

**BEST
PHONE**

**MOBILE PHONE
RECOMMENDER
SYSTEM**

**DEV KAPIL &
KYAW MYOTUN
28.04.2021**

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1 EXECUTIVE SUMMARY

Mobile phones have become extensions of ourselves, and living without them is almost unimaginable. Work and home life have also merged, with the office always at one's fingertips. More and more we rely on the keen intelligence that our mobile phones provide, not only for work but also for family time, networking and entertainment.

There is major potential for improving and tailoring the experience of choosing one's next mobile. Most people in Singapore choose a phone according to what comes included with the plans offered at their local Telco (e.g. StarHub) shop. Higher-end customers often choose from the well-known brands such as Apple.

Now though, customer expectations of mobile phones are becoming more specific and differentiated. Some customers focus on high-end cameras, others focus on size, or value for money; still others look for AR/VR compatibility and gaming options.

Many younger customers desperately want these features, but they can't yet access the iPhone or Galaxy with their Junior-sized budgets. Without better guidance, they may sacrifice on features and go for a used iPhone, even though lesser known brands exist that offer all the features they want, for a better price.

There is currently an un-tapped opportunity for increased sales of good quality, lesser-known phone brands. Currently though, in a market dominated by giant companies such as Apple, with gigantic marketing budgets, smaller players can't compete, unless there is better way to get their great products in front of customers.

There is also an up-tapped opportunity for Telco shops to increase their income via a new revenue stream selling lesser-known brands with more sophisticated features, beyond their existing plans offered, as customers will go for higher ticket options if they know these will better fit their needs for the next 2-3 years.

For this reason we developed an intelligent system to enhance and improve the decision making process for buying a phone, with a B2B business model focused on improving the customer's buying experience and increasing the technological edge and attractiveness of their shops to new customers.

This is of potential benefit for customers, mobile phone companies--especially the lesser known mobile phone brands--and Telco Shops (e.g. StarHub).

Our initial model crawls publicly available mobile phone data available online from retail sites such as www.iprice.sg.

We added two lucrative B2B revenue streams to support our product; first, with a product for lesser-known mobile phone companies and, second with a product for Telco retailers to give them a technological and customer support edge.

Future applications of our work could further be integrated into mobile phones themselves, as a stand-alone Smartphone App to analyse phone usage and to recommend the best market option when the time comes to purchase a new phone.

2. PROBLEM STATEMENT

Customer expectations of mobile phones are becoming more specific and differentiated. Some focus on a high-end camera, others focus on size, or value for money; still others look for AR/VR compatibility and gaming options.

Many younger customers desperately want these features, but they can't yet access the iPhone or Galaxy with their Junior-sized budgets. Without better guidance, they may sacrifice on features and go for a used Apple phone, even though lesser known brands exist that offer all the features they want, for a better price.

There is currently an un-tapped opportunity for increased sales of good quality, lesser-known phone brands. Currently though, in a market dominated by giant companies such as Apple, with gigantic marketing budgets, smaller players can't compete, unless there is another way to get their great products in front of customers.

There is also an up-tapped opportunity for Telco shops to increase their income via a new revenue stream selling lesser-known brands with more sophisticated features, beyond their existing plans offered, as customers will go for higher ticket options if they know these will better fit their needs for the next 2-3 years.

2.1 PROJECT OBJECTIVE

We aimed to develop an intelligent system to enhance and improve the decision making process for buying a phone, made profitable via a B2B business model focused on improving the customer's buying experience and increasing the technological edge and attractiveness of lesser known, high quality mobile brands and the Telco retailers who sell them.

Best Phone will benefit customers, mobile phone companies, especially the lesser known mobile phone brands, and TelShops (e.g. StarHub, Singtel, M1, Circles.Life)

Our initial model crawls the publicly mobile phone data available online from retail sites e.g., www.iprice.sg. We envision three lucrative B2B revenue streams to support our product; first, as a product for lesser-known mobile phone companies and second, as a product to enhance the experience of shopping at local Singapore Telco shops, giving them a technological and customer support edge.

