

Planning Report

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# 2.1 - Introduction to The Project

Overview of The Project Brief

The Project Brief discussed many system requirements. They were categorised into ‘critical’ and ‘additional’. Due to this, I will ensure that the critical requirements are completed and the additional requirements are completed if time allows.

Initial High-Level Requirements

From what has been gathered, the following high-level requirements are as follows:

* + - A business can sign up to the service
    - A business can grant certain privileges to certain members of staff
    - Those members of staff can access certain ‘apps’ on the website depending on their privileges

# 2.2 - Feasibility

Feasibility is: “The state or degree of something being easily or conveniently done.” (Google, 2017). From my assessment of the project I have concluded that the project will be difficult and take a lot of work in order for it to succeed, but in saying that it will be very convenient as the portal will be tailored specifically to the needs of the employees and thus we are going to move forward with this project to be able to produce a portal for the benefit for employees and management in companies around the world.

# 2.3 - Meetings

Meetings are a good way to fast-track a project and minimize the potential for a project’s downfall due to things like miss-communication and topics needed clarified. Allowing a small amount of time every once in a while to be able to talk about important aspects of the project with a team that are helping to make this project work is much better than putting more time into a project without clarification if the project fails. There are three main reasons for conducting meetings:

Reason 1 - Providing Information

The first reason for conducting a meeting is to convey information. Many companies invest their employees’ time in routine meetings to provide them with information on what they need to do. Usually the manager or team head talks and members of the team listen. This allows for a fast way of allowing members of the team to be better informed on what they must do and act more efficiently and effectively.

Reason 2 - Decision Making

Meetings are crucial for making decisions as it allows a team of people working for the same end goal to be able to discuss ideas, improve products and services and discard potential wasted development time.

“One of the most important decision-making meetings in business is strategic planning” (HR Bartender, 2017)

Strategic planning is probably one of the hardest parts of business and this should be discussed at length. All aspects of all business should be discussed from marketing to design to financial structures so that when and if the project is completed, how and when it enters the market should be discussed in detail.

Reason 3 - Feedback and Discussion

The last main reason for holding a meeting is to allow feedback and discussion to take place. This will maximize effectiveness and allow an allocated time for product improvement.

# 2.4 - Deadlines

I am working to several deadlines:

* + - The first deadline is the 8th of June 2018 where the project must be submitted to City of Glasgow College for my Graded Unit in HND Computing Science: Software Development. For a more in depth look at deadlines, look at 3 - Student’s Agreement.
    - The second deadline for the project discussed by myself and team members is around early August. For this deadline, we will be completing all tasks that could not be completed by the 8th of June.

# 2.5 - Factors Influencing the Project

Authorization

I understand there are many user types such as:

* + - Administrators
    - Employees
    - Supervisors
    - Assistant Managers
    - Managers
    - District Managers
    - Regional Managers
    - Trainee Employees

This will influence the project as the system will need to be dynamically design round the fact that there are many different users that should view different screens depending on their authorization level.

Cost and Budget

The cost is a big factor of the quality, quantity and if the project can be published at all. Domain names alone can cost tens of thousands of pounds and web hosting services or hardware can amount to a considerable amount of money. Therefore, a budget will need to be created so that the project will succeed and be commercially viable. The costs and budget can be ascertained from the ‘Business Plan’ document which will give a detailed description of where the money will go and where it will come from.

Accessibility

As Starbucks Corporation and many other companies prides themselves on the equality of employees and the inclusion of persons with disabilities, accessibility is a key factor that will influence the project. One should account for all major disabilities which will improve the system’s popularity and use but will be very time consuming and thus costly therefore it will need to be discussed and further documented in the design of the system.

Deadlines

Deadlines are a critical factor that will determine if the project should even be created and will influence pivotal factors about time allocation and management.

Competition

The market and demand are crucial to understand so that we can understand possible behaviour from clients and competitors. If the client gets cold feet and wishes to take on another company then there would be no financial benefit from undergoing this project. One must ensure that they have the client’s best interest at heart as is the case.

User Experience

The average experience of users on the system needs to be taken in to account for. One must be able to create a simple to use portal that is visually enticing and allows the user to complete actions fast and with ease. The level of simplicity or complexity depends on the intellectual capabilities of the average user regarding web-based applications and one should try to incorporate and manage the balance of simplicity and complexity without ruining the user’s experience.

# 2.6 - Fact Finding Techniques and Purpose

Research

Research is a systematic way of finding information over a certain topic or topics diving in to any subtopics that are relevant. This way of fact finding does not require any interaction with others and more so relies on the World Wide Web and libraries to be able to provide information over the topics you are needing facts about. I will use research in my project for many reasons especially definitions of words or processes and instructional guides on how to complete a certain task or activity. Research will be my go to form of fact finding technique as it is fast and cheap and publishers often tend to provide a lot of correct knowledge. The research conducted can be obtained by looking at the bibliographies which are located at the end of each package.

