CASTAWAYS

CPD PROJECT DEVELOPMENT

CONTENTS

EXECUTIVE SUMMARY

MISSION STATEMENT

We strive to lend a helping hand towards alleviating the barrier between man and technology. To develop programs that bring ease of use and efficiency in preparation for the digital world.

OBJECTIVES

To release the untapped potential of technology for the betterment of society.

EXECUTIVE SUMMARY

ORIGINS

Castaways was formed by a group of Students who happened to share a common cause.

We derived our team name from a certain Tom Hanks movie. This is because despite whatever challenges we face, we will survive and pull through.

COLOURS

Our corporate colours are orange and blue. Blue represents logic and calm, while orange represents our energy and freedom.

CONTACTS

Ivan Ong: Group Leader, Front-End Programmer, Lead Designer

Ivan Ong is the group leader and design lead of the project. He created the initial idea and directed the basic design of the project. He primarily focussed on the design and look of the application, as well as the front-end programming.

spirallexart@gmail.com
https://spirallexart.wixsite.com/mysite

Tan Ek Hern: Project Manager, Documentation, Design Assistance

Ek Hern is the group project manager and second in command. He is primarily responsible for the group's documentation as well as advising the group leader, Ivan, on the design of the app and its elements.

tan.ek.hern@gmail.com
https://eggybro.wixsite.com/blog

Joel Heer: Back-End Programmer

Joel Heer is the lead programmer of the group. He focusses solely on programming, both back-end and some front-end.

Joelheer60@gmail.com
https://joelheer.wixsite.com/cpdblog

PROJECT OVERVIEW

PROJECT OVERVIEW

PROBLEM

People have trouble finding seats in crowded food courts. Sometimes, people end up going to crowded food courts not realising how crowded really it is.

CONCEPT

Have an app that can assist in ordering food remotely for collection later. This will help users reduce the time they have to wait in line at the store.

PROJECT OVERVIEW

TARGET AUDIENCE

Students and Staff of schools with canteens
(Basically every school)

MARKET

Youth -
A growing sector with high potential revenue

Adults -
Working adults aged 25 and up

PROJECT OVERVIEW

GENRE

- Food
- Information

REVENUE MODEL

Revenue will come from advertisments placed in-app

RESULTS

Increased crowd awareness for the public.

Less time spent queueing and jostling for seats in a crowded food court.

PROJECT OVERVIEW

PLATFORM

- Mobile

HARDWARE

Android

PROJECT OVERVIEW

MARKET RESEARCH

The target market for our app is Ngee Ann Polytechnic Students and Staff. Those who eat at the campus canteens often.

Students range from age 17 to 22 on average.

Staff range from age 25 onward.

Because of this large age range, our app will have to be able to cater to even the least technologically adept users.

PROJECT OVERVIEW

PROPOSED FUNCTIONALITY

The app's primary function at the start was its queue monitoring system. Secondary features include adding stores to favourites, discount coupons and a points system for ordering through the app.

Due to several issues regarding costs and procurement of the crowd tracking software and hardware, the primary function became unfeasible. (Further elaborated in production TIme-line)

In the end, the primary function was changed to a digital remote ordering system that allows users to order and wait wherever they want to.

PROJECT OVERVIEW

Colour Scheme

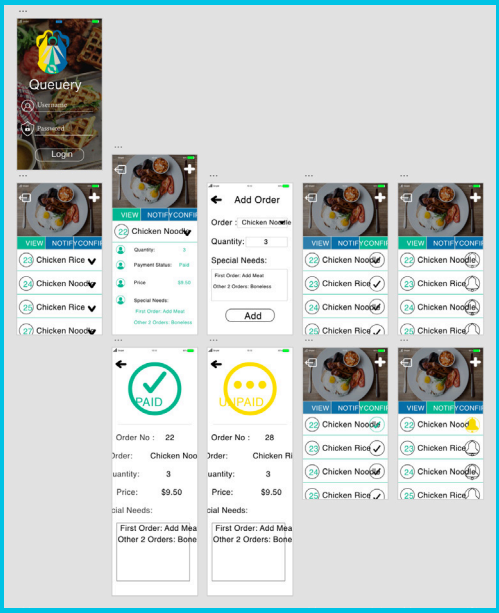
- Initial design for the app interface and its logo used a Blue, Yellow and Green colour scheme

- The logo design is supposed to loosely represent tables from a sideways perspective.

PROJECT OVERVIEW

APP DESIGN

- User flow similar to conventional food ordering app (Eg. Food Panda, Uber Eats, etc.)



- Elimenates most potential learning curves

- Lets user pick up and get used to the app more readily

PROJECT OVERVIEW

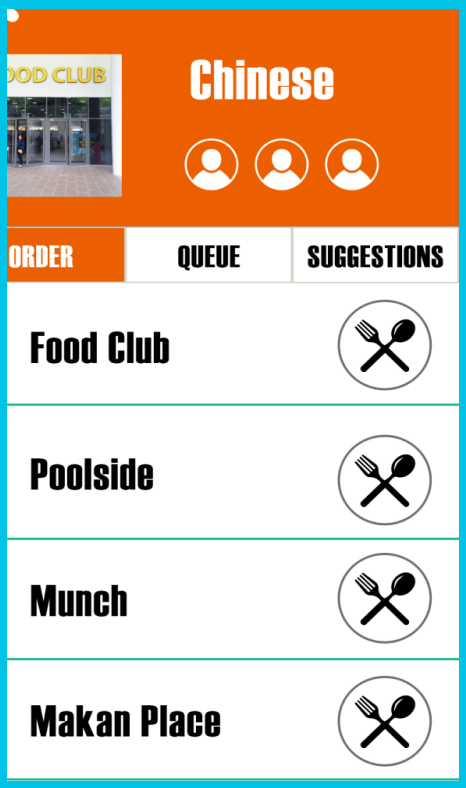
DESIGN TESTING

During user testing, two minor issues were raised.

-On the stalls navigation page, users would try to tap on the name of the stall instead of the icon to order from the stall.

- Users felt the blue and green colour scheme was unappetising.

Taking these issues into account, the second app revision would have an orange and black colour scheme instead.



PROJECT OVERVIEW

APP DESIGN

The UI design of the application has gone through 3 significant stages

Initial design and choice of a more vibrant color scheme of blue green and yellow. Switched after UI Test to orange as the main theme with complimenting black and white.

Second version uses Orange, Black and White.

Orange is to have a warm and homely feeling for the users while black contrasts best with white and helps to identify availability and selection.

The third and final stage covers a simplified version that enhances accessibility while keeping in track of the backend's progress.

The final version accommodates the backend's limitations and makes the application feel mostly complete.

