

Assignment 3: Our IT Project

Team Name

The A(12) Team

Personal Information

Samuel Everson – S3816940

I'm 27, live on the northern end of the Gold Coast. I have 2 daughters and a spouse. I like tinkering with things like motors, computers and various other gadgets (though I'm still learning a lot and am not very good!). I enjoy the idea of software engineering though have very little experience in it. In the same boat I also like database design and implementation. Unfortunately, other than a Diploma in IT General I have no formal experience in IT but have self-taught a range of IT skills from building desktop PC's and servers, VBA, HTML/CSS and database integration using MySQL. I'm very happy to be a part of <insert team name> and am looking forward to working on this project with the team!

Stanton Wightwick – S3819611

I'm 26, hail from Melbourne CBD. I am a huge basketball and combat sports fan, having played the former most my life and competed in the latter a couple of times. I also have an unhealthy obsession with watches (save your wallet, do not get into this hobby!!) My interest in I.T has definitely been amplified through my full-time job as a banker, and seeing the industry's focus shift to improvement in technology, systems etc. Currently, (which intro to RMIT has helped me realise) I enjoy more so the front-end development/software dev side. I am drawn to 'ease of life' type applications and nicely designed, interactive interfaces. I have no formal education, my minimal I.T skills are mostly self-taught (Excel, VBA, HTML/CSS, Python) either job necessity or through websites such as Udemy, EDX, YouTube etc. I'm excited to work to work with the team and begin my journey through RMIT's Bachelor of Information Technology!

Jenna Wenn - S3816643

My name is Jenna Wenn my email is jennawenn7@gmail.com and my student number is s3816643. My nationality is Australian, British and Irish. My culture is Australian. I have completed year 12 and was awarded my Western Certificate of Education, I also have a Certificate II in Sampling & Measurement and my Certificate III in Business Administration. I have very basic language knowledge of Indonesian and Japanese. I love anime, gaming and almost every fantasy movie ever from Harry Potter to Lord of The Rings. I moved from Perth to Brisbane and have been to Japan once but would like to go back next year for the 2020 Olympics. I also do recreational shooting at a range though I'm not good.

Cooper Hawtin – S3682074

Hi! I'm Cooper Hawtin, a 20 year old Australian IT enthusiast who is on the verge of completing their Associate's degree in Information Technology. I started studying at RMIT mid-year back in 2017 about 6 months after finishing my Year 12 VCE studies. I can speak fluent English and Italian. I gained an interest in IT when I decided to build my first gaming PC. My friends had convinced me to move from console to PC after school had finished so I started to educate myself to know what I was getting into. After countless hours of YouTube crusades, I worked up the courage to build my first PC. Building a PC sparked an interest in IT for me. Months after it had been built I spent a great majority of my time doing nothing but study how computers work from hardware to software. I got the point where I felt confident enough to study it officially at university. And here I am over 2 years later about to complete my degree!

Oliver Young – s3819242

I'm Oliver Young, I was born in Tasmania, Australia and have lived in every state at some point in my life. My interest in IT started when I was a kid and my father worked for Telstra, we would have to move around a lot for his work in telecommunications and as such I developed an interest in computers and video games in order to keep in touch with friends when I moved away. I've done some university in the past right out of high school in Psychology but decided instead to pursue Information Technology. I have an interest in Cybersecurity as it combines both Psychology and IT.

Group Processes/Assignment 2 Reflection

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

Each team member:

- Samuel – Software Engineer
- Stanton – Front End Developer
- Jenna – Software Developer
- Cooper – IT Systems Administrator
- Oliver – Cyber Security Architect

Overall, our career ambitions have mostly stayed the same. The most common element is still software development. Samuel, Stanton and Jenna all remain keen for to go down the software engineering pathway as a potential ideal career with Cooper still looking for an ideal position in the world of systems administration.

Tools

- Office 365
- Github
- Discord

Link to repository: <https://github.com/SamuelEverson/A2Group12>

Link to website: <https://github.com/SamuelEverson/A2Group12/tree/master/Website>

Group processes and communications

As we all reside in different parts of Australia, the primary choice for communication is Discord. We have created a group chat which we are all a part of.

Discord supports high quality images, videos and files, allowing us to review each other's work before submitting a pull request/committing. Additionally, perhaps the most beneficial feature is the inclusion of *Webhooks*. This is essentially Discord's in-built function which syncs up with GitHub, and whenever a commit has been made, it alerts us in our group chat the time and date, along with the commit request comments.