Interviews

Interviews are a great way to get hands on with the customer to be able to get to the foundation of what they need to be achieved and how we can achieve it. There are a few advantages to interviews which include:

* + - People can be very engaged and enthusiastic about the change
    - This makes people more motivated to provide more information
    - You can lead and direct the interview making it dynamic

There are some disadvantages that are also associated with interviews, these include:

* + - Time consuming
    - People can stray off topic and waste time
    - People may be introverted and not talkative which makes it hard to gather data
    - You could be interrupting day-to-day running of the company

Questionnaires

Questionnaires are also a great way of gathering data. A questionnaire is essentially a set of questions that you wish to ask the customer to fill it out. It usually contains a set of answers in each question to make it easier for the customer to answer questions. Some advantages include:

* + - As it is usually closed-ended responses you can analyse the data easier
    - Direct and to the point
    - Can also allow customers to expand on their answers if they so desire

Some disadvantages include:

* + - The questionnaire can get lost
    - There is usually a return rate of around 5-10%

Observations

Observations is the final method of fact finding that I am going to discuss. You visit the current system that is going to be upgraded and you observe how users interact with that system. You should try to be as invisible as possible; this allows people to act more naturally. As with all the previous fact fining techniques there are pros and cons. These are some of the advantages of observing a system:

* + - One can get a real time view of how the system functions

And these are some of the disadvantages:

* + - It can be slow and time consuming
    - If it is a small part of their system, the system may not be interacted with often
    - People may act differently if they know they are being observed

Purpose

The purpose of Fact Finding is to be able to gather information. You need true facts and details of the system to be able to develop the project further. Fact finding is a useful that most people use daily to be able to achieve the goals that they set or that are set for them. The best thing to do when you are a developer is to be able to gather all the facts to then analyse them and finally develop the system. If you go head first into the Development, you will miss critical information that should be implemented.

# 2.7 - Interviews

Any answer given to the interviewer will be in complete anonymity. Interviews will be asked to employees and management of companies without a feature like this project is suggesting and other interviews for employees and management of companies with a feature such as the one suggested. Any answers given will allocated to an appropriate category. If an answer does not fit into any category then a new category will be made. This is to generalise people’s needs and cover as many requirements as possible. The interviewer must remind the interviewee that answers are optional and if said interviewee does not want to answer, they are under no obligation to do so.

Employee Interview

|  |  |
| --- | --- |
| Company |  |
| Date & Time |  |
| Interviewer |  |
| Solution |  |

| Entry | Question |
| --- | --- |
| **1** | How long have you worked for this company? |
|  |
| **2** | How do you find out what shifts you have for the following week? |
|  |
| **3** | How many weeks in advance do you receive your shifts? |
|  |
| **4** | How do you find out your shifts out of the workplace? |
|  |
| **5** | Do you like the way you receive your shifts? (Elaborate: what could be improved or what is good) |
|  |
| **6** | How do you book your holidays in? |
|  |
| **7** | Does the store hold meetings? If so, what frequency and what is the subject matter? |
|  |
| **8** | Does your line manager inform you about current and future sales objectives? If so, How? |
|  |
| **9** | Do you or does your line manager purchase your work clothes? (Who pays/orders/receives) |
|  |
| **10** | Do you believe that productivity would increase if there was an organised location for things such as holidays, shifts and store updates for employees? |
|  |

Manager Interview

|  |  |
| --- | --- |
| Company |  |
| Date & Time |  |
| Interviewer |  |
| Solution |  |

| Entry | Question |
| --- | --- |
| **1** | How long have you worked for this company? |
|  |
| **2** | Do you allocate shifts? If so, how do you create a rota and distribute it to your employees? |
|  |
| **3** | If so, how many weeks in advance do you post employees’ shifts? |
|  |
| **4** | Do you find this an easy method of creating and editing shifts? |
|  |
| **5** | How do you take into consideration holidays? |
|  |
| **6** | Do you find that an easy way of being able to see who is on holiday and when? |
|  |
| **7** | Do you tell employees what their sales objectives are? If so, how? |
|  |
| **8** | Does the store hold meetings? If so, what frequency and what is the subject matter? |
|  |
| **9** | On a monthly average, how many people miss or are late to shifts? |
|  |
| **10** | Do you believe that productivity would increase if there was an organised location for things such as holidays, shifts and store updates for employees? |
|  |

Results

In this section, the team will analyse any patterns that emerge from the interviews that were underwent by members of the public that were working in the public sector. This will allow for two different things:

* + - To see if making this product will be financially beneficial
    - How to create certain aspects of this product (such as holidays or business rules)

Employee Questions

Questions 1 to 4 and 6 to 9 are targeted at finding out what some current business aspects are to be able to better accommodate and improve the ideas that have been formulated by the team. Question 1 is to see how long one person worked in the company to see how long they have been exposed to the business logic and would tend to be better informed. Questions 5 and 10 are to see how employees feel about the backend logic of their company and what they would do to better it.