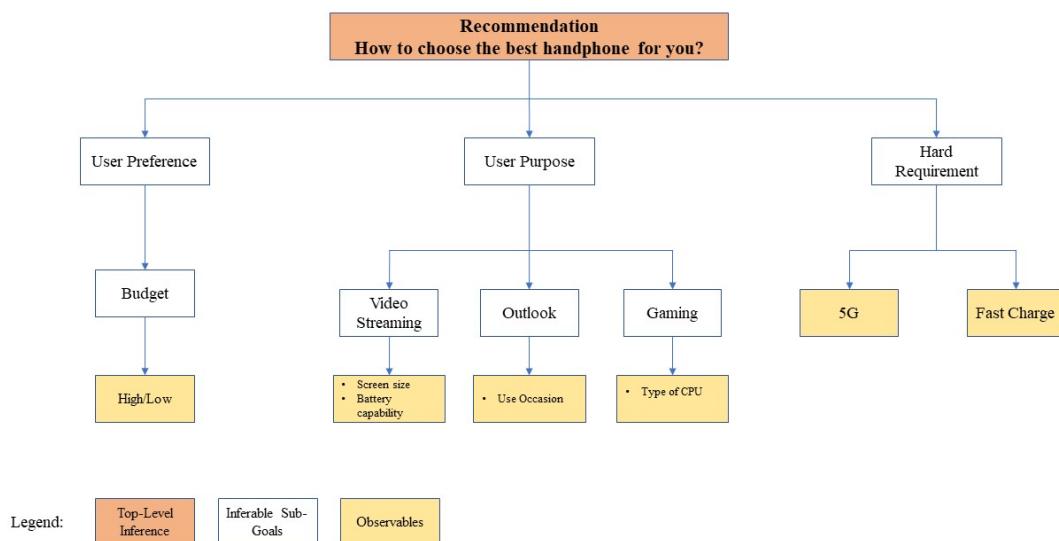
In future development will include a mobile phone app that uses usage data from one's own phone to predict the Best Phone match for his next purchase, helping both companies and customers to enhance the retail experience.

3 METHODS

We crawled the computer notebook data from the <http://www.iprice.sg>. We then developed the Database, Front-end System, and Knowledge Base and Rule Engine to support User decision-making.

Our portal feeds into the system architecture based on three divisions: User Preferences, User Purpose and Hard Requirement. The Hard Requirement pillar establishes whether the User would require 5G capability and Fast Charging capability. The User Purpose pillar establishes User preferences around Video Streaming, Outlook and Gaming. The User Preferences pillar establishes the range of budget possible.

Figure 1 - Dependency Diagram



4 SOLUTION OUTLINE

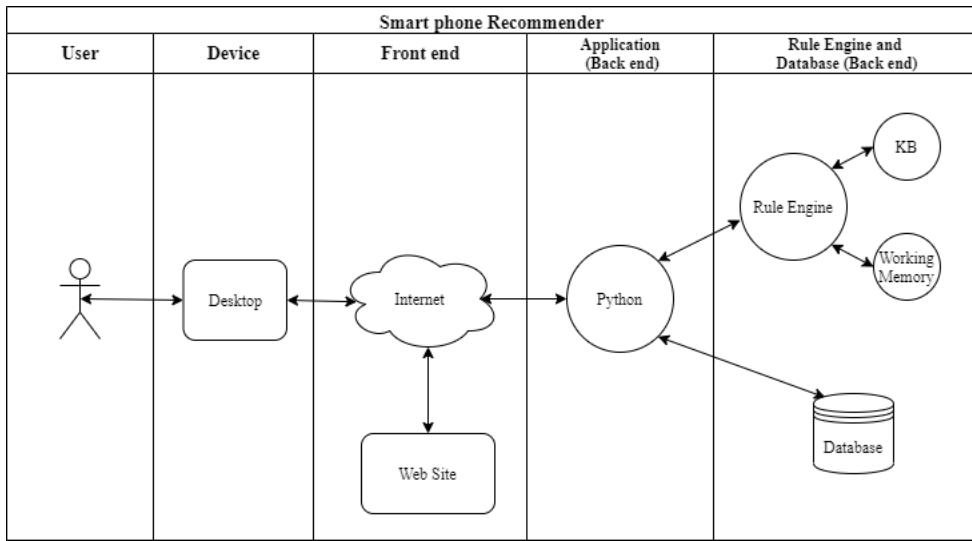


Figure 2 – Solution Diagram

Our solution is a web based smart questionnaire system which draws data from publicly available online retail sites. The front-end is accessed by the user in-store or from home. The back-end comprises the database, Rule Engine, Knowledge Base (KB) and working memory.