We aim to have an official voice chat meeting on Discord at least once a week. During the rest of the week, we often just message in the group chat for day to day stuff, 'pinging' everyone if something important requires attention.

Project Description

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

Roles

This assignment involved a lot of cross collaboration within the team, it was a bit difficult to really pinpoint a specific role as we all did bits of everything, but there were definitely areas we all individual leaned into more.

The following roles were assigned for this assignment:

- Samuel – Project Lead, Database Engineer
- Stanton – Front End Developer, Administrator
- Jenna – Voice over Artist, Back End Engineer
- Cooper – Back End Engineer, Video Developer

- Oliver – Database Engineer, Administrator

Scope & Limits

Although we have many great ideas for our app, we acknowledge we can only get so much done with the time we have. Our project scope covers 4 key areas of development;

- Database design
- App development/programming
- Security
- UX/UI

The database design is crucial in ensuring users can create accounts and login upon returning to the app after logging out. The database will be capturing not only user credentials, but also housing the full list of recipes, including ingredients and each users list of stock or inventory. Without the database, the app simply would not function.

To interface with the database will be the app itself. Probably the most obvious of the points but extremely important, nonetheless. The programming part of the project for the app is the largest component as it will cover the backbone of all other features. We are focusing on developing the app to interface with the fridge items at this time.

Security will encompass designing the app in such a way that users login data is accessed and stored securely. This is especially important as users may be using their social media accounts as a login vessel which we do not want compromised, not to mention potential security threats to other apps and features of the device the user is using if there are holes in the security of the app.

User experience/user interface is also in our initial development scope. The importance of UX/UI is easy to be overlooked but without an easy to use, follow and understand visual design and navigation logic, less and less people are likely to engage with the app.

We have decided for the initial development process to limit development to those 4 key areas (and small surrounding parts of development as they become required).

We also believe the app has potential for many other features, but have decided at this stage to not include pantry integration exclusively (users can still manually add items from their pantry if they wish) along with a reverse function where the user chooses one or more recipes and can then choose recipes utilising the same or similar ingredients allowing them to shop smarter by purchasing in bulk.

Tools and Technologies

Software required:

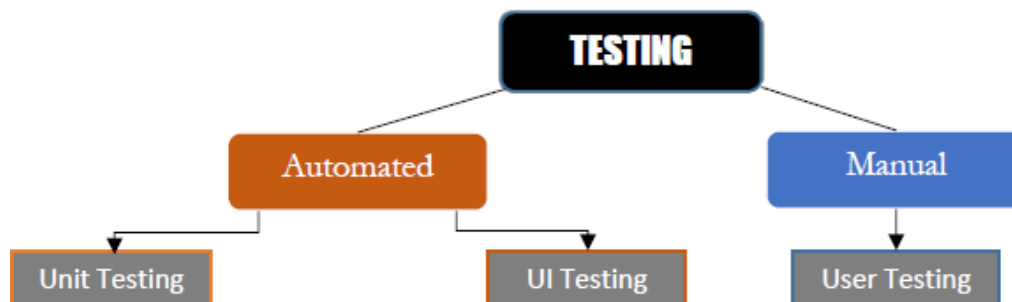
- Xcode 11 (Integrated Development Environment)
- Sketch or Figma
- Amazon Web Services (AWS)
 - Amazon S3 (storage)
 - Amazon EC2 (virtual servers)
 - AWS Device Farm

- Google Analytics
- Apple's App Analytics
- Appsee Mobile App Analytics
- Office 365 License
 - Access to Word, Excel, PowerPoint, Planner etc.

Hardware required:

- MacBook Pro * 5 (for each team member)

Testing



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

1. *Automated Testing*
 - a. Unit Testing
 - b. UI Testing
2. *Manual Testing*
 - a. 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.