Manager Questions

Questions 1 to 5 and 6 to 9 are also targeted at finding out what some current business aspects are to be able to better accommodate and improve the ideas that have been formulated by the team. Question 1 is also to see how long one person worked in the company to see how long they have been exposed to the business logic and would tend to be better informed. Questions 4 and 10 are to see how employees feel about the backend logic of their company and what they would do to better it.

Our Findings

* + - Usually stores have a folder or a billboard where they print out the rota to
    - The average employee receives their shift 2 weeks in advance
    - There should be a feature which accommodates a set hourly contract
    - Most managers inform their staff their sales objectives verbally
    - Holidays are usually booked by a holiday request form and must be accepted
    - Usually staff request for work clothes verbally to the manager and the store pays
    - The above point varies from store to store so all or most circumstances should be accommodated for
    - Usually the manager communicates verbally to employees when meetings will occur
    - On average meetings are held once a month
    - Almost all responses stated that the store would benefit greatly from this project

# 2.8 - Questionnaires

Any answer written down will be in complete anonymity. Questionnaires will be handed out to employees and management of companies without a feature like this project is suggesting and other interviews for employees and management of companies with a feature such as the one suggested.

Any answers given will be assembled into an analytical report to find any tendencies. This will allow a way to target and adapt the approach towards the general needs of the users. The person filling out the questionnaire must be reminded that answers are optional and if said interviewee does not want to answer, they are under no obligation to do so.

Employee Questionnaire

|  |  |
| --- | --- |
| Company |  |
| Date & Time |  |

| Entry | Question | | | | |
| --- | --- | --- | --- | --- | --- |
| **1** | I have worked in the company that I am in... | | | | |
| Less than 6 mon. | Less than 1 year | 1+ year | 2+ years | 5+ years |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **2** | I am able to easily view my shifts when they are posted. | | | | |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **3** | I receive my shifts \_\_ week(s) in advance | | | | |
| 0 (On the week) | 1 | 2 | 3 or more | Set contract |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4** | I am able to easily view my shifts out of work when they are posted without coming in to work. | | | | |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **5** | I am able to easily book my holidays both in and out of work. | | | | |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **6** | My store meetings take place every... | | | | |
| Once a day | Once a week | Once a month | Once a year | Never |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **7** | My manager informs me of the current and future sales objectives frequently. | | | | |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **8** | My work clothes are ordered and purchased by | | | | |
| Me (I pay) | My manager (I pay) | Me (store pays) | My manager (store pays) | Other |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **9** | I believe that productivity would increase if there was an organised location for things such as holidays, shifts and store updates for employees. | | | | |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

## Manager Questionnaire

|  |  |
| --- | --- |
| Company |  |
| Date & Time |  |

| Entry | Question | | | | |
| --- | --- | --- | --- | --- | --- |
| **1** | I have worked in the company that I am in... | | | | |
| Less than 6 mon. | Less than 1 year | 1+ year | 2+ years | 5+ years |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **2** | I am able to easily create the rota for employees. | | | | |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **3** | I create a rota \_\_ week(s) in advance | | | | |
| 0 (On the week) | 1 | 2 | 3 or more | Set contract |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4** | I am able to easily view my shifts out of work when they are posted without coming in to work. | | | | |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **5** | I am able to easily view employees’ holidays both in an out of work. | | | | |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **6** | My store meetings take place every... | | | | |
| Once a day | Once a week | Once a month | Once a year | Never |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **7** | I am able to inform employees current and future sales objectives. | | | | |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **8** | Employee’s clothes are ordered and purchased by | | | | |
| Employees (They pay) | Me (Employees pay) | Employees (store pays) | Me (store pays) | Other |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **9** | I believe that productivity would increase if there was an organised location for things such as holidays, shifts and store updates for employees. | | | | |
| Strongly Agree | Agree | Neither | Disagree | Strongly Disagree |

Results

In this section, the team will analyse any patterns that emerge from the questionnaires that were underwent by members of the public that were working in the public sector. This will allow for two different things:

* + - To see if making this product will be financially beneficial
    - How to create certain aspects of this product (such as holidays or business rules)

Employee Questions

Questions 1, 3, 6 to 9 are targeted at finding out what some current business aspects are to be able to better accommodate and improve the ideas that have been formulated by the team. Question 1 is to see how long one person worked in the company to see how long they have been exposed to the business logic and would tend to be better informed. Questions 2, 4, 5 and 9 are to see how employees feel about the backend logic of their company and what they would do to better it.