Sample Results

Xiaomi Poco F2 Pro SGD 725	Xiaomi Redmi K30 Pro Zoom SGD 725	Google Pixel 4a 5G SGD 725
Specification		
CPU Adreno 650	CPU Adreno 650	CPU Adreno 620
GPU 6 GB	GPU 8 GB / 12 GB	GPU 6 GB
RAM 128GB / 256GB	RAM 128 GB / 256 GB / 512 GB	RAM 6 GB
STORAGE 1080 x 2400 pixels, 20:9 ratio	STORAGE 1080 x 2400 pixels, 20:9 ratio	STORAGE 1080 x 2340 pixels, 19:9 ratio
RESOLUTIONS 6.67 inches	RESOLUTIONS 6.67 inches	RESOLUTIONS 6.2 inches, 55.7 cm ² (~84.1% screen-to-body ratio)
SCREEN SIZE 163.3 x 75.4 x 8.9 mm (6.43 x 2.97 x 0.35 in)	SCREEN SIZE 163.3 x 75.4 x 8.9 mm (6.43 x 2.97 x 0.35 in)	SCREEN SIZE 153.4 x 74.4 x 8.5 mm (Sub-6 and mmWave)
DIMENSIONS 219 gram	DIMENSIONS 218 g	DIMENSIONS 168 g (5G Sub-6), 171 g (5G Sub-6 and mmWave) (5.93 oz)
WEIGHT 219 gram	WEIGHT 218 g	WEIGHT 8 MP, f/2.0, 24mm (wide), 1/4.0
FRONT CAMERA Motorized pop-up 20 MP (wide)	FRONT CAMERA Motorized pop-up 20 MP (wide), 1/3.4", 0.84µm	FRONT CAMERA Dual 12.2 MP (wide) + 16 MP (ultrawide)
REAR CAMERA 64 MP, (wide)5 MP, (telephoto macro)13 MP, (ultrawide)2 MP, (depth)	REAR CAMERA 64 MP, (wide)5 MP, f/1.77", 0.8 µm, PDAF, OIS 8 MP, (telephoto), PDAF, OIS, 3x optical zoom, 13 MP, 13 MP, (ultrawide) 2 MP, (depth)	REAR CAMERA Dual SIM (Nano-SIM, dual stand-by)
BATTERY 4700 mAh	BATTERY 4700 mAh	BATTERY 3885 mAh
FAST CHARGE	FAST CHARGE	FAST CHARGE
SIM CARD Dual SIM (Nano-SIM, dual stand-by)	SIM CARD Dual SIM (Nano-SIM, dual stand-by)	SIM CARD Dual SIM (Nano-SIM, dual stand-by)
COLOR Neon Blue, Phantom White, Electric Purple, Cyber Gray	COLOR Grey, Purple, White, Blue	COLOR Just Black
CARRIER 5G/4G/3G/2G	CARRIER	CARRIER 5G/4G/3G/2G

[DETAIL LINK](#)

