensure to correct information is being captured. The university will need hosts to set their details to the listing correctly, for price – per week/month, address – set it geographically through Google maps, house rules - clear and concise, booking settings – who has the ability to book this accommodation, Student ID required or approved from university. There will also need to be some sort of support system in place to help both host and student with any issues they have. Having a frequently asked questions section is something we'd want as a feature to help and support. We would also like a feature to give the university feedback from both parties, therefore if there are any on going issues that need changing we want to know from the users point of view.

Enterprise Computing Graduate

As far as this application goes there seems to be no impeding difficulties surrounding the features and aspects. It's not like a brand new technology, which people are unfamiliar with so I think it's a feasible application. The majority of the features on this application have been done before so it's definitely achievable, but it's about finding the essential requirements that suit the stakeholders and putting them together in a functional manner. In regards to the students requirements I feel it could be important to have sync with contacts feature to encourage the user to share the experience and invite contacts from their phone. Similar to that with the connected accounts feature, pretty much anyone who signs in with social media doesn't want to share anything about the app on their social media. Therefore the main use for that is to gather the required information such as confirmed name, confirmed email address and other contact details. In regards to the hosts you'll need that same information on top of the accommodation listing details given in the step-by-step process. The technology of uploading the identification required won't be too complicated, as the user will be able to capture the ID on their smartphone camera and forward it on to the university system.

Interviews

Interview One:

Participants

Undergraduate student, from Co. Clare, studying at Dublin City University

Questions and Answers:

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Where do you live during the academic year? What is your primary reason for choosing your current accommodation?

The student said that they live in a dig (lodging home) nearby the Dublin City University campus throughout the academic year. The primary reason for choosing this accommodation was because it was so close to the college, the house is just a ten-minute walk from DCU. The student went on to say, that at first this type of accommodation seemed like a temporary solution, due to the high demand for student accommodation she couldn't find anything else. As time went on the student found that the accommodation suited her needs perfectly and the price was reasonable therefore there was no need to seek new accommodation. The student highlighted how important it was to be nearby the college, reducing the expense on travel and time in her commute.

When you were searching for accommodation, what were the biggest issues/concerns for you? How long did it take to find your current accommodation?

The student indicated that the high level of demand and lack of availability was a major issue throughout her search for accommodation. She also experienced the price of accommodation sky rocketing due to this high demand, meaning you would have to move further away from the your ideal area to pay a respectable price. The price played a huge role in the student's decision making. She went on to say that the standard of some accommodation was atrocious, but could still have a high price range due to the location and demand. The student went on to explain how it took almost two months to find her current accommodation. The reason was due to an accumulation of things; location, price, standard of accommodation, current residents, supply and demand.

How did you find your current accommodation? What would you do differently if you were looking to find another accommodation?

It was through word of mouth that the student found their current accommodation. A friend in college had an aunt whom lived near DCU with a spare room she had preciously rented. The student added, in an ideal world the college should be able to provide you with some sort of information about these digs nearby, especially with the lack of availability on campus. The student explained that if she were to do it all again she would ensure there are clear pictures of the accommodation to get a good scope of the living space. A detailed description of what the cost of rent includes such as; Internet, Free parking on premises, Private bathroom, TV, Laundry/Cooking Arrangements etc. The student felt that there was a need for a clear list of amenities, especially for the digs, as she found herself living in the host's home and didn't want to be intruding when she wanted to make food or wash her clothes.

If there was an app to book student accommodation would you use it? If yes, what functionalities would you want in the app?

The majority of students would use an app to book their accommodation, if it made the hassle of finding a place to stay easier, according to the student. Location is a major factor for the student, not only the distance from the university campus but from the public amenities surrounding the accommodation. Having the ability to search for the accommodation via a moving map (such as Google maps) you can see if it's nearby public transport and shops therefore you won't be hauling your groceries back to the accommodation. The student added having a tailored search function to suit your preference would be essential to ensure you find the right accommodation for you. The student went on to explain how some adverts maybe misleading and the accommodation may not be what it seems so it would come in handy to have a review system in place to witness feedback from other users who had stayed in the accommodation.

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Would you prefer to create an account on the application or sign in via social media identity verification (Facebook, Twitter, LinkedIn)?

The student stated that she would personally prefer to sign into the application via social media identity verification due to its convenience and speed. It saves a lot of hassle not having to enter all your details into a form to create an account. It allows for a quicker log in when the app stores your Facebook information and it's one less password to remember, according to the student. Although the student can see why people would be in favour of creating a new account as they may feel in can be information sensitive allowing social media to share your profile. The student went on to say it would be best to have both options on the application to satisfy both parties, by giving users a choice rather than forcing them to sign in with one or the other.

What is your preferred means of communication with a landlord? If there were a messaging service on the app would you use it?

The student prefers to call the landlord or meet face to face, but found it difficult to make time for face-to-face meetings while she was enquiring about different accommodations. It can also be difficult to call separate landlords throughout the day as they may be at work and can only take calls during the evening, according to the student. The student feels that in this day and age texting may be the only suitable means for contact with landlords, when they're busy with their own lives and the student is busy with college you can take a few seconds to reply to a text when a call isn't feasible. We then went on to discuss the in app messaging service; the student felt it would benefit the communication experience

Interview Two:

Participants

Two homeowners, from Dublin, whom rent out spare rooms (Digs)

How long have you been renting out a room? Do you take lodgers throughout the whole year or just the academic year?

Both hosts said they have been renting out their rooms for several years now, one clocking in at four years and the other nearly five. Both hosts said they started off by letting family members stay in the room, living in the Dublin 9 area their houses are ideal being so close to the city centre and the airport. It was only then they realised the spare room could be utilized as they're quite close Dublin City University, according to the hosts. One host said only takes lodgers throughout the academic year, whereas the other host may take lodgers coming over to learn English throughout the summer months as well as those who only need it for the academic year.

