Project 3

**Group Processes**

**How well did your group work together in Assignment 2? Will you be introducing any changes in process for Assignment 3? This is new for this assignment.**

Overall the group worked quite well together during Assignment 2. To begin with the only active members were Stanton, Jenna and Samuel with the late addition of Cooper. Unfortunately, there was very little communication from Lyly (who was also a late addition. During the entire Assignment 2 duration there was no communication from Garfield, Rhys, Thomas and Michael (also a late addition).

For the active members, we all seem to get along well and communicate effectively. I only recall 1 instance of a miscommunication, right at the end of the assignment period. The work completed was distributed relatively evenly and all members contributed to making group decisions.

The biggest challenge was having 3 non-active group members being replaced with 1 active and 2 non-active group members. With the constant waiting for responses, we found we delayed progress on the assignment meaning we did need to cram a small bit of work towards the end – though it was nothing we didn’t feel we could achieve.

For Assignment 3 we have a much clearer understanding of our schedules meaning organising meetings and the like can be a bit easier. We aim to create a project timeline including task delegation to try and achieve set work to be completed by each member target times. This should enable us to be better organised and keep track of who has done what along with what still requires completion, allowing any member to step in as required with clarity and transparency.

**Career Plans**

**Compare and contrast the career plans, including ideal jobs, for each person in the group. This may have changed due to feedback from Assignments 1 and 2. What common elements are there, if any? What differentiates each position from the others, if anything? How similar or different are your career plans across the group? This is new for this assignment.**

**Tools**

**As in Assignment 2, you need to have a group website and a GitHub (or similar) repository for your group. In your report you should include a brief description of what you have done, and include the following: - The link to your group’s website - The link to your group’s Git repository (GitHub, BitBucket, etc) - Your comments on how well the audit trail on the Git repository reflects your group’s work. You will presumably only be able to do this close to the time of submission.**

**Project Description**

**Having completed both Assignment 1 and Assignment 2, you will have thought about a personal project as well as one with your group. In this Assignment you are to come up with a plan for group project, and to develop it as much as possible in the time available.**

**Naturally you will be very unlikely to complete your project; in fact, most worthwhile projects are “endless”, in that there is always more that you can do, more features to be added, more levels to be designed, or new devices that could be used.**

**Naturally the choice of what to do is up to you, but you should take the following into account when making your decision.**

**- The passions, interests and skills of your group**

**- IT industry trends**

**- What would assist you in your career plan**

**- Feedback from Assignments 1 and 2**

**Your group will have developed some ideas in Assignment 2; it is fine to build on and refine these for this assignment, or to develop a new project based on feedback and/or what you have learned since.**

**Overview**

**Topic**

For our idea we will be revisiting the Assignment 2 idea – Project Frecepie. This project aims to solve the indecisive issue of what to cook for dinner when you’re feeling lazy, can’t think of any recipes or perhaps even just looking for something new to cook with what you have. The project aims to develop a mobile and desktop app. The biggest focus is integrating with smart fridges and utilising their technology for the simplest experience with the app.

As Smart fridges are becoming more and more popular and affordable, it won’t be long until most average households have one. Even if you don’t have one, most people have a smart device like a phone or tablet, all of which have cameras attached. The App aims to utilise this technology and integrate with smart fridges to work out what you have in stock and match that up with recipes that won’t require any additional purchases.

<https://en.wikipedia.org/wiki/Smart_refrigerator>

**Motivation**

The motivation behind the project comes from the lack of productivity and general excessive costs involved when you can’t decide or work out what to cook with the items you have at home. I feel we have all stared into the fridge at one time or another for the 400th time, trying to work out what you can cook with the items you have, only to return 3 minutes later to check again – and probably end up ordering takeout.

A big motivator other than helping to create is reducing wastage. If the app can help people use more of what they have then they’ll spend less in the long run whilst reducing the amount of wasted food items which is more beneficial for the greater community and world.

**Landscape**

Most smart fridges with built in screens and cameras already do a lot of what our project aims to do – however we’ve not been able to locate another product that provides the same end goal or outcome than Frecepie.

Similarities are;

* Stock control – including description and quantity.
* Recipe suggestions – though it seems existing ones recommend recipes in general – not tailored to your stock exclusively – our app will also do this should there be no hits using only what you have.
* Multi device compatibility – smart fridges allow you to view the cameras on other devices like your phone and the smart fridge apps are also (assumed to be) available.