Layout becomes much simpler, which caters to the less tech savvy crowd while remaining intuitive too. Information becomes clearer and its simpler layout opens up to a bigger crowd in general.

PROJECT OVERVIEW

TECHNICAL DOCUMENTATION

Function	Purpose	Software
Login System	Allow User Register and Login Store User information for accounts	Javascript, JQuery, Firebase, Stripe
Order Tracker	Track user orders Update on new orders	Javascript, JQuery, Firebase, Stripe
Ordering Menu	Display available items Allow users to order items	Javascript, JQuery, Firebase, Stripe
Discount Codes	Apply discounts to bought items Use up and be removed from account	Javascript, JQuery, Firebase, Stripe
Receiving Orders	Allow user to receive orders for store Display order item and quantity	Javascript, JQuery, Firebase, Stripe

STAFFING ROLES

STAFFING ROLES

Tan Ek Hern

Roles:
Project Manager
Documentation

Ivan Ong

Roles:
Lead Designer
Front End Programmer

Joel Heer

Roles:
Back End Programmer

ORGANISATION CHART

Tan Chin Khoon
Executive Director

Tan Ek Hern
Project Manager

Design Team

Ivan Ong
Lead Designer

Tan Ek Hern
Design Assistant

Programming Team

Joel Heer
Back-End

Ivan Ong
Front-End

COMMUNICATIONS PLAN

	Deliverables	Description	Delivery Method	Frequency	Owner	Audience
Reports	Design Document	Research details and design rationales	Google Docs	Weekly Thursday	Ek Hern	Ivan,
	Technical Document	Documentation of functionality and operation	Google Docs	Weekly Thrusday	Ek Hern	Entire Team
	Production Plan	Details of Production and planning of project	Indesign	Weekly Thursday	Ek Hern	Ivan
Presentations	Mini Viva	Presentation of early prototype	Google Slides and Demo	Week 6 Thursday	Ek Hern	Tan Chin Khoon
	Viva	Final Presentation of product	Google Slides and Demo	Week 17 Thursday	Ek Hern	Tan Chin Khoon
Project Updates	Group Wiki	Updates on progress of project	Wix Site	Weekly Friday	Ivan	Entire Team
	Indivudual Blog	Individual Progress update	Wix Site	Weekly Friday	Individ-ual	
Reviews and Meetings	Daily SCRUM	Set context for the day's work	Meeting board	Tuesday, Thrusday	Ek Hern	Entire Team
	Weekly SCRUM	Review for Spirnt and planning for next sprint	Meeting Board	Weekly Thursday	Ek Hern	Entire Team
	Viva Prep	Discussion for Presentations	Meeting Board, Discord, Drive	1 week pre viva	Ek Hern	Entire Team

PRODUCTION OVERVIEW

PRODUCT BACKLOG

Priority	Story Points	Sprint	Story
1	1	1	I want to set up a new account (Create user log in, user signup, storing user accounts and account details)
2	2	2	I want to find places to eat (Create maps API, finding places using maps API, calculating routes with map)
3	1	2	I want to find food (List cuisine types and menu offerings for canteen stalls)
4	8	3	I want to order food (Making orders using account. Storing order registration, notifying stall of booking)
4	13	4	I want to pay for my food (Payment system online)
4	?	4	I need to know when the food is ready (Notification, ready status, payment status)
5	5	5	I want to be rewarded for my loyalty and app usage (Loyalty system, calculating points accumulated, redeeming rewards)

SCRUM RELEASE PLAN

User Stories/ Major Features	SPRINT	SPRINT	SPRINT	SPRINT	SPRINT	SPRINT	SPRINT
	Week01-02	Week03-04	Week05-06	Week07-08	Week09-10	Week11-12	Week13-14
Starting The App		Form Validation	Register User Account				Final Testing
		Database Setup	Store Accounts				
			UI Framework				
Setting Up Account				Save User Preferences			
				Log user points			
Ordering food					List menu		
					Order and pay for food		
					Notify for collection		
Store Side						Alert new orders	

DEFINITION OF DONE

Login/ Registration

First Page users see

- Login/ Registration Forms
- Creating Database Tables
- Update Database
- Form Validation
- Dashboard
- Email Verification
- Retrieve Password

User Settings

Dashboard

- Update User Database
- User location
- Cuisine Preferences
- Halal Requirements
- Vegetarian Requirements
- Change Password
- Personalise Dashboard

DEFINITION OF DONE

Ordering From Stalls

Users search for food and order

- View menu
- Select item for order
- Place order
- Pay for order and validate
- Alert stalls
- Update waiting time

User Points

Creating a points and rewards system

- Register Points
- Update user database
- Points Progress Bar
- Generate Rewards
- Store Rewards
- Redeem Rewards

DEFINITION OF DONE

Collection

Collecting from stalls

- Alert user
- Update order
- Collection status
- Strike when done

RISK REGISTER

Description	Risk Type	Response	Priority	Owner	Status
Deciding on tech stack	Technical	Research available Tech Stacks Consult for advice	Ultra High	Lead Programmer	Closed
Interface and Page Flow	Technical	Wireframe and Mockup UX Feedback and Review	Medium	UX Team	Monitored
Technology and Platforms	Technical	Set Fixed Platform Secure Required Devices	High	Whole Team	Closed
Code Performance and Reliability	Technical	Consult for advice	Medium	Programmers	Monitored
Functional Requirements	Scope	List out and fix all functions Pioritise functions from list	High	Project Manager	Closed
Selling Point	Scope	Promote Unique features as selling point	High	Whole Team	Closed
Feature Revision	Scope	Prioritise importance Cross-reference with timeline	Medium	Project Manager	Monitored

RISK REGISTER

Description	Risk Type	Response	Priority	Owner	Status
Coding Style	Organisational	Standardise using technical document for reference	Medium	Programmers	Monitored
Motivation	Organisational	Team Encouragement	Low	Whole Team	Monitored
Roles and Responsibilities	Organisational	Hold all concerned responsible Be reminded of due dates	High	Whole Team	Open
Team Conflicts	Organisational	Accept the nature of conflict All that exists will eventually cease	High	Whole Team	Open
Deadline Overshoot	Schedule	Immediate reprioritisation Avoid reoccurence	Ultra High	Whole Team	Open
Planning	Schedule	Build Timelines for SCRUM Cycle	High	Project Manager	Monitored
Project Dependencies	Schedule	Prior planning Proper communications	High	Whole Team	Monitored
Client Requests for chages to the product	External	Accept the fickle nature of clients	Low	Whole Team	Monitored

GANTT CHART

Whole Group:
Ek Hern:
Joel Heer:
Ivan Ong:

Task Name	Duration	Assignment	April			May				June				July					August		
			Apr 15	Apr 22	Apr 29	May 6	May 13	May 20	May 27	Jun 3	Jun 10	Jun 17	Jun 24	Jul 1	Jul 8	Jul 15	Jul 22	Jul 29	Aug 5	Aug 12	Aug 19
Initial Pitch	6d	Group																			
Final Pitch	6d	Group																			
Sourcing	11d	Ivan Ong																			
Documentation 1	20d	Ek Hern																			
Mood Board	11d	Ivan Ong																			
UI Draft	6d	Ivan Ong																			
Final UI Draft	6d	Ivan Ong																			
Documentation 2	47d	Ek Hern																			
UX Testing	6d	Ek Hern																			
Basic Research	26d	Group																			
Learning Language	16d	Joel Heer																			
Front End	19d	Ivan Ong																			
Back End (Internal)	15d	Joel Heer																			
Back End (External)	15d	Joel Heer																			
Liasing with Client	8d	Group																			
Documentation 3	35d	Ek Hern																			
Improve Design	15d	Ivan Ong																			
Improve Functionality	15d	Ivan Ong																			
Reconfirmation	8d	Group																			
Polishing	7d	Group																			
Presentation	8d	Group																			

COST OF PRODUCTION

Item	Cost	Total	Remarks
Programming			
Lead Programmer	$400 x 12	$4800	Recurring
Assistant Programmer	$400 x 12	$4800	Recurring
Consultant	$400 x 12	$4800	Recurring/Per Session
UX			
Lead Designer	$400 x 12	$4800	Recurring
Assistant Designer	$400 x 12	$4800	Recurring
Testing Candidates	$10 x 5	$50	Recurring/Per Session
UI			
Lead Designer	$400 x 12	$4800	Recurring
Front-End Programmer	$400 x 12	$4800	Recurring
Management			
Project Manager	$400 x 12	$4800	Recurring
Administration	$400 x 12	$4800	Recurring
SCRUM Master	$400 x 12	$4800	Recurring
Software			
Adobe Creative Cloud (All apps inclusive of Photo-shop, InDesign, XD)	$50 x 12	$600	Recurring/Subscription
Atom			Open Source
Hardware			
Macbook Pro	$3000	$3000	
Various Smartphones			Free Loaning

COST OF PRODUCTION

Item	Cost	Total	Remarks
Server			
	$350 x 12	$4200	Recurring/Subscription
Office Expenses			
Rent	$500 x 12	$6000	Recurring/Monthly
Utility	$250 x 12	$3000	Recurring/Monthly
Total		$64,850	

QA PLAN

OBJECTIVES

Quality is of the utmost importance for us. This means that for the user, the app works without any bugs and navigation is smooth. Ordering and payment should be as painless as possible.

METHODS

Once we release the app publicly, any flaws should become readily apparent when users try out the app. However, our intent is to catch these problems before they hit the public release.

As such, rigorous user testing will have to be performed to ensure the app works as intended.

QA PLAN

REVIEW PLAN

The first user test will be conducted using a UX prototype. This will be done using Adobe XD to reflect what the end product should look like.

A second session will be conducted after the app is completed to test for any bugs. In between, the app will be run and re-run as it is being constructed.

CORRECTIVE ACTIONS

The first test is to test the overall UX design and navigation. Corrective Action will be taken to correct that.

The second test is to test overall app stability. Should a bug be found, it will be noted to be rectified afterwards.

QA TEST CASES
Customer Side

#	Description	Pre-Conditions	Steps	Expected Results	Actual Results	Defect	Requirement
1	Attempt to buy item from stall	User login should work	>Log in >Select Location >Select Stall >Select item >Go to payment >Pay	Steps completed and order is processed	User was unable to select stall	Stall button defective	Fix button to select stalls
2	Attempt to buy item from stall	User login should work	>Log in >Select Location >Select Stall >Select item >Go to payment >Pay	Steps completed and order is processed	User sent payment but payment was not received by stall	Database money transfer is defective	Rectify in database
3	Attempt to use a discount coupon	User login should work	>Log in >Select Location >Select Stall >Select item >Go to payment >Select Discount coupon >Pay	Discount coupon should reduce price of item	Discount coupon reduced price of item	None	None

QA TEST CASES
Stall Owner Side

#	Description	Pre-Conditions	Steps	Expected Results	Actual Results	Defect	Requirement
4	Attempt to open order queue	Stall owner side. User log-in must work	>Log In >select orders >view orders	Orders should be shown on screen	No orders displayed	Database order transfer defective	fix database transfer.
5	Attempt to alert user for completed order	Stall owner side. User log-in must work	>Log In >select orders >select and confirm order >confirm order completion	Customer should receive alert	No alert received	Database order completion alert defective	fix database transfer.
6	Confirm received payment	Stall owner side. User log-in must work	>Log In >select orders >select and confirm order >check order payment >check balance	Balance should show transaction taken place	No transaction received.	Database money transfer is defective	Rectify in database

BUG TEST REPORT

#	Summary	Reproduction	Result	Severity	Priority
1	Button to select Stalls does not work	>Log In >Select Location >Select Stall	Stalls cannot be selected	High	High
2	UI Does not show which page user is on correctly	>Log in >Navigate off home screen	Nabvigation bar still indicates user is on home page	High	High
3	Database displays message from user incorrectly	>Log in >Select Location >Select Stall >Select Food item and Quantity >Select Payment >Enter Message >Pay	Message sent is not the message typed by user	High	High
4	Payment is not sent	>Log in >Select Location >Select Stall >Select Food item and Quantity >Select Payment >Enter Message >Pay	Payment is not received on stall owner's side.	High	High

MARKETING & PR PLAN

MARKETING & PR PLAN

BRAND IMAGE

Our brand image is one of a tech-savvy company aiming to bridge the gap for those who have difficulty doing so.

OUR EXPERTISE

Our expertise is in mobile app development and design.

EMOTIONAL RESPONSE

The emotional response our company wishes to elicit are excitement and anticipation.

MARKETING & PR PLAN

TARGET AUDIENCE

The target audience for our app are the users of the app. These would be students of Ngee Ann Polytechnic. These students are typically between the age of 17 to 23.