4.1 INSTALLATION GUIDE

Windows User

Step 1

Download Node JS and python installer from below link and install into PC

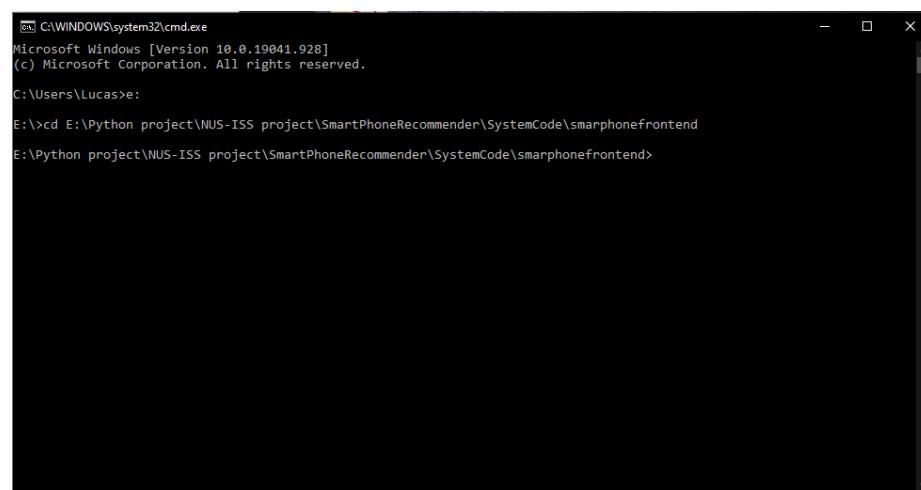
<https://nodejs.org/en/download/>

<https://www.python.org/downloads/release/python-382/>

Frontend webpage

Step 2

Install the package, open command prompt direct to the frontend file directory

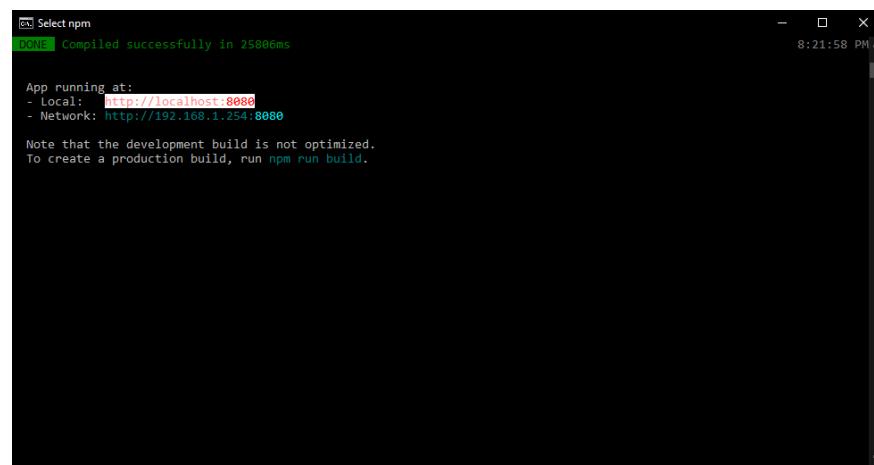


```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.19041.928]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Lucas>e:
E:\>cd E:\Python project\NUS-ISS project\SmartPhoneRecommender\SystemCode\smarphonefrontend
E:\Python project\NUS-ISS project\SmartPhoneRecommender\SystemCode\smarphonefrontend
```

Step 3

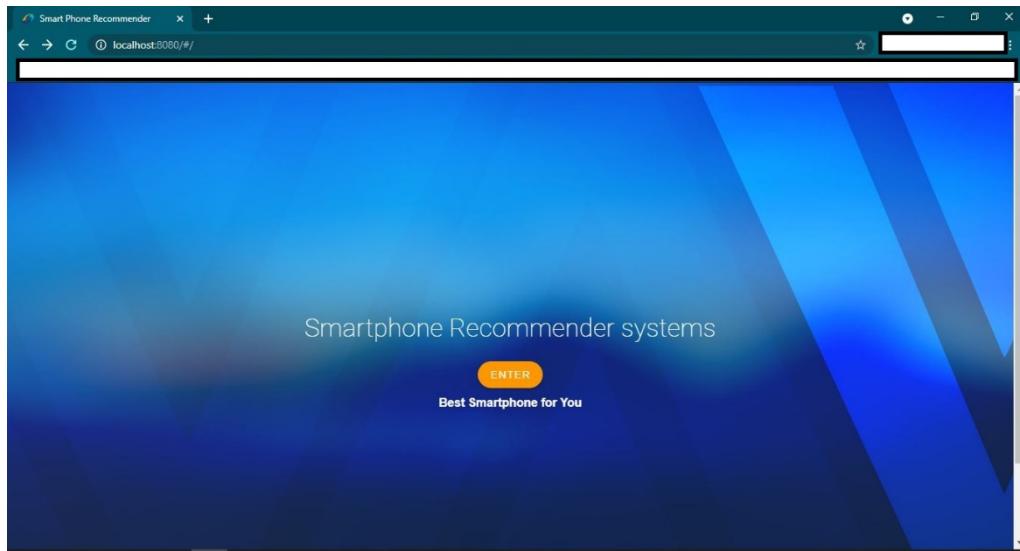
Run “npm run serve” for debug mode then open your browser, copy value from “Local” as shown in below and paste it to browser, the web page will raise up.



```
cmd Select npm
DONE Compiled successfully in 25806ms                                         8:21:58 PM ^

App running at:
- Local: http://localhost:8080
- Network: http://192.168.1.254:8080

Note that the development build is not optimized.
To create a production build, run npm run build.
```