Manager Questions

Questions 1, 3, 6 and 8 are also targeted at finding out what some current business aspects are to be able to better accommodate and improve the ideas that have been formulated by the team. Question 1 is also to see how long one person worked in the company to see how long they have been exposed to the business logic and would tend to be better informed. Questions 2, 4, 5, 7 and 9 are to see how employees feel about the backend logic of their company and what they would do to better it.

Our Findings

* + - The average employee has worked in their company 2+ years
    - Managers are not able to easily make their rotas
    - Employees are not easily able to view their rota in and out of work
    - The average store posts their rotas 1-2 weeks in advance
    - Most employees and managers are not able to see their rota without coming in
    - Booking holidays can be a cumbersome and tedious task
    - Store meetings are held on average once a month
    - Usually employees request verbally to managers if they would like work clothes and the manager orders them in with the store paying
    - Sales objectives are easily communicated
    - Almost all responses stated that the store would benefit greatly from this project

# 2.9 - Observations

Planning

The observations will be conducted in two Starbucks stores and this will allow an in depth understanding on how the backend logistics between managers and baristas work. The two stores that will be observed will be Starbucks Buchanan Galleries, Glasgow and Starbucks Sauchiehall Street, Glasgow. The observer must remember to be as least intrusive as possible. The objective of the observation is to find out how exactly members of staff interact with the current system and therefore allow us to be able to find ways to be able to better the system.

Store 1 - Buchanan Galleries

Date: 26/10/17 Time: 12:05 - 12:20

Observations:

* + - Holidays are requested in a diary by writing down the holidays that an employee requests and then the manager accepts/declines the holiday
    - Rotas are made on an excel template and then printed out
    - Managers cannot make analytical reports
    - Store meetings are once a year
    - The store has a ‘60 second brief’ which is a meeting from a line manager to a barista informing them of sales objectives and need-to-knows for the day
    - The rotas are posted in a folder and only one rota is printed out
    - The manager must message employees to ask if they can work extra shifts or change their shifts
    - The rota is posted on a Monday for the following week
    - Employees’ aprons and polos are ordered and purchased by the manager
    - All other clothes are purchased by employees

Observer’s Opinion:

* + - All the aspects that have been observed seem all over the place. I believe that a product such as this would allow the companies to better structure themselves and would allow ease of use for employees from all levels.

Store 2 - Sauchiehall Street

Date: 26/10/17 Time: 12:05 - 12:20

Observations:

* + - Holidays are requested in a calendar by writing down the holidays that an employee requests and then the manager accepts/declines the holiday
    - Rotas are made on an excel template and then printed out
    - Managers cannot make analytical reports
    - Store meetings are once a year
    - The store has a ‘60 second brief’ which is a meeting from a line manager to a barista informing them of sales objectives and need-to-knows for the day
    - The rotas are posted in a folder and only one rota is printed out
    - The manager must message employees to ask if they can work extra shifts or change their shifts and occasionally use a Facebook group chat but not all employees have Facebook
    - The rota is posted on a Monday for the following week
    - Employees’ aprons and polos are ordered and purchased by the manager
    - All other clothes are purchased by employees

Observer’s Opinion:

* + - Like the previous store observed, all the aspects that have been observed seem all over the place. A product such as the one we are proposing would impact hundreds or thousands of employees worldwide and hopefully better their life.

# 2.10 - Fact Finding Conclusion

Some of the questions that were asked were to gather general knowledge to be able to implement that in the application such as meeting intervals and how many weeks in advance the rota was handed out. Other things that were asked were directed at questioning the usefulness of the proposed product and potential benefits that could arise from said development. Something that we forgot to consider was that employees could be on set hour contracts and this could be implemented as a great tool to save customers time and increase their productivity which is what we stand for. It is unquestionable that there is a need for a product like this on the market and there are some websites that do other products along these lines, but the intriguing thing to think about is that there are many companies that have not taken up on the opportunity that these websites offer. We must think very carefully how to create and market the product to maximise growth.