MARKETING ASSETS

Social Media Platforms (Facebook pages, twitter profile, etc.)
Posters (posted online)
Banner (posted online)
Promotional Pamphlets
Montly discount banners

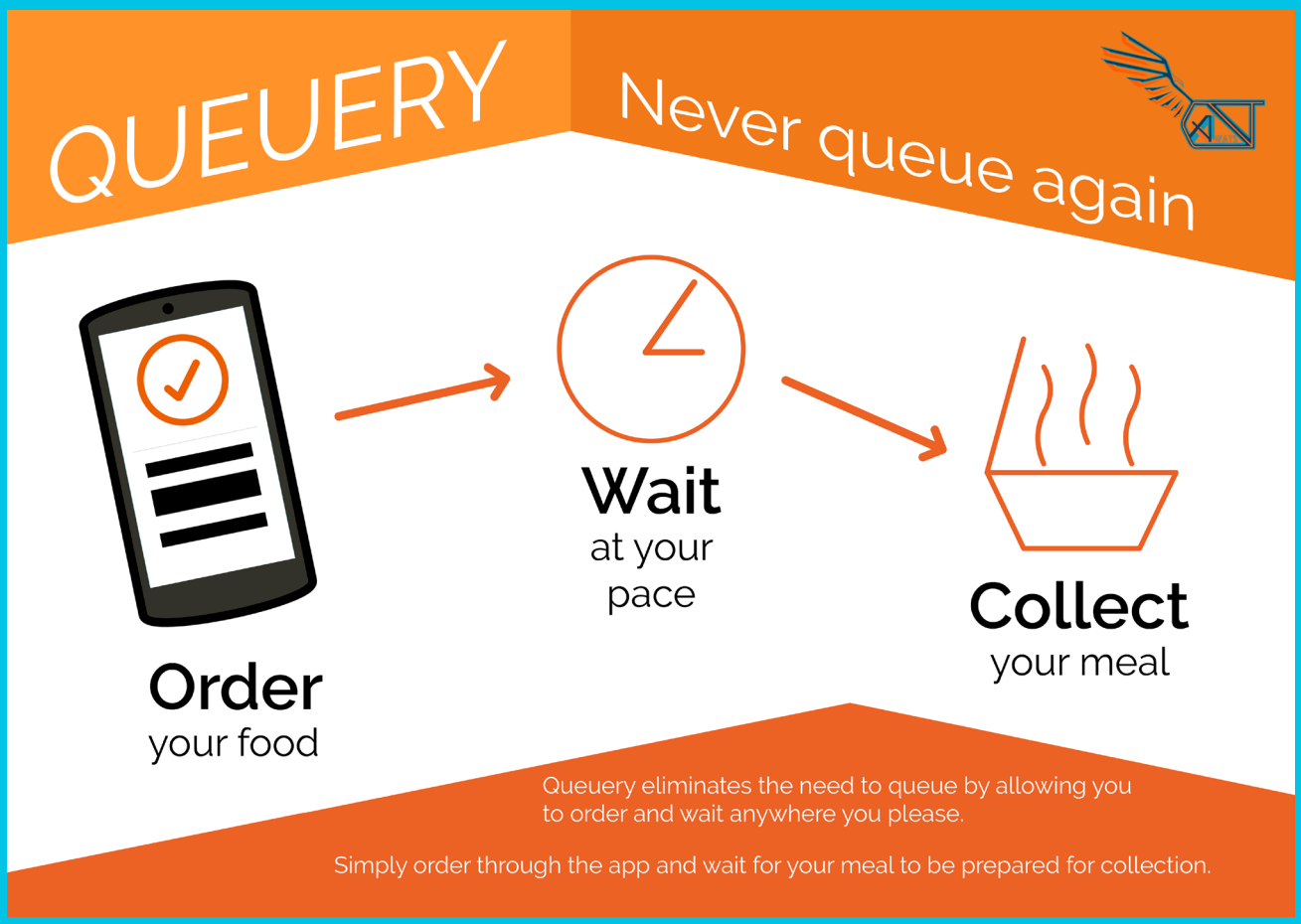
MARKETING & PR PLAN

Event	Timeline	Platform
Pre-Release Survey Find out how well the concept will be received.	On Proposal	Physical
Pre-Release UI Test and Reception response test to test overall response to app	1 Week Pre-release	Physical
Development blog and feedback page setup. Online poster post.	1 Week Pre-release	Social Media
Training stall owners to use the new app	3 days Pre-release	Physical
Social Media Release Poster. 2 weeks 50 cent promotion for ordering through app.	On Release	Social Media/ Physical
Pamphlets handed out throughout campus to raise awareness	On Release	Physical
50 cent off promo ends. Social media banner thanking users	2 Weeks post-release	Social Media
Regular discount promotions. (50% off, 25% off discount codes sent through social media)	Every month	Physical/ Social Media
Discussion with potential interested parties to expand out of campus	Future Expansion	Physical
Social Media release of expansion to outside campus	Future Expansion	Social Media
Training of stall owners to use software	Future Expansion	