Do you advertise your accommodation? How do you acquire lodgers?

Dublin City University sent out flyers in the locality in search of homeowners willing to accommodate students, to which these two hosts replied. Since then DCU has their information kept on a database, so if a student needs a place to stay DCU get in touch with the hosts to ensure their availability coincides with the student. Both hosts say this is good in the way it saves them advertising but can also restrict them from other lodgers outside of the Dublin city university. One of the hosts would get a lot of 'friend of a friend' or friends family members renting the room out as it was convenient to have that mutual connection which gave the host that extra trust element. The other host found that word of mouth improved her ability of finding lodgers, but felt there was definitely a platform needed for information about both the lodger and the host.

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If there were an application to advertise your accommodation, what functionalities would you want in the app?

The hosts said the most valuable functionality to them would be having the ability to gather information about the lodger inquiring about the accommodation. They went on to give examples of the specific details they need to know as a host: personal information (Age group, male or female), payment information, dietary information (allergies, celiac), security deposit, disability accessible and preferences (i.e. pets in the house). It's important for the hosts to layout general house rules such as no smoking, no parties, respect the neighbours etc. They also talked about how it's important to have a general orientation for the lodger once they've booked the accommodation, for example if they're leaving the house the host could have instructions about the alarm, different keys, Wi-Fi passwords, double locking doors, where to lock their bike etc. So we came to the agreement that you would have information for everyone to see and information specifically for those who have booked and paid for the accommodation.

Would you prefer to have a high level involvement with the University or be known as an independent accommodation?

The hosts both said they would prefer to have a high level involvement with the University. Both hosts said they had never run into any problems while having lodgers stay in their house and they feel since the students would come from DCU there would be some sort of fall back if anything did happen. They went on to say they know DCU aren't liable for what happens in their house but they feel somewhat assured that if there was an accident and a student got injured, DCU would look after them. That brought us onto the next topic, where we discussed if the campus accommodation is full and students are sent to these digs to stay surely the students would be covered by the university insurance just as they would in an on campus accommodation. This was an idea that both hosts hadn't really thought about but strongly agreed that it was a topic that needed to be clarified.

How would you feel about lodgers reviewing their stay in your accommodation and would you be willing to leave a review about the lodger?

The two hosts said they would have no problem with lodgers reviewing their accommodation, as they both feel confident enough to take any constructive criticism should it come their way. They discussed the benefits of a review system, how it can give the hosts an idea of what sort of lodger will be staying with them and how it would boost their reputation from successful lodger reviews in the past. As we went into more detail the hosts didn't feel comfortable leaving a negative review publicly on lodgers profiles, they felt it might be more suitable to leave the review to the university accommodation officer privately. They went on to say as it's an agreement with the university for the students to stay, they felt it should be the university's responsibility to resolve any issues with the students rather than the hosts taking responsibility to resolve any issues throughout the stay.

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Interview Conclusion

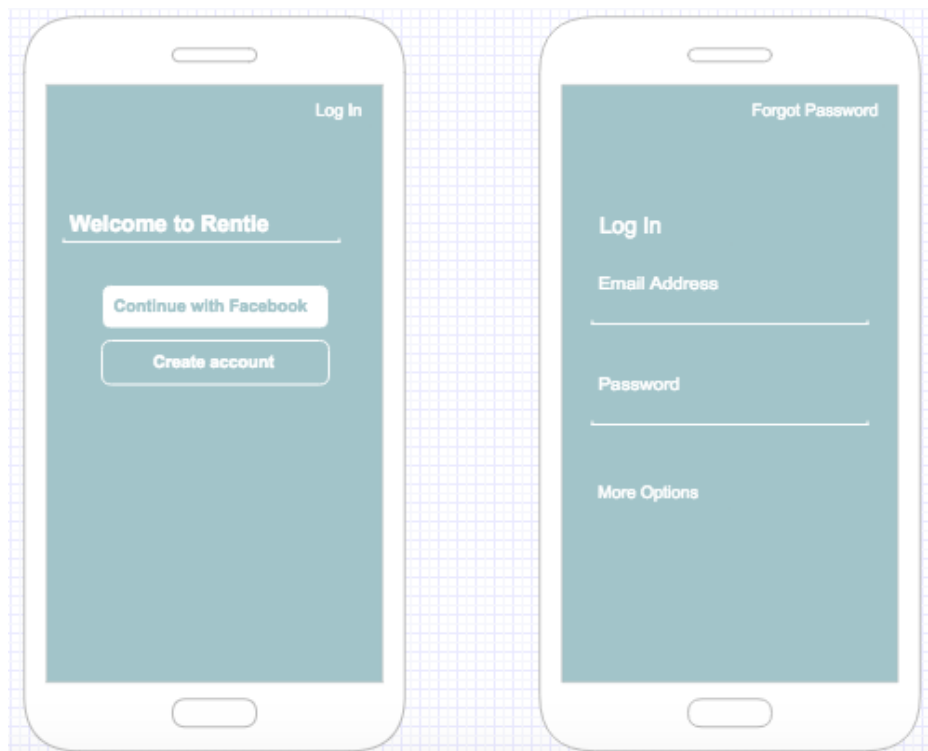
Both interviews were very informative and many requirements were obtained from both stakeholders. The student was keen for the college to be involved and give the students help when it comes to finding accommodation. She went on to express the need for clear pictures of the accommodation and specific details need to be listed. When we discussed the functionalities of the application the student spoke about how a clear search function would be a key feature. The student shared her opinion about the social media verification log in and thought it was a great idea and said she would use it. She added that there should be an option to create an account also, just in case users are not happy about sharing their social media information. The messaging feature was definitely something the student would use and she felt it would be a great way to keep track of hosts and accommodation listings.