# 2.11 - General System Requirements

The system that will be built must be able to:

1. Display the website to provide information on the web app
2. Allow the user of the system to contact a member of staff in a contact form
3. Allow a forum or ‘community’ to be created to connect users with the same issues
4. Display a clear and informative FAQ section
5. Sign a company or a business up to the service easily
6. Allow users to report abusive behaviour
7. Allow for future discount codes
8. Allow users to view any relevant legalities and information
9. Allow users to view all credits and sources
10. Charge a customer on a monthly/yearly basis
11. Allow the ‘administrator’ of a company to:
    1. Make basic administrative tasks
    2. Add, delete and modify users’ details
    3. View requested holidays
    4. Set a limit on number of holidays a year
    5. Set holidays
    6. Form analytical reports on their employees
    7. Create rotas with ease
    8. Message members of staff
    9. Create updates for employees and/or stores
    10. Add, delete and modify their details
    11. Upload ‘items’ (clothes/aprons/headwear/etc...) to an online store for employees
    12. Set the pricing structure for said ‘items’
    13. Create and set meetings
    14. Receive ideas from their employees
12. Allow employees of a company to:
    1. View their rotas
    2. View their holidays
    3. Request a permitted amount of holidays
    4. Message other members of staff
    5. Order ‘items’ on the online store
    6. Share ideas
    7. View updates
    8. View meetings
13. Allow experts to:
    1. Add, delete and modify users’ details
    2. Add, delete and modify companies’ details
    3. Query a database of questions
    4. Respond to questions
    5. Close questions
14. Allow developers to:
    1. Analyse errors on the system
    2. Analyse data transfer rates
    3. Shut down and start up the system
15. Allow systems analysts to create analytical reports on:
    1. Average screen time per day
    2. User interests
    3. Company size
    4. Volume of data per company over time
    5. Community answered and unanswered questions
    6. Contact Us opened and closed questions
16. Allow head of the system to:
    1. Track, modify and add business incomes
    2. Track, modify and add business expenditures
    3. Create an analytical report on incomes and expenditures
    4. Add, delete and modify employees’ details

# 2.12 - Potential Portal Platforms

Potential Platform 1 - Website

| Advantages | Disadvantages |
| --- | --- |
| No local storage needed (except RAM) | If the device is not connected to the internet, nothing will be able to load, not even a user interface |
| Most devices are connected to the internet therefore easy access (Currently 8.4 Billion) | Cannot store any part of a website locally |
| Most knowledgeable area |  |
| Internet connection needed anyways |  |
| Very Portable |  |

Potential Platform 2 - Windows Desktop Application

| Advantages | Disadvantages |
| --- | --- |
| The device will be able to load data from its storage if the developer allows data to be locally stored | If the device is not connected to the internet, data may not be able to load as server is not local |
| Currently 200 million active devices with windows 10 installed (Windows, 2017) | Local storage needed |
| A knowledgeable area | Internet connection needed anyways |
|  | Requires user to have a laptop/PC with windows installed |
|  | Not very portable |

Potential Platform 3 - Mac Desktop Application

| Advantages | Disadvantages |
| --- | --- |
| The device will be able to load data from its storage if the developer allows data to be locally stored | If the device is not connected to the internet, data may not be able to load as server is not local |
| Currently nearly 100 million active devices with Mac OS installed (The Verge, 2017) | Local storage needed |
| A knowledgeable area | Internet connection needed anyways |
|  | Requires user to have a Mac with Mac OS installed |
|  | Not very portable |

Potential Platform 4 - Android Mobile Application

| Advantages | Disadvantages |
| --- | --- |
| The device will be able to load data from its storage if the developer allows data to be locally stored | Many different OSs therefore impractical to develop to account for all OSs. |
| Currently nearly 2 billion active devices with an android OS installed (Mac Rumours, 2017) | Local storage needed |
|  | Internet connection needed anyways |
|  | Requires user to have a phone with a certain Android OS installed |
|  | Not very portable |
|  | Not a knowledgeable area |

Potential Platform 5 - iOS Mobile Application

| Advantages | Disadvantages |
| --- | --- |
| The device will be able to load data from its storage if the developer allows data to be locally stored | Local storage needed |
| Currently more than 700 million active devices with an iOS installed (Fortune, 2017) | Internet connection needed anyways |
|  | Requires user to have an iPhone with latest iOS installed |
|  | Not very portable |
|  | Not a knowledgeable area |

# 2.13 - Chosen Portal Platform

We have decided to go for a web-based application as this is the platform that we are most knowledgeable in and most devices are connected to the internet (8.2 billion) thus allowing a larger audience and a possible easier and faster development.