MARKETING & PR PLAN

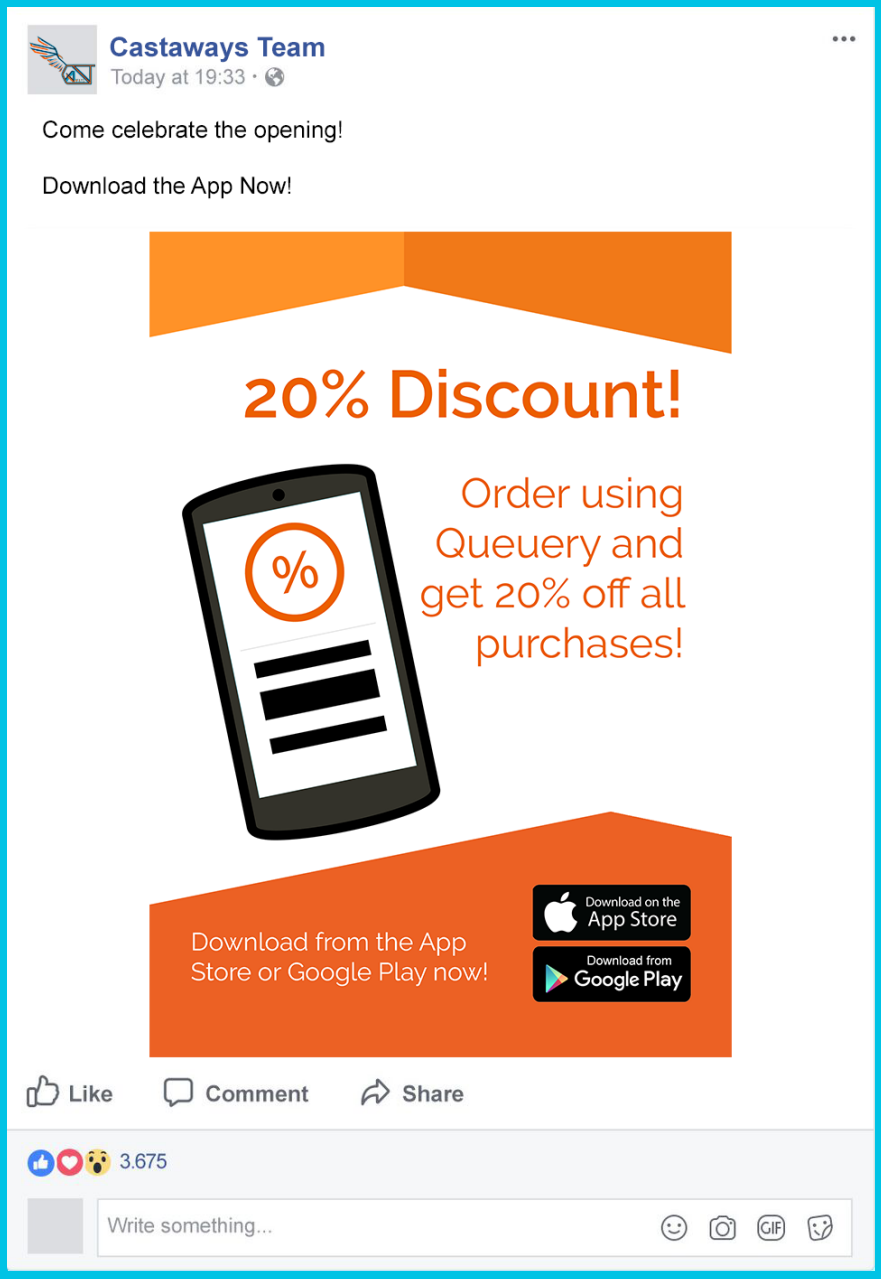
EXAMPLE FLYER

EXAMPLE POSTER



MARKETING & PR PLAN

EXAMPLE SOCIAL MEDIA POST



PRODUCTION TIMELINE

Week 01: Project Start

On the first week of the Project, we were tasked with brainstorming ideas for our project. Each person was to introduce four ideas at least. From the four ideas, we would select two ideas from each other group member to work on.

Ivan:

1. It is troublesome to find open seats at food courts
   - A queue and crowd monitoring software
   - Display information on the app
   - Allow users to know which food courts are too crowded to eat at
2. Youths are getting more and more stressed
   - Destressing App
   - Using 3d AR elements to do puzzle solving
   - Some music streaming options

Ek Hern:

1. People don't recycle enough
   - Recycling app to encourage more recycling
   - Minigames to educate young users
   - Rewards system to encourage recycling
2. Youths waste too much money
   - Budgeting app to help youths manage their money
   - A planner to help users save up for items they want
3. Travel-Collection app
   - A Travel app with basic travel functionality
   - Collect 3d collectibles at destinations
   - Maps to help users plan a travel route for the day

Joel Heer:

1. People not knowing enough about tourist destinations
   - Displays information about tourist destinations
   - Redeem gifts at designated points
2. People not knowing about local cultures overseas
   - Display information about country's culture
   - Culture Quizes

From the initial six idea pitches, both of Ivan's concepts were chosen for further elaboration and exploration.

Roles were also finalized and the first meeting integrated moderate levels of understanding among each member. The main issues were a lack of understanding of the lecturer's requirements for project idea pitching. Many ideas were also denied of initiation due to a lack of "new" content.

Ideas pitch: https://docs.google.com/presentation/d/14nKEzX38-PoRih2WilBw5F8KG0Wx-96K9olsYBEpzA5A/edit?usp=sharing

Week 02: Finalization

On week 2 we confirmed the final idea we would develop in full.

Ivan's two ideas were further developed and presented to the lecturers. The lecturers responded well to his first concept which was the queue monitor app.

Besides the coordinator of the presentation, we approached another lecturer to garner her opinion. Miss Dai was one of the lecturers from another module and both final ideas were informally presented. She showed more favour towards the first idea, being a human density tracker and elaborated her viewpoint.

The coordinator of the actual presentation criticized certain flaws of the first idea yet still preferred the first option due to its wider audience reach. The flaws could potentially mark a hit or miss for the project, with the missing presence of the hardware and existing third party software in the fray.

Unfortunately, upon Ivan's thorough research, a company was found and contacted within a few days' time to resolve this issue. There are still underlying worries regarding the progress especially after consulting several lecturers as to the method of tackling the tedious back-end of the application.

The first wave of work came in. Joel tackled the Google Maps API, Ek Hern started in to the first stage of documentations and Ivan redid the logos of both the application and the company.

UX work has also been planned to test for user research as well as design frameworks such as mood boards, colour schemes and drafts. Additionally, Ivan had to start working on sourcing the crowd tracking software. Ek Hern would work on the proposal, writing up the company's Executive Summary and Project Overview.

Our second concept would be kept as a backup concept to work on in case the crowd tracking software and cameras became too expensive to source.

Interim Pitch: https://docs.google.com/presentation/d/1sO0Jap6tKY9WEU8xnbI-aqOE5awYf9BP9vkklp7X9hms/edit?usp=sharing

Week 03: Beginning

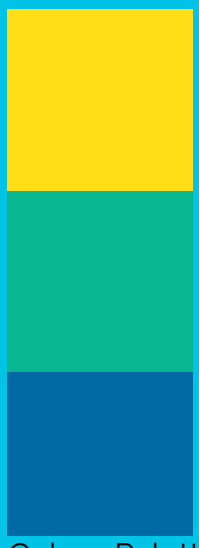
The week's progress has been slow, but considerably faster than the first two weeks. With a confirmation of idea and the distribution of work from last week, everyone had their fair share of work done.

Ek Hern has cleared the first stage of documentation, Ivan has managed to finish his design parts and Joel made some progress but is struggling with his work. Hence, he was advised to move on to something more manageable such as the login feature first while Ek Hern is pushing on with his documentation and tackling the ERD and Data Dictionary. Ivan is starting up the main design stuff and helping out with some of the documentation segments.

Sourcing for the crowd tracking software is still ongoing. There are some promising places, and the lecturer has suggested we spend time to go to Sim Lim Square to see if we can find anything useful for a decent price.

The company and app logos were finalised and Ivan plans to move on to do an XD prototype so we can perform a user test at a later date. This will allow us to gain some feedback on the user flow, design, and so on. The Communications Plan and Staffing roles will have to be further worked on in the proposal as well.

A basic design of the app is as follows. The colour scheme would be Blue, Yellow and Green. With the layout being similar to other food ordering apps so as to reduce down time in learning a new interface



Colour Palette

App Logo

Week 04: Bumpy Road

This week, Ivan was on compassionate leave and did not manage to attend both CPD lessons. This was due to the loss of a loved one, which also possibly affected his emotions when negotiations with the head lecturer.

Ek Hern and Joel did their parts however, just that there was no meeting called. Ivan still kept track of the group's progress despite his leave of absence and made sure that they were on the right track.

However, issues were raised with regards to the cost of procuring the crowd tracking software and a camera for the software. This would have required funding from the school, which Mr Tan rejected as a whole, due to the lack of time.