The two homeowners whom rented out spare rooms gave a great insight into what it's like hosting students. There were a vast amount of requirements gathered from the two hosts. They talked about how knowing specific details about the student coming to live with them would make their lives easier and a detailed profile could do that. It's important for the hosts to leave out general house rules and having the ability to put them on the listing can save them having to explain over and over again. They want a high level of involvement from the university as they see it as a security measure, if they have some sort of agreement with the student and university. They went on to talk about the idea of a review system and felt it could benefit them by referring them onto other students and leaving feedback about their great experiences. Overall the interviews delivered valuable information about both stakeholders and assisted with the requirements gathering for the Rentie application.

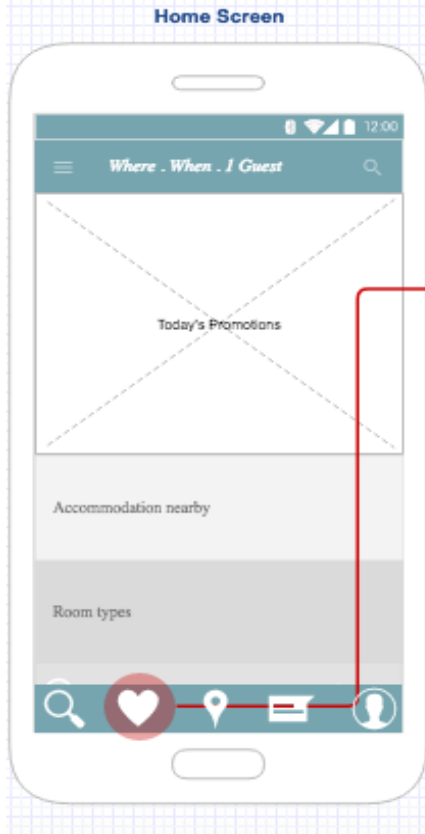
Prototyping

Prototype Version One:

Log In Page:



Explore page



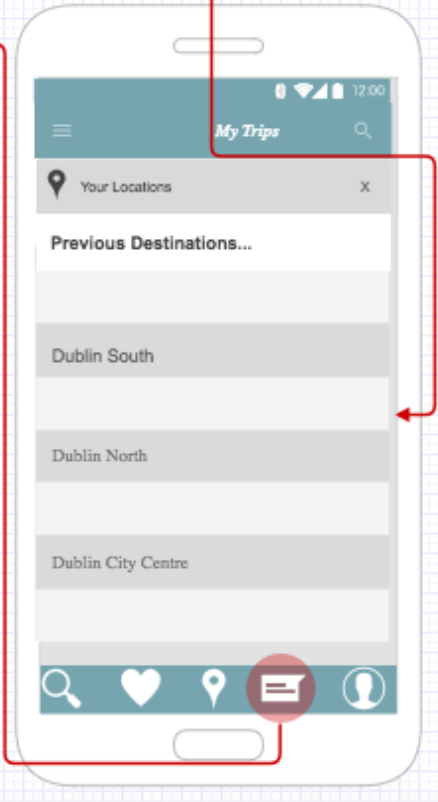
Saved page



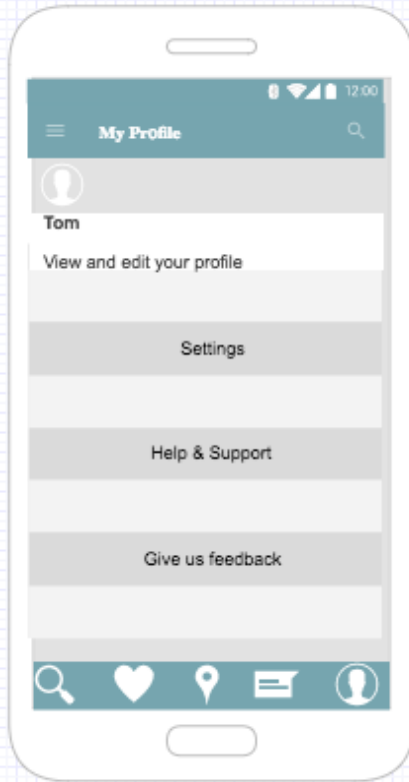
Inbox



My Stays



Profile

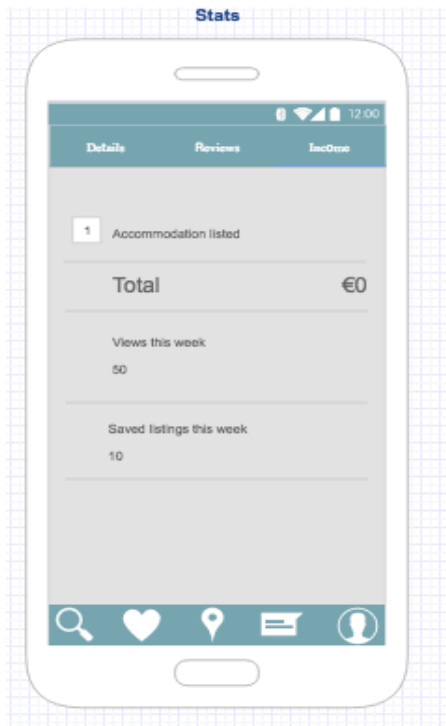


Reviews



Prototype Version Two

Stats



Prototype Conclusion

This prototype was developed using three elicitation techniques and their results. They consisted of a survey, a brainstorming session, and two interviews, which took place with a variety of stakeholders. Upon analysing the results of the survey, I developed the layout of the application based on stakeholder preferences. The brainstorming session helped me work alongside the stakeholders to acquire the specific details needed for this prototype. The two interviews gave me an insight into the opinions of stakeholders and how they wanted the application to look. After combining all the results I developed the first prototype. During the requirements workshop I discussed any potential changes needed with the stakeholders. We agreed that there was a minor detail missing from the host side of the application, which was the statistics. After the requirements workshop I updated the prototype and added the stats feature to the Rentie application.