# 2.14 -Potential Development Methodologies

Potential Methodology - Responsibility Driven Design

Responsibility Driven Design (RDD) is a technique used for design in Object Oriented Programming. Its aim is to focus on responsibilities between objects and data that is stored of that object and was originally inspired by the client-server model.

| Advantages | Disadvantages |
| --- | --- |
| Low coupling and high cohesion is obtained | Design may be iterative and wrong or imprecise |
| Data is local and thus not many interactions needs to happen between objects | May constrain choices in the future |

Potential Methodology - Extreme Programming

Extreme Programming (XP) is a technique used for design in Object Oriented Programming. Its aim is to focus on responsibilities between objects and data that is stored of that object and was originally inspired by the client-server model.

| Advantages | Disadvantages |
| --- | --- |
| Fast paced and gets the job done | Does just enough to get the job done |
| Minimal documentation will result in a product finished much faster | Minimal documentation will result in harder maintenance |

Potential Methodology - SCRUM

SCRUM is an agile development methodology that allows a quick development. It does this by having what is called a SCRUM Board and a SCRUM Master. The SCRUM Master is the person responsible for ensuring the project’s success. A SCRUM project is broken down into what is known as ‘sprints’ which are usually 2 to 4 week intervals which at the start of has a planning meeting, the sprint itself and retrospective. The planning meeting occurs at the start of the interval and what work will be done during the sprint, the sprint itself is the time allocated to complete said tasks and the retrospective is a meeting held at the end of the sprint to reflect what went well and what could be improved on. A typical SCRUM Board is laid out as such:

| Project Name and Code | | | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| The Team | | | | Definition of Done | | | | Sprint Calendar | | | | | | |
|  | | | |  | | | |  | |  | |  |  | |
|  | |  | |  |  | |
|  | |  | |  |  | |
|  | |  | |  |  | |
|  | |  | |  |  | |
| Stories | Backlog | To-Do | Under Completion | | Done |  | Retrospective | |  | | Burndown Chart | | |
|  |  |  |  | |  |  |  | |  | |  | | |
|  |  |  |  | |  |  |  | |
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|  |  |  |  | |  |  |  | |

| Advantages | Disadvantages |
| --- | --- |
| Fast paced and gets the job done | Hard for the SCRUM Master to be able to plan and organise the project |
| Allows for frequent change of product/task/direction | The date of delivery may be uncertain and may constantly change |

Potential Methodology - Kanban

Kanban is very similar to SCRUM but it has no SCRUM Master. The team decide together what tasks have priority and what tasks should get worked on. Kanban is also an agile development methodology that allows a quick development. A Kanban project does not contain ‘sprints’ but can have a retrospective which can happen after certain milestones or timeframes. A typical Kanban Board is laid out as such:

| Project Name and Project Code | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| The Team | | Definition of Done | | Retrospective | | |
|  | |  | |  | | |
|
| Backlog | To-Do | | Under Completion | | Done |
|  |  | |  | |  |
|  |  | |  | |  |
|  |  | |  | |  |

| Advantages | Disadvantages |
| --- | --- |
| Fast paced and gets the job done | May feel like a continuous stream of work with no end as there is no planning and may not have a retrospective. |
| Allows for frequent change of product/task/direction |

# 2.15 - Chosen Development Methodology

I have chosen to use Kanban as my methodology but with a bit of a twist: as I do not have a large board to work with, I have changed the columns in the Kanban Board to colours. White or grey is the ‘Backlog’, blue is ‘To Do’, yellow is ‘Under Completion’, green is ‘Done’ and red is ‘Not Done and Will Not Be Done’. The red section is for aspects of the project that may not be completed due to time constraints or inability to do so and should be discussed. The team has chosen Kanban as it suits the team’s work style well as it allows the team to concentrate on broken down tasks to complete them more rapidly.

# 2.16 - Potential IDEs

Potential Integrated Development Environment - Visual Studio

Visual Studio is an Integrated Development Environment (IDE) made by windows in 2002. It is used to write all kinds of applications from web apps to mobile to desktop.

| Advantages | Disadvantages |
| --- | --- |
| Only IDE that we are familiar with | If the team increases to more than 5 developers, a paid version will need to be obtained |
| Supports web applications |  |
| Free of charge |  |
| Very user friendly for a developer |  |
| Supports thousands of plugins |  |

Potential Integrated Development Environment - NetBeans

NetBeans is an IDE that was originally made by a student for his project at Charles University in Prague back in 1996. After a year, the student (Roman Stanek) formed a company from the application and later sold it to Sun Microsystems in 1999. It is used to write all kinds of applications from web apps to mobile to desktop.

| Advantages | Disadvantages |
| --- | --- |
| NetBeans’s IDE is open source | Slow debugger |
| Currently supports 1060 plugins | As it is a larger IDE, it can be slow to load |
| Free of charge | Not as experienced with this IDE |

Potential Integrated Development Environment - Brackets

Brackets is a “modern, open source text editor that understands web design.” (Brackets, 2017) It is a clean and professional IDE that was made by Adobe Systems in early November of 2014.

| Advantages | Disadvantages |
| --- | --- |
| Very user friendly | Not with as much functionality |
| Currently supports hundreds of extensions | Not as much community support |
| Free of charge | Not as experienced with this IDE |

# 2.17 - Chosen IDE

The team has decided to use Visual Studio. It is the system that the team is most comfortable with, with the most comprehensive system functionality and has a huge community and supports thousands of plugins.