Ivan contacted Willy Soh, one of the school committee members that is involved risk management but has yet to reply. The meeting on Tuesday with a company that could possibly supply the crowd tracking software seemed successful though there were many clarifications that were not well understood.

During the meeting, the group was thrown a curveball. As it turns out, our concept has already been done and implemented on a large scale in multiple locations successfully. This was shared by the people providing the crowd density device and software.

As such, we were advised to retool our app for a more focused purpose, in tracking queue length and speed.

One good thing we got is that most of the back end programming will be provided to us in one form or another. So a significant portion of our workload is effectively done already.

Progress on programming is still on the slow side, but on track.

Week 05: Changes

This week, Ivan returned. The group as a whole was attempting to finish their own work before CPD.

Additionally, the situation turned out to be to be slightly more problematic than expected since both hardware and software became potentially out of reach. We were informed that we would have to source a CCTV camera on our own and were given a very limited list of compatible devices.

Ek Hern & Ivan went to Sim Lim to scout for potential hardware and software but did not manage to find much within reasonable pricing and usage.

There is also a mention from the employee of Trakomatic, the company that the group has been keeping in contact with, that there is special equipment involved, which would only have made it more challenging.

However, it was still advised that we push through with our designing at least for Week 6's presentation. The project looks to be falling apart and the team is looking for fall back to the alternate idea that does not involve such fatal risks.

The most likely course of action is to cut our losses with the current concept and retool the currently created assets for a different app with similar purpose and functionality.

Another option would be to work on our AR De-Stressing app, but that would require us to do more work and likely take more time to develop from scratch.

The project proposal is more or less completed already, with just one final pass by the lecturer required.

Week 06:
Viva and Reworking

Having explored the costs of equipment and inquired with the tracking software company, we have determined that the price of procurement is simply too high for our budget.

The costs of getting a Camera is upwards of $100. Additionally, the company supplying the crowd tracking software has informed us that we will have to pay around $700 for the software.

Due to the hardware, budget and software limitations presented to us, Ivan has decided to rework the app such that the queue monitor functionality has been replaced with a different feature.

It stands to be a much simpler idea that does not require exclusive hardware or make use of VR or AR. Instead, it digitalized the queue idea to knock out the need for hardware.

The idea was approved and Ivan managed to do up a brief XD draft on the previous application that can be applied to showcase during the Viva. The final plan was finally stabilized.

Ivan had to do a lot of last minute work, drafting a new prototype in XD to present to the lecturers. Some necessary tweaks to the design were also discussed within the group. Ek Hern has been egging Ivan to send over a working XD prototype to carry out a user test.

The issue however, was the upcoming assignments and tests which might deter us from making progress on the final plan since the focus will naturally shift to those. We sat down and agreed that we will temporarily put it aside and give our all for the other projects and the upcoming Common Test.

Week 6 Presentation: https://docs.google.com/presentation/d/1ZaDS-Biq3wYFeAU8fwGngEQzatt-tR8QPSYQOJ2_b-dI/edit?usp=sharing

Week 07-10:
CTs and Break

Week 07: Common Test Prep

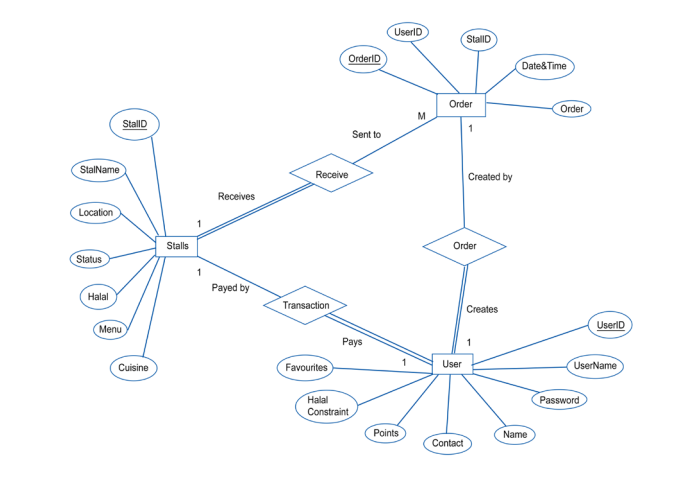
No work was done during this period. Most of our efforts were spent completing assignments and revising common tests.

Week 08: Common Test Week

This entire week was dedicated to the Common tests

Week 09: Break

Not much work was completed during this period. Some documentation work was done. Primarily the ERD and Data dictionary.



ERD

Stalls

Field Name	Data Type	Constraints	Description	Required
StallD	Varchar(20)	Primary Key	ID of restaurant Auto Generated	Yes
StalName	Varchar(20)	Secondary Key	Name of restaurant	Yes
Location	Varchar(50)		Location of stall (Which block)	Yes
Status	Int	Regularly updated	Crowd Status and orders queued	Yes
Halal	Boolean		Halal certified or not	Yes
Menu	Varchar(50)		Menu	Yes
Cuisine	Varchar(20)		Type of Cuisine served	Yes

Users

Field Name	Data Type	Constraints	Description	Required
UserID	Varchar(20)	Primary Key	ID of user Auto Generated	Yes
UserName	Varchar(20)	Secondary Key	Username	Yes
Password	Varchar(20)		User Password	Yes
Name	Varchar(20)		Name of User	No
Contact	Int		Contact number of user	Yes
Points	Int		Points collected by the user	Yes
Halal Constraint	Boolean		Whether the user requires Halal or not	Yes
Favourites	Varchar(50)		Favourite restaurants	No

Data Dictionary

Week 10: Break again

Joel's progress on programming is still slow but steady. There are some questions raised which he will have to bring to the lecturers when school restarts next week.

Week 11: UX Test

This week, the group finally got back together after an extended break period. Ivan had to revamp quite a bit of the designs except a few pages due to the idea shift made during the first viva. He sent Ek Hern the UX prototype to test with.

The UX test was performed on a year 2 MMA student in Ngee Ann Poly. We got some valuable feedback, but the prototype was broken. As a result, some information like free roaming feel could not be properly tested.

Primary feedback from the user was that certain UI elements were misleading and didn't navigate properly. Additionally, the user fed back that the app's colour scheme felt somewhat unappetising. A simple palette swap was discussed between Ek Hern and Ivan and the redesign was done.

Aside from the user test, Joel has also managed to programme his part of data transfer too. The project is finally moving forward for the better.