Requirements Workshop

The requirements workshop took place with one undergraduate student, one host, one computing graduate and a business analyst. After exploring the first prototype, the stakeholders had specific comments and recommended changes to the business analyst. These proposed changes will be incorporated into the second version of the prototype for the Rentie application. The stakeholders at the workshop were collectively pleased with design and layout of the initial prototype. They spoke about a variety of additional features that could be included to the application but were afraid it might over complicate the application that they wanted to keep it simple from the beginning. The host at the workshop suggested that there be a statistics for the accommodation, so you can see how well or how bad your listing is doing. She went on to explain that the statistics feature should show the host how many times the listing has been viewed, how many times the listing has been saved, and how much income has been made from the listing. After a short discussion to finalize these details, we agreed to input the stats feature into the Rentie application. As the other stakeholders were satisfied with the results of the first prototype there was no need to make any further changes.

Interface Analysis

RENTIE UML Use Case Diagram



UML Use Case Diagram Conclusion:

This diagram visually represents the relationships that will exist between the two main project stakeholders and the university accommodation system. The actors are placed on the outer border of the diagram and the use cases are clearly outlined through the centre of the diagram. The thicker black arrows going from the stakeholders to the various use cases are associated with the process within the Rentie application. Throughout the use case diagram there are various relationships between the use cases, some of the use cases extend their relationship and some include relationships. For example, when the student is in the process of “request to book” the accommodation that use caser will include a relationship with “make payment” which will extend its relationship to “Credit Card, Debit Card, and PayPal”. The include relationship shows that behaviour of the included use case is inserted into the behaviour of the including use case. The “extend” is a directed relationship that specifies how and when the behaviour defined in extending use case can be inserted into the UML Use Case Diagram.

Going through the process: the student will sign up, the option for Facebook or email is there with a request to upload ID (preferably student card). The student will enter a destination with dates, amount of guests and house detail (private/shared). The student looks for available accommodation with the option of added amenities, once the accommodation is selected by the student they will be given the option to apply more filters such as price range of the accommodation. Before the student can request to book

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they will be shown the terms and conditions, once read they can continue. When the student requests to book they will be given the option to save the accommodation, on the other side of the use case diagram the host will have entered the details of the accommodation, home rules and uploaded images prior to this use case. The student can make a payment with extended payment options, which will go through the university accommodation system before sending the payment to the host. Once the accommodation is booked, and all details are cleared, the final stage of the use case diagram is confirmation. Confirmation of the booking will be sent to both host and student via the university accommodation system.

IEEE Website Requirements Specification

Introduction

Purpose

This IEEE requirements specification document is being developed for Rentie accommodation application. This report will clearly specify the key functional and non-functional requirements which shall be associated with the website. The customer prior to being passed on to the developer must approve this document. Any proposed changes, which are requested by project stakeholders, must be implemented prior to the Rentie application being developed

Scope

This application is being developed for a mixture of project stakeholders. Rentie is designed for students to safely secure accommodation for the college year and homeowners looking to make an extra income by renting out a spare room. There is a big gap for this type of app in the market place, with more and more students' attending college each year it's not possible for the college campus to facilitate all students. The current price for rent in Dublin has been inflated in the last five years which will mean there's going to be student's looking to save money in this area which in turn means a greater demand for the host. Users will have the capabilities to search accommodation, save accommodation like a bookmark, view their previous stays, message hosts and have their own secure profile. Hosts will have the capabilities to list accommodation, set dates on their calendar, view all their current listings, and view stats about their property and income. Other stakeholders such as the university accommodation office will be able to control and monitor the daily functioning of the application.

Definitions, Acronyms and Abbreviations

User: A stakeholder that interacts with the Rentie application (i.e Student, Host).

Administrator: Stakeholder that may login and make changes to specific features within the Rentie application (i.e. University Representative)

Host: A specific person that can interact with the application.

References

IEEE Software Engineering Standards Committee, "IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications", October 20, 1998.

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Functional Requirements

User Class One – User

Functional Requirement 1.1

Identification Code:

FR1

Title:

Rentie explore page link

Description:

This link will be displayed on the bottom left of the screen as a small magnifying glass logo. It will bring users back to the home page of the application when clicked by an application user.

Location:

Every page on the Rentie application

Reasoning:

The icon will allow users to quickly go back to the main page from any page of the Rentie application. It was requested by users to be able to move throughout the application in a sufficient way, if the user needed to search another accommodation it should be an easy process.

Priority:

Must have – High priority

Functional Requirement 1.2

Identification Code:

FR2

Title:

Saved Accommodation link

Description:

This link will be displayed bottom of the page second from left with a heart icon and will display all the accommodations saved by the user when you click this link.

Location:

Saved page.

Reasoning:

This link is designed to assist the user by bookmarking the accommodations they are interested in. This feature was requested by one of the students whom participated in the brainstorming session.

Priority:

Must have – High priority

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Functional Requirement 1.3

Identification Code:

FR3

Title:

My Stays link

Description:

This link will be displayed in the middle bottom of the page with a location icon. It will bring the user to their history of stays in previous accommodation while using the application.

Location:

My Stays

Reasoning:

This link is designed to keep a log of the users history since using the application to book their accommodation. It was requested by a student, as a way of referring a friend to their previous accommodation.

Priority:

Must have – High priority

Functional Requirement 1.4

Identification Code:

FR4

Title:

Messages link.

Description:

This link will be displayed on the bottom of the page second from the right with an inbox icon. It will bring the user to their messages with the accommodation hosts, descending from recent to oldest messages.

Location:

Inbox page.

Reasoning:

This link is designed to store all conversations between student and host while they discuss the accommodation at hand. This feature was suggested in the survey.

Priority:

Must have – High priority

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Functional Requirement 1.5

Identification Code:

FR5

Title:

Profile page link

Description:

This link will be displayed on the bottom right of the application with a profile icon. It will allow the user to go onto their profile, this page will display edit profile, about, reviews and have the key details needed from the user.

Location:

Profile page.