# 2.18 - Potential Development Platforms

Potential Development Language - Java

Java was originally created for the interactive television industry back in 1991 but was too advanced for its time. Originally named Oak for an Oak tree nearby the development office, it was later renamed Green and then Java because of coffee.

| Advantages | Disadvantages |
| --- | --- |
| Very familiar | Not as easy to make MVC Applications in java. |
| Supports web applications |  |

Potential Development Language – C#

C# was originally created for the .NET Framework back in 1999 to replace the Simple Managed C language. Originally named Cool which stood for (C-like Object Oriented Language), it was later renamed C# for trademark purposes.

| Advantages | Disadvantages |
| --- | --- |
| Very familiar | Slow debugger |
| Currently supports 1060 plugins | As it is a larger IDE, it can be slow to load |

Potential Development Language – Python

Python was originally created for integration with the Amoeba OS back in 1989 to replace the ABC language. It has since had many releases to help with integrations such as Unicode and cycle-detecting garbage collection.

| Advantages | Disadvantages |
| --- | --- |
| Familiar | Have not coded python in many years. |
| Lightweight programming language | Not familiar with web development in python |

# 2.19 - Chosen Development Platform

The team has decided to use C# as it integrates best with MVC in Visual Studio. It is the language that the team is most comfortable with and has a huge community and supports thousands of plugins.

# 2.20 - Potential Hosting Environments

Potential Hosting Environment - HostGator

HostGator is a web-hosting company that originally started as a selling place for domains back in 2002 by a student at Florida Atlantic University. Back in 2008, the annual revenue was over 34 million dollars.

| Advantages | Disadvantages |
| --- | --- |
| Relatively cheap (around 7 pounds/month) | Not visually appealing and not user friendly |
| Guarantee of 99.9% uptime and support | Domains can be pricey |

Potential Hosting Environment - GoDaddy

GoDaddy is also a web-hosting company that originally started as a selling place for domains back in 1997 by an entrepreneur after selling his previous company for over 64 million dollars. Back in May 2017, GoDaddy now has 17 million customers.

| Advantages | Disadvantages |
| --- | --- |
| Unlimited bandwidth | Limitations on databases/email and memory |
| Great scalability | Rumours suggest that the company is unethical |
| Guarantee of 99.9% uptime and support |  |

Potential Hosting Environment - Own Server

Another Hosting Environment would be hosting it ourselves. We could purchase hardware and software and upload and secure the system ourselves.

| Advantages | Disadvantages |
| --- | --- |
| No reoccurring costs of hosting and will allow for more system functionality | Very costly (at least 500 pounds ranging to over 10 thousand pounds) |
| On the long term it will be cheaper | Complicated (lots of learning involved) |

# 2.21 - Chosen Hosting Environment

Although the Hosting Environment has many rumours, the team has decided to go with GoDaddy as the fact that it has unlimited bandwidth and good scalability is going to be crucial. If GoDaddy does not perform expected, the team will be forced to look in another direction for its hosting.

# 2.22 - Project Plan

Tasks

For the project plan, the team has decided to use Kanban as a development methodology but with a slight difference. This is explained in ‘2.15 - Chosen Development Methodology’ To view all tasks in the project, please refer to the ‘Task Board’ document that outlines all tasks that must be completed and the stages involved in doing so.

Milestones

| Milestone | Dependencies |
| --- | --- |
| Set Up & Analysis | Complete 1 - 4 |
| Design | Complete 5 - 16 |
| Implementation | Complete 17 - 26 |
| Testing | Complete 27 - 34 |
| Legal, Manuals & Docs. | Complete 35 - 37 |

Deliverables

| Deliverable | Dependencies |
| --- | --- |
| [ReadySetResource.com](http://ReadySetResource.com) | Complete 1 - 26 |
| User Manual | Complete 31 |
| Technical Manual | Complete 32 |
| Terms and Conditions of Use | Complete 43 |

# 2.23 - Project Legalities

The project will have many legal constrains such as Copyrights, Privacy Policy and Terms and Conditions of Use. The team must investigate the legal constrains set upon them in immense detail. This will ensure that the team will not be penalised for anything missed. As this is not urgent aspect of the project, the research that will be conducted for this section will be done at the end of the project. The team must use common sense until then to try as much as possible to reduce legal vulnerabilities such as copyright infringement and computer misuse.