Initial Design

Revised Design

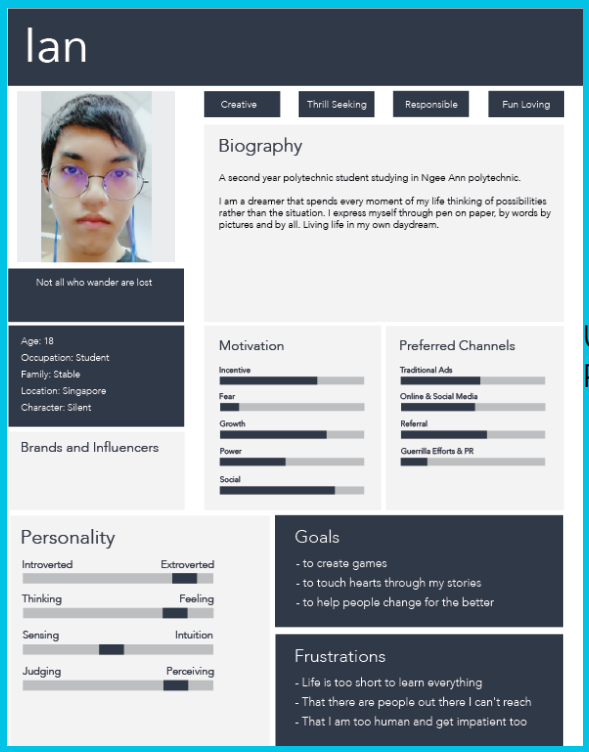
Week 12: White Space

This week, Ek Hern had to do up the presentation slides for the Mini Viva on week 13. UX test documentation, as well as the competitor analysis were completed by Ek Hern. With Front End programming being handled by Ivan and Joel tackling the back end.

There were some problems in changing the colour scheme in the app. The application logo identifies those colours for the colour scheme and the original intent of the application. Hence, the application logo had to be fixed to accommodate the changes to the rest of the app colour scheme.

Joel has not been communicating as of late, but it is presumed that his progress is on track at his last know pace, which is slower than average, but still acceptable.

Several Assignments from other modules have been introduced. These will all be due around week 16 to 17 which may be a challenge when it comes to managing our time.



User Test Persona

Week 13: Mini Viva

The viva presentation wasn't up to the panel's expectations due to miscommunication between us, progress still stands strong.

Ivan managed to complete most of the front-end content to show significant progress in a working prototype.

Joel, while struggling to comprehend the concept, managed to capture it after the viva and has the understanding with the help of our programming teacher to tackle the problem. He has given a brief and easy functionality prototype to work with too.

Ek Hern realised he was missing the design documentation for the documentation side and is currently working on it.

Everyone has been pushing themselves to finish their completed task and it looks very promising despite the disappointment from the viva.

It has also been raised that we will need promotional materials for our App when it releases. Ivan and Ek Hern may have to work on that when the time comes.

Mini Viva Slides: https://docs.google.com/presentation/d/1h7Y-wZpAkRDDdUCes-WsgsFqAN7VGVmw0reyPPuK8Gyc/edit?usp=sharing

Week 14: Touch-ups

This week, the group wasn't moving as fast with the incoming load of assignments from the various other modules as previously forecasted.

There is still some progress and most of it went to bug fixes for the front-end for Ivan's part. Joel, however, made a breakthrough and managed to make data send across 2 browsers (applications) and display them accordingly.

As part of IEP and CPD, Ek Hern finished more parts of his documentation such as the market research, budget management and gantt chart for the project documentation.

Despite the slower progress, the group's still on track with the schedule and in touch with help whenever they need it.

Week 15: More Fixes

This week showed more promising progress. Ek Hern finished almost all of his documentation, leaving a few minor tweaks and additions to be included. He will consult the IEP Lecturer to ask what other items he should add or remove.

Joel is fixing some of the back-end to accommodate front-end implementation. Ivan is fixing lingering bugs and awaiting Joel's completion to implement and complete a feature of the application and doing up some of the posters and designs, value-adding the application as a whole.

However, there came a problem regarding the e-payment having a little trouble implementing on mobile directly.

There's a need for extra work to link the API and for Joel to tackle Stripe.Js instead of Stripe. He might need more time to work off and receive guidance from the respective lecturers.

It has raised the need to run another user test after the app is completed. This will require the app to be completed however. So for now, that is simply on the table as something to do. Additionally, the discount code feature may have to be cut due to time constraints.

Besides that, the group might be set a little behind in schedule and might not be able to include a secondary function. Hopefully, time abides.

Week 16: Stitching

This week's progress is a little on the slower side as Ivan tries to implement Joel's backend into his front-end but to no avail due to persistent errors that he might not understand.

Hence, they decided to reverse the approach and let Joel implement his back-end to Ivan's front-end. Ivan has decided that he will have to dedicate an entire day to meeting with Joel to fix any and all programming and stability issues together.

Ek Hern's progress has been ongoing due to the extra content required for the market research. But he is to begin creating the slides for the final viva presentation.

There are definitely a few ups and downs especially with other modules clashing in their expected submission schedules. But nonetheless, manageable.

Ivan has preferred that the group focus on finished their other individual assignments first before moving on to the final stretch for CPD. Ek Hern has also done some simple promotional Materials for the group which will be used for the marketing plan.

Week 17: Final Stretch

Currently on the final stretch of the project. All other assignments, with the exception of DME have ended and been submitted. This week, Ek Hern has had to finish both the Production Bible and the final ViVa slides.

Ivan and Joel are still working on fixing the front and back end together, which is taking a little more time than expected. Ivan has raised issues with the inadequate content for the DME slides and requires Ek Hern to put in more content.

The CPD ViVa slides are also facing some content issues which will have to be sorted out. We will also have to decide who to collate and present everything with. Likely either Ek Hern or Ivan.

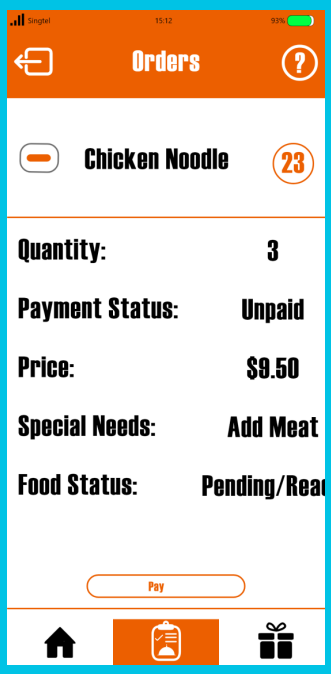
The group has decided to meet and dedicate an entire free day to finishing whatever documentation works need to be completed before the next week as submission for the works is due on either Monday or Tuesday.