The biggest point of difference is working out what to cook **using what ingredients you already have *without* purchasing anything additional**.

**Detailed Description**

**Aims**

The aim of Frecipe is to create a mobile platform that helps simplify meal choices.   
To do this we will make use of current technologies to enable smart scanning via video/photo of your fridge contents to create a database containing a stock list and compare that against a database of recipes. If utilising smart scanning is not something the user can do, manual input will also be available. This innovation will help people to utilise more of what they have and reduce food wastage.

Smart scanning technology (where the app can identify items including quantity via the devices camera) allows simplified use which means the user spends less time updating their inventory and more time doing things they enjoy.

Having a separate database for both the items in inventory (or stock) and the recipes allows quick referencing and lookup for a fast comparison of one list with the other.

**Plans and Progress**

Frecipe began as an aid to deciding what meal to prepare based on what food was in your fridge. Along the planning process we discovered the idea has a lot more potential than just helping people decide what meal to prepare.

We discovered during our planning stage the idea has potential to expand outside of the fridge and incorporate the pantry into the picture.

Most importantly, we established the app has the potential to make a big impact in reducing food waste as we forecast if people use the app they are more likely to use items in their fridge and pantry rather than eat out all the time which also in turn saves them money.

During planning we established Frecipe will require several key components;

* Database (mySQL)
* UX/UI design
* Security
* Project management
* Marketing

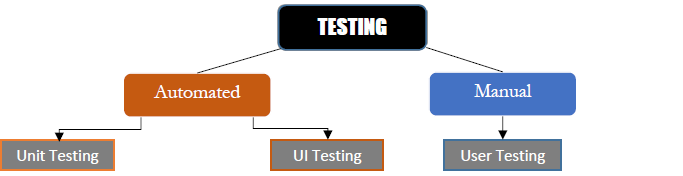
**Tools and Technologies**

**Software**

* Xcode (Integrated Development Environment)
* Sketch or Figma
* Amazon Web Services (AWS)
  + Amazon S3 (storage)
  + Amazon EC2 (virtual servers)
  + AWS Device Farm
* Google Analytics
* Apple’s App Analytics
* Appsee Mobile App Analytics
* Office 365 License
  + Access to word, excel, powerpoint, planner etc.

**Hardware**

* MacBook Pro

**Testing**

The testing strategy will be broken up into two main parts and accompanying sub-components:

1. *Automated Testing*
   1. Unit Testing
   2. UI Testing
2. *Manual Testing*
   1. User Testing

**Unit Testing**

This is essentially where each individual component of the software is tested, to ensure it does what it is meant to do. We will utilise Xcode for this, as automated testing is easy to implement as, being an Apple developed IDE, it is essentially ready to do so right out of the box.

**UI Testing**

This is where the User Interface (UI) will be tested, ensuring specific events/actions occur or are triggered when interacted with a certain way. Similar to above, this will be achieved through use of Xcode.

**User Testing**

Perhaps the most important part of testing, we have decided we will use five users to test our application. The philosophy behind it is that the first user will likely provide significant insights, the second will have some overlap but also will teach us something new. Subsequently the next three users, will also include overlap, but the amount of new information being revealed will be smaller each time, essentially it is the law of diminishing returns.



**How will we find our users?**

To find the sample of five for our target demographic, a convenient choice will be our fellow students at RMIT. Through our course coordinator’s permission, we will send out an expression of interest through either a forum post, a canvas announcement or directly to student emails.

**How will we track our progress and measure success?**

We will know we’re headed in the right track by reviewing data, and looking at appropriate App metrics. Using tools such as Google Analytics Apple’s App Analytics along with Appsee will help us track our Consumer success measurements and, how our users interact with the app.

Below is a list of measurements we will use to track success.