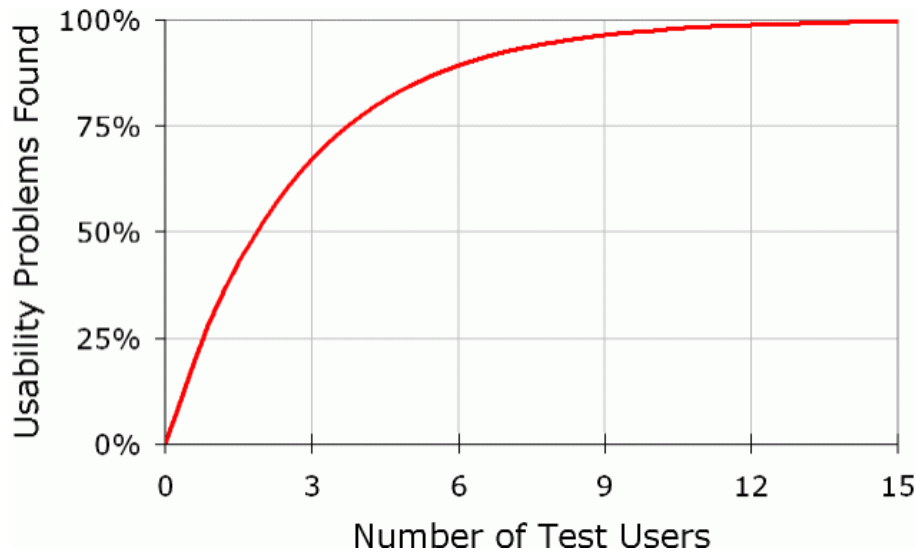
UI Testing

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

Risks

There are many risks involved in our development lifecycle as follows (in no particular order);

- Multi-platform development – Features may only work on a specific platform OR may only not work on a specific platform due to programming limitations on certain devices (for example, android vs. apple vs. Microsoft products).
- Legal – certain planned features like using recipes hosted on external sites may encounter legal issues like copyright.
- Competition – other similar apps may hold grasp to some users even if our app provides different functions which can impact us financially.

Timeframe

	Weeks 1-6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cooper	Promotional video	Backend development begins	Backend development is well underway	Finalizing early backend development	Testing for bugs	Fixing backend bugs	Final testing phase before usable beta	Project in usable beta
Jenna	Voice over work	Backend development begins	Backend development is well underway	Finalizing early backend development	Testing for bugs	Fixing backend bugs	Final testing phase before usable beta	Project in usable beta
Oliver	Team information	Database foundation work	Continuing database development	Finalizing database development	Testing for bugs	Adjusting database as needed	Final testing phase before usable beta	Project in usable beta
Samuel	Proof of concept database	Database foundation work	Linking database with backend developers	Finalizing database development	Testing for bugs	Fixing backend bugs	Final testing phase before usable beta	Project in usable beta
Stanton	Project documentation	Frontend development begins	Frontend development is well underway	Finalizing early frontend development	Testing for bugs	Fixing frontend bugs	Final testing phase before usable beta	Project in usable beta

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.js, 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

Assignment 3 Group Reflection

The group came together well, particularly at the end despite difficulties with scheduling, time zones, different working hours etc.

We still faced some road bumps in terms of organisation, and were a little rushed at the end and deviated from the schedule. This was primarily due to different time zones and everyone having work at different times. Next time would require a better organisational structure

It seems impossible to predict, but the extent of which scheduling issues and getting everyone together was again underestimated, and we have all agreed it is something we learnt more about. We've also realised that planning really needs to be bullet proof in order to maximise efficiency and produce quality work, particularly if we were to go ahead and actually develop this app idea.

Database Draft

Contents

Databases.....	14
Tables	14
Diagram.....	19
Description.....	19

Databases

Database
frecipe_recipes
frecipe_stock
frecipe_users

Tables

```
mysql> use frecipe_recipes
```

Database changed

```
mysql> show tables;
```

Tables_in_frecipe_recipes
fav_recipes
main_recipes

2 rows in set (0.00 sec)

```
mysql> describe main_recipes;
```

Field	Type	Null	Key	Default	Extra
title	varchar(100)	YES		NULL	
host_url	varchar(300)	YES		NULL	
ingredient_1	varchar(50)	YES		NULL	
ingredient_2	varchar(50)	YES		NULL	
ingredient_3	varchar(50)	YES		NULL	
ingredient_4	varchar(50)	YES		NULL	
ingredient_5	varchar(50)	YES		NULL	
ingredient_6	varchar(50)	YES		NULL	
ingredient_7	varchar(50)	YES		NULL	
ingredient_8	varchar(50)	YES		NULL	
ingredient_9	varchar(50)	YES		NULL	
ingredient_10	varchar(50)	YES		NULL	
ingredient_11	varchar(50)	YES		NULL	
ingredient_12	varchar(50)	YES		NULL	
ingredient_13	varchar(50)	YES		NULL	
ingredient_14	varchar(50)	YES		NULL	
ingredient_15	varchar(50)	YES		NULL	
ingredient_16	varchar(50)	YES		NULL	
ingredient_17	varchar(50)	YES		NULL	
ingredient_18	varchar(50)	YES		NULL	
ingredient_19	varchar(50)	YES		NULL	
ingredient_20	varchar(50)	YES		NULL	
ingredient_21	varchar(50)	YES		NULL	
ingredient_22	varchar(50)	YES		NULL	
ingredient_23	varchar(50)	YES		NULL	