Reasoning:

This link is designed to allow the user to view and edit their personal profile. It will also display the users essential details and reviews given to them by hosts.

Priority:

Must have – High Priority

Functional Requirement 1.6

Identification Code:

FR6

Title:

Social media verification log in.

Description:

This log in option will allow users to sign into their Rentie accounts through social media. When clicking the link you simply must verify with Facebook by clicking ok and the Rentie application will use your email and details from Facebook.

Location:

Log in page.

Reasoning:

This will allow user to swiftly log into the Rentie application without having to go through the process of creating an account. It was one of the features voted for in the survey.

Priority:

Must have – High Priority

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Functional Requirement 1.7

Identification Code:

FR7

Title:

Search Function

Description:

This feature will be displayed on the main explore page at the top with three options of where, when, and guests. The user can search for a destination, and input the dates and number of guests.

Location:

Explore page.

Reasoning:

The main reason the user wants to utilise this application is to find accommodation. This feature makes that process simple and easy to use. This feature was requested on the survey.

Priority:

Must have – High priority

Functional Requirement 1.8

Identification Code:

FR8

Title:

Settings link

Description:

This link will bring the users the their settings option, it will be located on the profile page. On this page the user will be able to turn notifications off, change payment method, view terms and conditions, and log out of the application.

Location:

Profile page

Reasoning:

The users must have the ability to log out of their accounts and change their payment methods. Turning notifications on/off was a feature desired by one of the students in the brainstorming session.

Priority:

Must have – High priority

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Functional Requirement 1.9

Identification Code:

FR9

Title:

Help & Support link

Description:

This link will bring the user to a page with the contact information of the university accommodation office. The user can use this to gain support from the resolution team in the university. There will be FAQ's on this page written by the university.

Location:

Profile page.

Reasoning:

The design of this feature is to aid the user with any issues or difficulties they may be having while using the application. Customer satisfaction is off high priority with Rentie. This feature was discussed in the brainstorming session.

Priority:

Must have – High priority

Functional Requirement 1.10

Identification Code:

FR10

Title:

Feedback link

Description:

This link will allow the user to leave feedback about the application and will be located on the profile page at the bottom of the page.

Location:

Profile page.

Reasoning:

It's important for the applications life cycle to gain feedback from users to get a better perception of their experience. This feature was discussed in the interviews.

Priority:

Should have – Medium priority

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User Class Two – Host

Functional Requirement 1.11

Identification Code:

FR11

Title:

Become a host feature

Description:

This feature is the process of becoming a host on the Rentie application. The host inputs all the required information such as private home/ shared home, location, max guests etc. This will be located on the main page.

Location:

Main page

Reasoning:

This feature is designed to gather the required information needed from the host on the application system. Discussed by the university representative in the brainstorming session.

Priority:

Must have – High priority

Functional Requirement 1.12

Identification Code:

FR12

Title:

Steps to list feature

Description:

This feature is displayed on the profile page of the host and the listings page. It will allow the host to input the essential information about the accommodation and upload photos.

Location:

Profile page/my listings

Reasoning:

This feature is designed to give the host a chance to paint a good picture of the house for the user to see. The important details of the accommodation are needed by the user to understand what they are paying for.

Priority:

Must have – High Priority

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Functional Requirement 1.13

Identification Code:

FR13

Title:

Messaging link

Description:

This link is designed to bring the host to their inbox where they can see conversations from users inquiring about their accommodation. The inbox will be descending from most recent to oldest messages.

Location:

Inbox page.

Reasoning:

This link is designed to allow the host to see who is interested in booking the accommodation they have listed. Host and users can discuss dates and other details. Discussed on survey conclusion.

Priority:

Must Have – High Priority

Functional Requirement 1.14

Identification Code:

FR14

Title:

Calendar link

Description:

This link will be displayed on the bottom of the application second from left with a calendar icon. Once the host has listed their accommodation they can use the calendar to organise users.

Location:

Main page

Reasoning:

This link is designed to assist the host with organising their guests throughout the calendar year. It was discussed in the brainstorming session.

Priority:

Must have – High Priority

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Functional Requirement 1.15

Identification Code:

FR15

Title:

My Listings link

Description:

This link is designed to bring the host to a page where all their listings will be displayed. It will be at the bottom middle of the page as a house icon

Location:

Main page

Reasoning:

The listings link is designed for those hosts who may have more than one accommodation listed on the application therefore they can track and manage them separately. This was discussed during the prototype session.

Priority:

Must have – High Priority

Functional Requirement 1.16

Identification Code:

FR16

Title:

Stats link

Description:

This link will allow hosts to view the statistics of their accommodation, how many times it has been viewed, if a user has saved it, and the income from accommodation.

Location:

Main page

Reasoning:

This link is designed to inform the host of the statistics behind the performance of their accommodation. This feature was discussed during the requirements workshop.

Priority:

Must have – High Priority

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Functional Requirement 1.17

Identification Code:

FR17

Title:

Profile page

Description:

This link will be displayed on the bottom right of the application with a profile icon. It will allow the host to go onto their profile, this page will display edit profile, about, reviews and have the key details needed from the host.

Location:

Main page

Reasoning:

This link is designed to allow the host to view and edit their personal profile. It will also display the users essential details and reviews given to them by hosts.

Priority:

Must have – High priority

Non-functional Requirements

Security requirements

Identification Code:

FR9

Title:

Social media verification log in.

Rationale:

The usernames and passwords of the users are controlled by the university accommodation system and Facebook verification. Should the user remove their Facebook account the system will hold onto their email address synced with the application and the user can reset the password from there.

Identification Code:

FR12

Title:

Steps to list

Rationale:

The host is in control of the information behind the accommodation listing as long as they meet the requirements of the university accommodation system. The host can only change the details of the listing and the price; the university system will just confirm the information is in the correct field.