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# 2.25 - Planning Report Work Log

| Entry | Description | Person | Date | Mins Spent |
| --- | --- | --- | --- | --- |
| 1 | Set the dates | Aidan Marshall | 24/8/17 | 56 |
| 2 | Set meetings | Aidan Marshall | 24/8/17 | 66 |
| 3 | Edited and completed the dates | Aidan Marshall | 5/9/17 | 23 |
| 4 | Completed the dates | Aidan Marshall | 5/9/17 | 41 |
| 5 | Investigated the feasibility of the project | Aidan Marshall | 9/9/17 | 23 |
| 6 | Investigated the feasibility of the project | Aidan Marshall | 9/9/17 | 44 |
| 7 | Looked at the market and demand of the project | Aidan Marshall | 10/9/17 | 33 |
| 8 | Investigated the project deadlines | Aidan Marshall | 10/9/17 | 25 |
| 9 | Edited the task board and the meetings schedule | Aidan Marshall | 10/9/17 | 28 |
| 10 | Wrote the definition of research | Aidan Marshall | 11/9/17 | 12 |
| 11 | Wrote the definition of interviews | Aidan Marshall | 11/9/17 | 16 |
| 12 | Investigated all factors that influenced the project | Aidan Marshall | 11/9/17 | 38 |
| 13 | Wrote the definition of questionnaires | Aidan Marshall | 12/9/17 | 20 |
| 14 | Wrote the definition of observations | Aidan Marshall | 12/9/17 | 17 |
| 15 | Thought about the purpose of fact fining | Aidan Marshall | 12/9/17 | 16 |
| 16 | Discussed the research that will be conducted | Aidan Marshall | 12/9/17 | 27 |
| 17 | Set the structure for the interviews with users | Aidan Marshall | 21/9/17 | 34 |
| 18 | Completed the rest of the interviews | Aidan Marshall | 23/9/17 | 33 |
| 19 | Formatted the document | Aidan Marshall | 4/10/17 | 26 |
| 20 | Looked at the market and the demand | Aidan Marshall | 6/10/17 | 78 |
| 21 | Edited the feasibility and the authorisation | Aidan Marshall | 6/10/17 | 32 |
| 22 | Reworded the Planning Report | Aidan Marshall | 6/10/17 | 44 |
| 23 | Set up interview structure | Aidan Marshall | 9/10/17 | 32 |
| 24 | Completed the interview structure | Aidan Marshall | 13/10/17 | 58 |
| 25 | Completed the questionnaire structure | Aidan Marshall | 13/10/17 | 5 |
| 26 | Completed the portal platform investigation | Aidan Marshall | 13/10/17 | 76 |
| 27 | Investigated legal concerns | Aidan Marshall | 13/10/17 | 46 |
| 28 | Completed the meetings investigation | Aidan Marshall | 25/10/17 | 35 |
| 29 | Planned the observations | Aidan Marshall | 26/10/17 | 34 |
| 30 | Observed both Starbucks stores | Aidan Marshall | 26/10/17 | 32 |
| 31 | Created the fact-finding conclusion | Aidan Marshall | 27/10/17 | 26 |
| 32 | Wrote all the general requirements | Aidan Marshall | 27/10/17 | 71 |
| 33 | Researched methodologies | Aidan Marshall | 27/10/17 | 83 |
| 34 | Wrote up the team’s desired methodology | Aidan Marshall | 27/10/17 | 15 |
| 35 | Investigated the pros and cons of Visual Studio | Aidan Marshall | 29/10/17 | 54 |
| 36 | Investigated the pros and cons of NetBeans | Aidan Marshall | 29/10/17 | 22 |
| 37 | Finished the IDE analysis | Aidan Marshall | 30/10/17 | 12 |
| 38 | Completed the Hosting Environment analysis | Aidan Marshall | 30/10/17 | 46 |
| 39 | Reformatted mistakes | Aidan Marshall | 30/10/17 | 3 |
| 40 | Completed milestones | Aidan Marshall | 30/10/17 | 23 |
| 41 | Completed the tasks for project plan | Aidan Marshall | 30/10/17 | 8 |
| 42 | Completed the deliverables | Aidan Marshall | 30/10/17 | 3 |
| 43 | Investigated legalities | Aidan Marshall | 30/10/17 | 7 |
| 44 | Analysed the data received from questionnaires | Aidan Marshall | 30/10/17 | 64 |
| 45 | Analysed data received from interviews | Aidan Marshall | 30/10/17 | 47 |
| 46 | Reformatted document for missing information | Aidan Marshall | 8/1/18 | 28 |
| 47 | Merged two sections together | Aidan Marshall | 8/1/18 | 6 |
| 48 | Added the development platforms | Aidan Marshall | 17/3/18 | 28 |
| 49 | Edited some requirements to simplify project | Aidan Marshall | 19/3/18 | 23 |
| 1619 | | | | |