ingredient_24	varchar(50)	YES		NULL	
ingredient_25	varchar(50)	YES		NULL	
ingredient_26	varchar(50)	YES		NULL	
ingredient_27	varchar(50)	YES		NULL	
ingredient_28	varchar(50)	YES		NULL	
ingredient_29	varchar(50)	YES		NULL	

31 rows in set (0.00 sec)

mysql> describe fav_recipes;

Field	Type	Null	Key	Default	Extra
title	varchar(100)	YES		NULL	
host_url	varchar(300)	YES		NULL	
ingredient_1	varchar(50)	YES		NULL	
ingredient_2	varchar(50)	YES		NULL	
ingredient_3	varchar(50)	YES		NULL	
ingredient_4	varchar(50)	YES		NULL	
ingredient_5	varchar(50)	YES		NULL	
ingredient_6	varchar(50)	YES		NULL	
ingredient_7	varchar(50)	YES		NULL	
ingredient_8	varchar(50)	YES		NULL	
ingredient_9	varchar(50)	YES		NULL	
ingredient_10	varchar(50)	YES		NULL	
ingredient_11	varchar(50)	YES		NULL	
ingredient_12	varchar(50)	YES		NULL	
ingredient_13	varchar(50)	YES		NULL	
ingredient_14	varchar(50)	YES		NULL	
ingredient_15	varchar(50)	YES		NULL	
ingredient_16	varchar(50)	YES		NULL	
ingredient_17	varchar(50)	YES		NULL	
ingredient_18	varchar(50)	YES		NULL	
ingredient_19	varchar(50)	YES		NULL	
ingredient_20	varchar(50)	YES		NULL	
ingredient_21	varchar(50)	YES		NULL	
ingredient_22	varchar(50)	YES		NULL	
ingredient_23	varchar(50)	YES		NULL	
ingredient_24	varchar(50)	YES		NULL	
ingredient_25	varchar(50)	YES		NULL	
ingredient_26	varchar(50)	YES		NULL	
ingredient_27	varchar(50)	YES		NULL	
ingredient_28	varchar(50)	YES		NULL	
ingredient_29	varchar(50)	YES		NULL	

31 rows in set (0.00 sec)

mysql> use frecipe_Stock

Database changed

mysql> show tables;

```

+-----+
| Tables_in_frecipe_stock |
+-----+
| stocklist                |
+-----+
1 row in set (0.00 sec)

```

```
mysql> describe stocklist;
```

Field	Type	Null	Key	Default	Extra
ingredient_1	varchar(50)	YES		NULL	
ingredient_2	varchar(50)	YES		NULL	
ingredient_3	varchar(50)	YES		NULL	
ingredient_4	varchar(50)	YES		NULL	
ingredient_5	varchar(50)	YES		NULL	
ingredient_6	varchar(50)	YES		NULL	
ingredient_7	varchar(50)	YES		NULL	
ingredient_8	varchar(50)	YES		NULL	
ingredient_9	varchar(50)	YES		NULL	
ingredient_10	varchar(50)	YES		NULL	
ingredient_11	varchar(50)	YES		NULL	
ingredient_12	varchar(50)	YES		NULL	
ingredient_13	varchar(50)	YES		NULL	
ingredient_14	varchar(50)	YES		NULL	
ingredient_15	varchar(50)	YES		NULL	
ingredient_16	varchar(50)	YES		NULL	
ingredient_17	varchar(50)	YES		NULL	
ingredient_18	varchar(50)	YES		NULL	
ingredient_19	varchar(50)	YES		NULL	
ingredient_20	varchar(50)	YES		NULL	
ingredient_21	varchar(50)	YES		NULL	
ingredient_22	varchar(50)	YES		NULL	
ingredient_23	varchar(50)	YES		NULL	
ingredient_24	varchar(50)	YES		NULL	
ingredient_25	varchar(50)	YES		NULL	
ingredient_26	varchar(50)	YES		NULL	
ingredient_27	varchar(50)	YES		NULL	
ingredient_28	varchar(50)	YES		NULL	
ingredient_29	varchar(50)	YES		NULL	
ingredient_30	varchar(50)	YES		NULL	
ingredient_31	varchar(50)	YES		NULL	
ingredient_32	varchar(50)	YES		NULL	
ingredient_33	varchar(50)	YES		NULL	
ingredient_34	varchar(50)	YES		NULL	
ingredient_35	varchar(50)	YES		NULL	
ingredient_36	varchar(50)	YES		NULL	
ingredient_37	varchar(50)	YES		NULL	
ingredient_38	varchar(50)	YES		NULL	
ingredient_39	varchar(50)	YES		NULL	
ingredient_40	varchar(50)	YES		NULL	
ingredient_41	varchar(50)	YES		NULL	
ingredient_42	varchar(50)	YES		NULL	