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Performance requirements

Identification Code:

FR7

Title:

Search Function

Rationale:

The main reason the user wants to utilise this application is to find accommodation. This feature makes that process simple and easy to use. The search function should display its results within three seconds of the user selecting the search option. This feature will be displayed on the main explore page at the top with three options of where, when, and guests. The user can search for a destination, and input the dates and number of guests. If the users search is incorrect the application will display an error message.

Identification Code:

FR2

Title:

Saved accommodation.

Rationale:

When the user selects the save option on the accommodation, the system should save the listings on the users saved page in order.

Availability requirements

Identification Code:

FR2

Title:

Saved accommodation.

Rationale:

When the user selects the save option on the accommodation, the system should save the listings on the users saved page in order.

Identification Code:

FR7

Title:

Search Function

Rationale:

The system should only display the available listing to the user when they use the search function. If there are no listings available for the dates the user has selected, an error message will come up on the application.

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Usability Requirements

Identification Code:

FR9

Title:

Help & Support link

Rationale:

The university accommodation office will be initially provided with guidance by the installers of the system and support documentation will be included. The goal is to aid the user with any issues or difficulties they may be having while using the application. Customer satisfaction is off high priority with Rentie. The user can use this to gain support from the resolution team in the university. There will be FAQ's on this page written by the university accommodation office.

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Appendix

1. Objectives

The primary objective of my final year project is to formulate a highly detailed requirements specification document for an app called Rentie. This shall be achieved by utilising viewpoints from a variety of stakeholders whom would all be involved with the app. This project will involve gathering requirements from all relevant stakeholders such as college accommodation services, public hosts, and students. During the requirements elicitation stage I will cover elements such as the app design/layout, features, app content, and navigation, GPS etc. I will document a very detailed requirements specification through a variety of elicitation techniques once I've gathered all the project requirements. Along with this project proposal I will be conducting a project analysis / design, performing a midpoint presentation to show what I've done and what needs to be done, finalising the complete report, conducting the final presentation and displaying the finished project app in May 2017.

The objective of this app is to provide a platform that both students and hosts can use to communicate around a service that students need which the hosts can provide. There will be different navigation outcomes depending on whether you're a student looking for accommodation or you're a host looking to rent out a room/multiple rooms. The extent of the specific differences will be discussed with various stakeholders before I begin constructing app prototype. The secondary objective of the app is to make in appeal evenly to both users (Host/Student), the app needs to have benefits to both of them otherwise the app won't be utilized to its full potential. I feel there will be a need for a review system to be put in place to keep both parties balanced and willing to stick to guidelines. If a positive reputation can be achieved it will encourage people to join this app and utilize its service.

I will set out a schedule outlined in great detail to project my aims and achievements throughout this project. I must delegate my time to throughout the year to ensure I can overcome any hurdles and don't fall behind leaving too much work at the end of my final year. I will set myself a basic objective to complete all deliverables at a high standard and ensure submission due dates are met to avoid any reductions of marks. Ideally I would like to exceed the objectives I've set and the expectations of the stakeholders associated with the app come May 2017.

2. Background

Rentie will be the go to app for students looking for accommodation throughout the college year and the ideal way to rent out a room / multiple rooms for a host.. Now having the luxury of being from Dublin, going to college here and living at home won't aid me in my research but being a student myself and having friends from around the country who would have to go through this hassle will. I'll be able to get a first hand grasp of what it's like to experience the process involved with finding a place to stay. I will also be able to get a feel for the experience as my very own mother will be taking in a student from America to stay with us while he studies in DCU in the coming weeks, this should give me a greater outlook on the needs for service from a host point of view. In my opinion there is a big gap for this type of app in the market place, with more and more student's attending college each year it's not possible for the college campus to facilitate all students. The current price for rent in Dublin has been inflated in the last five years which will mean there's going to be student's looking to save money in this area which in turn means a greater demand for the host. In my experience there's a need for a general revamp of the housing process, for example my mother heard through word of mouth that DCU were looking for people with rooms to let. She thought why not

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she's making dinner anyway, we have a spare room, we live just ten minutes away from DCU and the extra income would come in handy. DCU contacted my mother with just the information as follows; Name, Gender, Nationality, Age, and duration of stay. Personally I find that a bit vague as you are letting this person into your home for whatever length of time. Now no doubt DCU have their own screening process but in this day and age I feel your whole online persona/profile can be valuable for both you the host and the student. So the host can see your rating as a guest and vice versa, for piece of mind and customer satisfaction.

3. Technical Approach

Once my decision was finalised for the concept of my final project, I began to research the different tools I could use to build an efficient requirements based app for my project. The tools included; App Press, Alpha Anywhere, EachScape, QuickBase, and Appcelerator. After some decision making and some more research I decided on using App Press as I've previous experience with word press for constructing websites. Having worked in application support, I've chosen to do my requirements specification on an app rather than a website.

Tasks involved in building the application:

I. Requirements Collection & Documentation

This will entail meeting with stakeholders to discuss the needs and wants to an application like Rentie. I will outline the application features, and document all necessary requirements will be put into a detailed technical report. I aim to develop the framework for the app at this point so that I can have a base layer to work off for the application prototype.

II. Prototype Development

The prototype development will involve creating the application wireframe which will be used to showcase where I'm at design-wise when it comes to the mid point presentation. Once I've completed the prototype I'll go through an evaluation process with my peers and stakeholders. To ensure the app meets expectations, I will implement any changes that are suggested by the stakeholders.

III. Project Application Development

The development of the application will involve the final draft of the requirements collection & documentation from the various stakeholders throughout the project. Application testing will be carried out continuously at this stage and finalised content will be added to the project. I aim to be fully satisfied with the completion of the app to guarantee it'll be ready when it comes to the project showcase to reflect to input of work I have put into developing the application.

IV. Post Project Application Creation

This will involve a full review of the finalised application with my supervisor to make any changes or amendments needed prior to showcasing my project. If I am completely satisfied with the end result then the app will be available to the public. I will then create a product survey for users of the app in order to evaluate the general feedback and performance, which I will include in the final report.