Step 4

Open another command prompt, direct to backend file directory and install the require package using below commands

“ pip install pandas ”
“ pip install flask ”
“ pip install flask_cors ”
“ pip install numpy ”

Step 5

Run the backend api using “python web-api.py” and the program will start running and you can start using the smartphone recommender

```
E:\Python project\NUS-IS5 project\SmartPhoneRecommender\SystemCode\smartphonebackend>python web_api.py
rule no. 1 has been built
rule no. 2 has been built
rule no. 3 has been built
rule no. 4 has been built
rule no. 5 has been built
rule no. 6 has been built
rule no. 7 has been built
rule no. 8 has been built
rule no. 9 has been built
rule no. 10 has been built
rule no. 11 has been built
rule no. 12 has been built
rule no. 13 has been built
rule no. 14 has been built
rule no. 15 has been built
rule no. 16 has been built
rule no. 17 has been built
rule no. 18 has been built
rule no. 19 has been built
* Serving Flask app "web_api" (lazy loading)
* Environment: production
WARNING: This is a development server. Do not use it in a production deployment.
Use a production WSGI server instead.
* Debug mode: on
* Restarting with stat
rule no. 1 has been built
rule no. 2 has been built
rule no. 3 has been built
rule no. 4 has been built
```

4.2 FEATURES, FUTURE & VALUE ADDS

Information overload is a big problem, for both buyers and retailers. When a customer experiences ‘analysis paralysis’ then he or she is more likely to walk away and look elsewhere to purchase based on a simpler decision-making process such as buying a big-brand phone, e.g. Apple or Samsung.

We designed and customized an algorithm to solve this problem by providing a simple and attractive User interface that is easily provided for customers at the shops, or directly from home using any web browser, thereby giving Telco businesses and lesser known mobile brands a strategic advantage in the market.

There are many systems for recommending a mobile phone, but these are brand-specific and do not cut across all brands, including the high quality but lesser known brands. This makes our solution more objective and less biased.