ingredient_43	varchar(50)	YES		NULL
ingredient_44	varchar(50)	YES		NULL
ingredient_45	varchar(50)	YES		NULL
ingredient_46	varchar(50)	YES		NULL
ingredient_47	varchar(50)	YES		NULL
ingredient_48	varchar(50)	YES		NULL
ingredient_49	varchar(50)	YES		NULL
ingredient_50	varchar(50)	YES		NULL
ingredient_51	varchar(50)	YES		NULL
ingredient_52	varchar(50)	YES		NULL
ingredient_53	varchar(50)	YES		NULL
ingredient_54	varchar(50)	YES		NULL
ingredient_55	varchar(50)	YES		NULL
ingredient_56	varchar(50)	YES		NULL
ingredient_57	varchar(50)	YES		NULL
ingredient_58	varchar(50)	YES		NULL
ingredient_59	varchar(50)	YES		NULL
ingredient_60	varchar(50)	YES		NULL
ingredient_61	varchar(50)	YES		NULL
ingredient_62	varchar(50)	YES		NULL
ingredient_63	varchar(50)	YES		NULL
ingredient_64	varchar(50)	YES		NULL
ingredient_65	varchar(50)	YES		NULL
ingredient_66	varchar(50)	YES		NULL
ingredient_67	varchar(50)	YES		NULL
ingredient_68	varchar(50)	YES		NULL
ingredient_69	varchar(50)	YES		NULL
ingredient_70	varchar(50)	YES		NULL
ingredient_71	varchar(50)	YES		NULL
ingredient_72	varchar(50)	YES		NULL
ingredient_73	varchar(50)	YES		NULL
ingredient_74	varchar(50)	YES		NULL
ingredient_75	varchar(50)	YES		NULL
ingredient_76	varchar(50)	YES		NULL
ingredient_77	varchar(50)	YES		NULL
ingredient_78	varchar(50)	YES		NULL
ingredient_79	varchar(50)	YES		NULL
ingredient_80	varchar(50)	YES		NULL
ingredient_81	varchar(50)	YES		NULL
ingredient_82	varchar(50)	YES		NULL
ingredient_83	varchar(50)	YES		NULL
ingredient_84	varchar(50)	YES		NULL
ingredient_85	varchar(50)	YES		NULL
ingredient_86	varchar(50)	YES		NULL
ingredient_87	varchar(50)	YES		NULL
ingredient_88	varchar(50)	YES		NULL
ingredient_89	varchar(50)	YES		NULL
ingredient_90	varchar(50)	YES		NULL
ingredient_91	varchar(50)	YES		NULL
ingredient_92	varchar(50)	YES		NULL
ingredient_93	varchar(50)	YES		NULL
ingredient_94	varchar(50)	YES		NULL
ingredient_95	varchar(50)	YES		NULL
ingredient_96	varchar(50)	YES		NULL

ingredient_97	varchar(50)	YES		NULL	
ingredient_98	varchar(50)	YES		NULL	
ingredient_99	varchar(50)	YES		NULL	
ingredient_100	varchar(50)	YES		NULL	

100 rows in set (0.00 sec)

```
mysql> use frecipe_users
```

Database changed

```
mysql> show tables;
```

Tables_in_frecipe_users
fb_logon
frecipe_logon
ig_logon

3 rows in set (0.00 sec)

```
mysql> describe fb_logon;
```

Field	Type	Null	Key	Default	Extra
email	varchar(100)	YES		NULL	
phone	varchar(12)	YES		NULL	
fb_user_ID	varchar(20)	YES		NULL	
fb_name	varchar(50)	YES		NULL	
frecipe_ID	int(7)	YES		NULL	