4. Special resources required

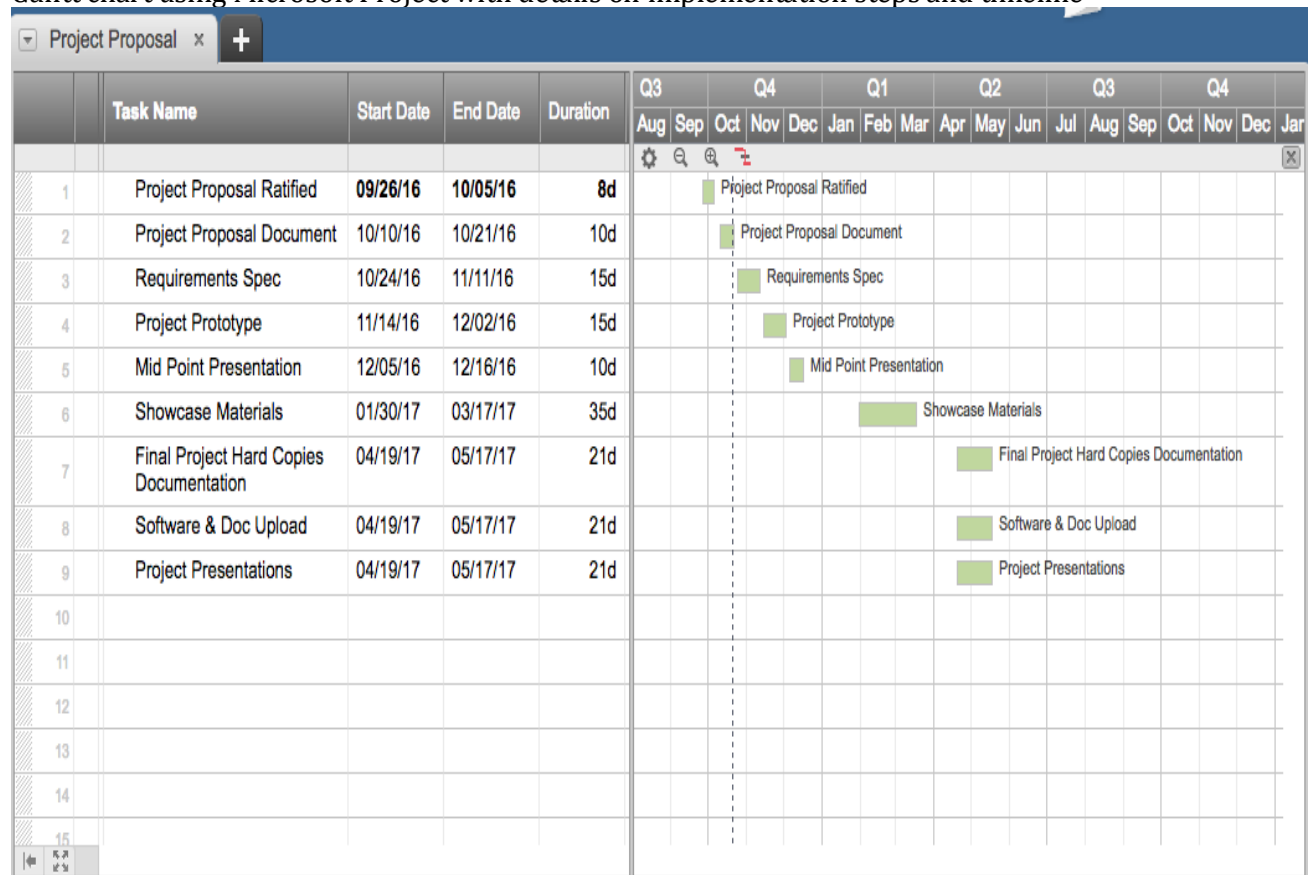
I've carried out some brief research in App Press and it's functionalities, but feel I'm not up to scratch right now so I will need to improve my knowledge around App Press. I will look up video tutorials on YouTube on how to utilize all features, read up on some tutorials along with viewing apps created by App Press to get a feel of what my end result might look like.

Throughout my project I will need the following resources:

- I. Mac Book laptop
- II. External Hard drive to back up files
- III. Dropbox to save project related content
- IV. AppPress to develop my app
- V. Moqup or Balsamiq to create my app wireframe
- VI. BABOK (2nd edition) for stakeholder analysis
- VII. Lecture notes on Moodle

5. Project Plan

Gantt chart using Microsoft Project with details on implementation steps and timeline



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6. Technical Details

I chose to use App Press to develop my final project app, whilst Balsamiq and Moqups will be used to develop my wireframe. I don't have much experience in app development but App Press is very user friendly and I feel I can become accustomed to it. I've the ability to add my own personal touch to the design with the ability to add my own graphics. I can track my apps performance through google analytics which will come in handy for my post project application creation. App Press also has the ability to add my own code which will be useful for when I meet with the stakeholders to discuss the application features and design. Having the ability to use App Press will be vitally important for the success of my project, once I've gathered all my requirements documentation I will be able to begin the development process. The application will showcase the range of tasks I have completed and will illustrate a visual representation of the project.

7. Evaluation

I will evaluate the system through a variety of requirements elicitation techniques as a starting point for my requirements specification document. The different techniques I will use include; interviews, survey's, requirement workshops, interface analysis and brainstorming. I aim to develop a highly detailed and functional requirements specification by using these techniques. I will examine my final document upon completion to ensure that all requirements are met when it comes to evaluating my app. I will have the main content of the app complete after the requirements document and after my midpoint presentation I will continue to meet up with the stakeholders to discuss additional information that needs to be added. If improvements need to be made prior to May 2017 I shall meet up with my project supervisor to evaluate the apps content and see where improvements can be made.