* App Metrics
  + Number of downloads
  + User Engagement/Satisfaction (through survey)
  + Customer Acquisition numbers
  + Active Users vs Users who haven’t used/Stopped using
  + Average App Usage Time
* Additional Metrics
  + Number of food waste avoided per user
  + Number of food waste avoided per week (average)
  + Number of ‘Recipe Hosts’ join as collaborative partners

**Skills & Jobs**

**Position 1: Senior Software Engineer**

Responsibilities

* Research, designing, creating, architecting and testing an iOS application and accompanying desktop + website app
* Writing clean, continuously tested, reusable code
* Working within a collaborative, cross-functional team environment (frequent interaction with UX designers, business/marketing manager etc.)
* Documentation and guideline write-ups (technical & non-technical)
* Provide critical feedback and recommendations on user interface and design decisions

Skills

* Mastery in iOS development (Front and Backend)
  + Swift
  + Xcode
  + CocoaPods
  + Database expertise: SQLite/MSSQL/mySQL
* Web development
  + HTML, CSS & Javascript
  + JS libraries & JS frameworks (e.g react.ks, Angular)
* Experience with REST APIs
* Version Control (Git, bitbucket etc.)
* Agile environment (Jira, Sprints)
* Cloud services (AWS/AzurE)
* Deployment tech (e.g. Docker, Ansible)
* DevOps mindset, extensive experience with CI/CD, Jira
* Experience with TDD/BDD
* TCP, UDP protocol
* Stellar communication skills
* Continuous learning and upskilling is a necessity

Qualifications and Experience

* 3+ years’ experience in software engineering/development
* Bachelor degree in Computer Science/I.T/related field of study

Position 2: **Senior User Experience (UX) Designer**

Responsibilities

* Develop an exceptional mobile platform experience for users
* Sight and delivery of vision, product roadmap
* Create and flexibility and continuously evolving design artefact
* Document key processes for retainment of internal IP
* Facilitate design and user experience workshops/sessions to collaborate with senior developers, business analysts, etc.
* Research, collect and analyse relevant data, using quantitative and qualitative reasoning to demonstrate insights, outcomes, successes

Skills

* Experience building, delivering and evolving successful design operations and systems
* Experience working in a collaborative, cross-functional team environment (frequent interactions with software developers, marketers etc.
* Customer Journey Storyboarding, creation
* Up to date with current UX + UI trends and technology
* High level knowledge of Front End development concepts
* User flows, user stories
* Wire framing & prototyping
* Strategic customer-focused approach
* Working with Sketch and Figma
* Web and mobile application experiences across multiple platforms
* Negotiation and problem solving skills, outstanding communication skills

 Qualifications and Experience

* 3+ years of customer focused digital UX experience, involved in the hands on development aspect
* Certification in User Experience Design or similar/related field of study
* Proven experience in delivery of digital experiences through personal portfolio, previous jobs etc.

**Position 3: Senior Business & Product Manager**

Responsibilities

* Create and lead the overall business and product growth strategies
* Manage key stakeholder/supplier/customer relationships
* Identify new business opportunities
* Analyse and validate requirements for establishment of business procedure, policies, systems and information
  + Conduct root cause analysis
  + Document and validate requirements
* Collaborate with Software Engineers & UX Designers
  + Support testing and implementation process to ensure successful outcomes for business and technology solutions
* Coordinate with Cyber Security manager to ensure correct data governance parameters are established

Skills

* Proven sales skills, with exceptional lead generation
* High level of computer and technological skills (Microsoft office, management systems)
* Proficiency in Microsoft applications such as Excel, Word and Outlook
* Outstanding communication and presentation skills
* Analytical and problem-solving skills
* Project management skills

 Qualifications and Experience

* 3+ years of experience as a Business Analyst/Development/Product Manager in the tech industry
* Business and/tech related tertiary requirements
* Six Sigma certification (Green Belt) desirable

**Position 4: Cyber Security Architect**

Responsibilities

* Develop and implement security strategy and architecture with specified, relevant requirements, based on business strategies
* Analyse and advise on impacts of new technologies/features for the business during and post app/web development cycle
* Conduct risk assessments, analyse vulnerabilities on system security
  + Penetration testing
* Coordinate with Business and Product Manager to ensure correct data governance parameters are established and adhered to
* Create detailed security requirements for project and business initiatives
* Track emerging technological threats
* Clearly communicate security concerns, risks

Skills

* Expert Security operations skills
* Exceptional knowledge of Architecture (Networks, Cloud,)
  + AWS/And or Azure
* Time management skills
* Strong Security Penetration and Code review skills
* Outstanding communications skills

Qualifications and Experience

* 3+ years of experience as a Cyber Security Architect
* TOGAF, CISSP, CISM, CRISC, ISO 27001 or equivalent certifications

**References**

Nielsen, Jakob, and Landauer, Thomas K.: "A mathematical model of the finding of usability problems," Proceedings of ACM INTERCHI'93 Conference (Amsterdam, The Netherlands, 24-29 April 1993), pp. 206-213.