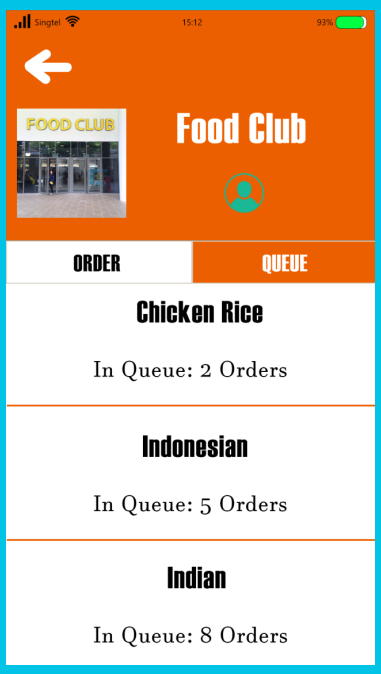
As such, the entire of Saturday was spent fixing various programming issues to get the app to work and for Ek Hern to complete the Production Bible.

Week 18: Finish Line

Final Viva release and presentation. The finish line. Everything has to be submitted by this point.

To simplify programming on the final stretch, several elements have been reduced or removed. The overall functionality remains unchanged, but the final outcome will look more simplistic compared to the XD prototype.





INDIVIDUAL REFLECTIONS

INDIVIDUAL REFLECTION

Ek Hern

My role as the project manager was to write out all the required documents for the group. It was a relatively easy job compared to say, programming, but a tedious one none the less. For the start project, I had to write the group's pitch slides, as well as the group's project proposals. The challenge primarily was the fact that the documentation had to be done in indesign, which I was not familiar with. However, through some practice, and trial and error, I managed to make a usable template for the documentation forms. Meeting minutes followed one template from an edited initial template while the rest of the documents mostly follow the project proposal's template.

My work experience has been uneventful, if a bit tedious. Having to come up with some basic promotional material last minute was a challenge as well. I had to quickly think to come up with the basic format. I went with two orange pieces of different shades slanting into each other at the top, similar to the corner of a wall. Then at the bottom, another orange shape roughly matching that of a countertop with the main body in between the two sections.

Other duties I had to take on included the initial UI testing, where I had a junior test the interface through the Adobe XD prototype. There were complications due to several components in the prototype not working. However, my interviewee was very cooperative and friendly and we managed to get at least some amount of feedback on the UI, design, and buttons from the test.

I was also the design advisor for the app. Initially, the colour scheme was going to be Blue, Yellow and Green. But through the UI test and an open questionnaire, I learned that some people felt that the green colour in the colour scheme felt unappetising. So I had a conversation with the lead designer to change the app's colour scheme to orange and black.

My responsibilities in documentation also extended to the group's presentations. I laid down the basic groundwork for the group's Initial Pitch Slides, the Interim Viva slides, the Mini Viva slides, and I will also be doing a good portion of the slide content for the final Viva presentation.

A lot of my issues were also because I had to balance time between the concept development module as well as the other modules' assignments. There were several assignments going on at once, including having to mix sounds, program another whole app for the DME assignment as well as model 3d in maya and animate it. These all took time away from the CPD assignments and drained a lot of my time. There was very little free time for me, or my groupmates for that matter. A toll was also taken on my sleep schedule. And my sanity.

In short, I did the group's presentation slides, the group's design documents, the group's project proposal and the group's production plan. Secondary contributions were several marketing materials like posters and flyers and design advisory.

INDIVIDUAL REFLECTION

Ivan Ong

It was quite an interesting experience for the past 17 weeks when I was unintentionally pushed into a group which were the "remainders" of those who have not chosen a group. In a sense, it was unique to manage a group of eccentrics, taking on the role of a leader and a project manager. I have been managing the scrum board, task distribution, and updating the group blogs. I am also the lead designer, front-end programmer of the project, while securing and aligning the group's vision for the project. Communication proved to be tough at the start and it's hard to pull the group together. Disagreements, miscommunications and frustrations to understand the members took a while and miscommunications still ensue even in the middle of the project. However, over time, I started to grow more patient in my approach and confident in my method of communication. For example, I gave more time to Joel to give him a listening ear and explaining the ideas I had. There may not have been improvements in terms of "speed" but it's an improvement nonetheless. As for Ek Hern, it was the frustration towards his attitude in terms of communication. On the first week, I already argued and got both of us on a bad start, but over time, I learn to accept him for who he is and compromise accordingly. Sometimes, he feels like he wants to leave early. I gave him the benefit of the doubt and not pursue too far on the condition that he meets his deadlines for his work, which he does.

In terms of learning and applying for IEP, the most significant problem goes to communication. Even if our communication plan does not state explicitly certain formats used, I personally had to devise specific ways to approach Joel especially. He struggles to understand my thoughts over on whatsapp, discord or even voice calls. So I had to create instructions with explanations and back it up with imagery to explain the part he has to do. Of course, it wasn't his fault in specific but more of an initiative that I take to improve communications in general.
However, our biggest technical flaw was not knowing the risks of our project which set us far behind the other groups and behind schedule in general. This was where the thought came where risk management was very applicable and a pity that it wasn't taught earlier to be applied for CPD, as we would have cut down on time and moved onto solutions or mitigations that we could have planned beforehand. It was a massive setback that began affecting our scrum release plan, schedules, budget and the overall product. Again, we were also unaware of the budget we could or could not have attained and that period could have pushed our project forward for the better.

All in all, I felt that the group transitioned well. In fact, it's better than expected, considering that we dabble with as little drama as possible. That's not to say communication is still at the top of its form but it's moving in the right direction for the project to achieve completion. Personally, I felt that I have improved in my part and am still improving in my approach. Recently, I have started to try to compliment for a job well done. I would say I am happy to be in this group despite my worries for some of the flaws my group members hold especially with consideration that my first impressions are not the most pleasant. In general, this module was indefinitely of a rewarding experience while being strenuous in terms of extra workload, especially experiencing a more eccentric group members. Understanding that I might not get to work with people I want to in the future, strangers or just eccentrics in general when entering the industry is key; Experiencing and learning to keep my emotions in check and adjusting my technique of communication and overall approach while keeping the project in mind as the MAIN biggest player during that period is the core takeaway for IEP and CPD.

INDIVIDUAL REFLECTION

Joel Heer

During the IEP lesson, I have learned how to understand more about our client potential needs and how to better display out our products to the client. By knowing how to create a better client persona, we can have a deeper understanding of how to modify our application to fit the client needs. Besides that, I also know how to create a day in life storyboard to better demonstrate how the product is being use for various kind of conditions. Furthermore, I also learn how to determine the risk factor for the different kind of tasks. This helps to give us a clearer judgement of how will the task effect our work in terms of how much time is needed to settle the task and how challenge is the task is. By doing so, I will be able to known which task is more argent to do.

This helps me to do a better performance for my task as a back-end programmer. Sometimes, I need help with my back-end side and my teammates is willing to help me out by asking teacher or trying out by their own self. My team have sent me my task through discord or asana. By doing so. I can do my work in a more efficient manner.

In summary, CPD has help me to better work as a team and IEP has help me to oversee how the task is going to affect our project