5 rows in set (0.00 sec)

```
mysql> describe frecipe_logon;
```

Field	Type	Null	Key	Default	Extra
email	varchar(100)	YES		NULL	
phone	varchar(12)	YES		NULL	
username	varchar(20)	YES		NULL	
password	varchar(50)	YES		NULL	
frecipe_ID	int(7)	YES		NULL	

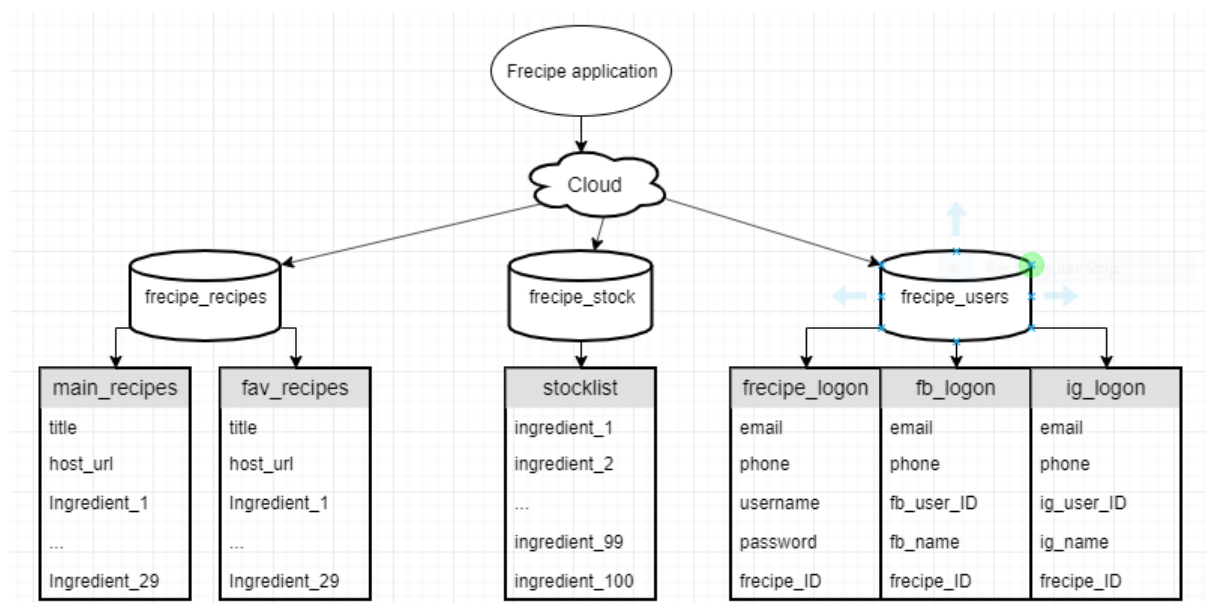
5 rows in set (0.00 sec)

```
mysql> describe ig_logon;
```

Field	Type	Null	Key	Default	Extra
email	varchar(100)	YES		NULL	
phone	varchar(12)	YES		NULL	
ig_user_ID	varchar(20)	YES		NULL	
ig_name	varchar(50)	YES		NULL	
frecipe_ID	int(7)	YES		NULL	

5 rows in set (0.00 sec)

Diagram



Description

The application will access multiple separate database via cloud computing for different tasks.

User data is stored in 'frecipe_users' which will be used for logon authentication and loading user data stored in other databases. The email has a maximum of 100 characters, the phone has a maximum of 12 characters, the username (or user_ID) rows have a maximum of 20 characters, the password (or fb_name/ig_name) has a maximum of 50 characters and the frecipe ID has a range from 0 to 9999999. This is using the datatype INT where all other rows are using VARCHAR as it is not expected each entry will meet the maximum character limit.

Stock or inventory is stored in 'frecipe_stock'. This database stores each ingredient item in a separate row to be queried by and matched with other database tables. Each ingredient has a maximum of 50 characters and is using the datatype VARCHAR as it is not expected each entry will meet the maximum character limit.

Recipes are stored in 'frecipe_recipes' including a main table of all recipes accessible via the app along with a favourites table for user saved recipes. Both the main and favourites tables are structured identically. The title has a maximum of 100 characters, the host URL has a maximum of 300 characters and each ingredient has a maximum of 50 characters, all using the datatype VARCHAR as it is not expected each entry will meet the maximum character limit.

References

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