Tom Howard
____21/10/16____
Signature of student and date

Tom Howard
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Reflective Journal

Student name: Tom Howard

Programme: BSc in Technology Management

Month: November

My Achievements

This month I completed my requirements specification. My contributions to the projects included; my introduction for the project where I outlined the goals and gave a detailed brief of the background of the project where I discussed the origin of my final year project idea and my personal attachment to the app. The business need, I discovered an opportunity for such an app like Rentie and discussed how I would go about resolving these problems. The Business Case, I researched the different tools I could use to build an efficient requirements based app for my project such as: Stakeholder List, Importance/Influence Matrix, and elicitation requirements. Using BABOK (2nd edition) for these elicitation requirements I decided to use to following; Interviews, Brainstorming sessions, and a survey. Technical details I did some research on App Press to develop my app and Balsamiq/Moqups to design a wireframe to illustrate a visual representation of the project for my prototype. Once I have completed the prototype I plan to set up a requirements workshop to discuss areas of improvement going forward with the prototype. The Interface analysis to develop a UML for my use case diagram, and demonstrate the different interface types associated.

My Reflection

I felt, it worked well to gather my research and put it all into one document in my own words for my requirements specification. However, I was not successful in managing my time well enough. I found myself hurried in my research and need to work on better plan to resolve this issue.

Intended Changes

Next month, I will be working on my elicitation requirement techniques and the design of my project. I realised that I need to manage my time better to give my self a better opportunity for better quality work put into my project.

Supervisor Meetings

I met with my supervisor and discussed my approach to my elicitation techniques and the mid-point presentation.

Month: December

My Achievements

This month I focussed on my elicitation techniques. My contributions to the projects included; organising candidates for my requirement elicitation techniques, began writing questions for the survey, and research the brainstorming technique. When I was considering candidates to assist me as stakeholders I had to think long and hard about who could really give me the information that I needed. After putting some thought behind it I eventually made a decision and got in contact with the candidates, thankfully they all agreed to give me a hand and help me out with my project. As I started writing my survey questions, I thought to myself, what information do I want to get out of the stakeholders answers, and from there the questions came easy to me. I started doing some research on brainstorming techniques with the help of babok and some research online. After my research I felt like I had a better understanding for the next stage of my final year project.

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My Reflection

I feel like it was a productive month, and I achieved what I set out to achieve.

Intended Changes

I may make some changes to the questions, which I'm thinking about for the survey. I might do some deeper research into my elicitation techniques to gain a better understanding.

Supervisor Meetings

No meetings took place this month, as the semester was coming to a close I found myself busy with college assignments and exams.

Month: January

My Achievements

This month was a busy month with exams so there wasn't much time to get project work done. I managed to secure a date that suits all the participants for my brainstorming session; the date is set for 27th February. Towards the end of the month I planned out my brainstorming session and organised a venue.

My Reflection

I felt like I needed to make a plan this month and stick to it because I let my exams get the better of me.

Intended Changes

Create a concrete plan of what work needs to be done for the month then assess the plan at the end of the month to see how it turned out.

Supervisor Meetings

No meetings took place this month, as the semester was coming to a close I found myself busy with college assignments and exams.

Month: February

My Achievements

This month I set out a plan for my workload. My plan was to finish my survey questions, meet with my supervisor to approve my questions and plan for my brainstorming session at the end of the month. Throughout the month I eventually completed the questions and met with my supervisor. From there I had to make a few changes to the questions and then I sent it out specifically to students whom live in accommodation. For my brainstorming session I set out guidelines and objectives to follow. Myself, two undergrad students, two accommodation host, university accommodation representative and an enterprise computing graduate met and discussed the essential features needed in the Rentie app.

My Reflection

This month I was rather productive and stuck to my plan; I achieved what I set out to achieve.

Intended Changes

No intended changes this month as I was very focused on the task at hand and got all my planned work completed.

Supervisor Meetings

I met my supervisor on the 14th February to approve survey questions and discuss my next stage of the project.

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Month: March

My Achievements

This month I set out a plan for my workload. My plan was to conclude the outcome of the brainstorming session, organise both my interviews, and have my interview questions approved by my supervisor. The brainstorming session was a success many requirements were gathered from all the stakeholders involved. I finished the questions for my interview and met up with my supervisor to have them approved but I found that I was asking the questions in a way that wouldn't give me the result I wanted from each stakeholder. Once I fixed up the questions, I organised to meet for my first interview on 14th March and my second interview the following day on 15th March. The interviews went well and I gathered some more requirements for the Rentie application.

My Reflection

This month I was rather productive and stuck to my plan; I achieved what I set out to achieve. But felt like I was a bit too far behind for my liking and the responses I wanted for my survey weren't coming in. Something needed to be done.

Intended Changes

I needed to up my workload for the next two months and focus on the task at hand. I should share my survey to a wider audience to ensure I collect enough responses.

Supervisor Meetings

I met my supervisor on the 21st March to approve interview questions and discuss my next stage of the project. I also asked for advice on how I can manage my project workload and college work. More planning and desire was needed on my part.

Month: April

My Achievements

This month was the month where I really needed to get my head down and start putting the project together especially as I had my exams near the end of the month. I started off by working on the prototype of the Rentie application before organising a requirements workshop for the stakeholders to discuss the prototype. Once the prototype was complete, I was able to meet with the selected stakeholders for the requirements workshop. After the requirements workshop we decided on a slight change to the project prototype. After I implemented the prototype change, I began working in the interface analysis. As my exams were coming up I was forced to put the project aside and focus on them but thankfully got enough work done to stay on track of my plan.

My Reflection

This month I was very productive and I stuck to my plan. Even though I put myself under a lot of pressure I achieved what I set out to achieve.

Intended Changes

No intended changes this month as I was very focused on the task at hand and got all my planned work completed.

Supervisor Meetings

No meeting took place with the supervisor this month, as I was too busy with my exams and the project workload to organise a time that would suit me.