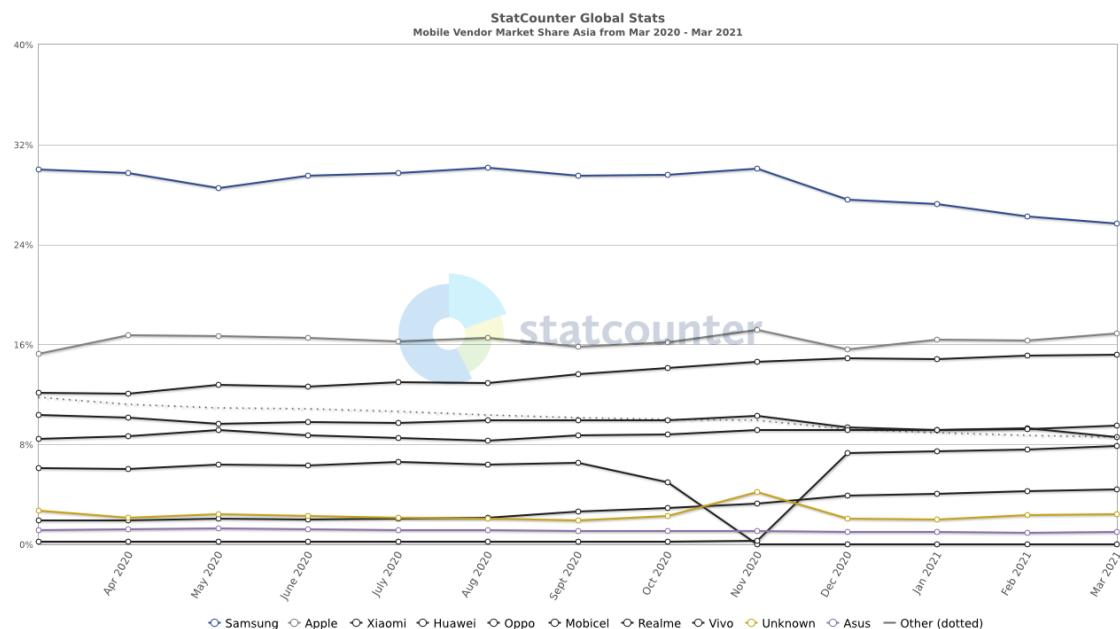


Figure 3. Market share of mobile phone brands in Asia

Future:

The mobile phone industry is booming in Asia Pacific but there is still plenty of room to grow, as market penetration is still lower in Asia compared to other regions. Asia Pacific’s mobile phone boom is fuelled by rising disposable incomes, urbanisation and rural migration to the cities. Best Phone ties in nicely with this growth market, giving added value to brands that aren’t as visible to customers as market giants Apple and Samsung. In future we would further develop a mobile phone app that will analyse the User’s own phone usage data in order to provide recommendations for the next purchase, as well as the best timing to make that purchase.

SECTION 5. APPENDICES

APPENDIX 1: PROJECT PROPOSAL

GRADUATE CERTIFICATE: Intelligent Reasoning Systems (IRS)

PRACTICE MODULE: Project Proposal

Date of proposal: 2 May 2021
Project Title: ISS Project –Mobile Phone Recommendation System , For Intelligent Course Scheduling System Use Case
Sponsor/Client: (<i>Name, Address, Telephone No. and Contact Name</i>) Institute of Systems Science (ISS) at 25 Heng Mui Keng Terrace, Singapore NATIONAL UNIVERSITY OF SINGAPORE (NUS) Contact: Mr. GU ZHAN / Lecturer & Consultant Telephone No.: 65-6516 8021 Email: zhan.gu@nus.edu.sg
Background/Aims/Objectives: The proposed mobile phone recommendation system will make use of various advanced machine reasoning techniques and components to help user to make good decision on purchase Mobile phones.
Requirements Overview: <ul style="list-style-type: none">• Research ability• Programming ability• System integration ability
Resource Requirements (please list Hardware, Software and any other resources) Hardware proposed for consideration: <ul style="list-style-type: none">• GPU, RaspberryPi, AlphaBot, NVidia Jetson Box, etc. Software proposed for consideration: <ul style="list-style-type: none">• Reasoning systems, e.g. KIE jBPM, Drools, AppFormer, OptaPlanner, Fuzzy logic, Optimization, etc• Pertained machine learning models, e.g. Vision, Speech, NLP• Machine learning use cases, e.g. Orange3, R• Deep learning tools, e.g. Neural Network Console Sony, Python Keras• Chat-bots, e.g. ChatterBot, DBpedia Chat-bot• Cognitive systems, e.g. Mycroft• Robotic Process Automation, .e.g TagUI• Cloud computing/server, e.g. Amazon, Google, IBM, Azure, etc.

- Application container, e.g. Docker

Number of Learner Interns required: (Please specify their tasks if possible)

a team of two project members

Methods and Standards:

Procedures	Objective	Key Activities
Requirement Gathering and Analysis	The team should meet with ISS to scope the details of project and ensure the achievement of business objectives.	1. Gather & Analyze Requirements 2. Define internal and External Design 3. Prioritize & Consolidate Requirements 4. Establish Functional Baseline
Technical Construction	<ul style="list-style-type: none"> To develop the source code in accordance to the design. To perform unit testing to ensure the quality before the components are integrated as a whole project 	1. Setup Development Environment 2. Understand the System Context, Design 3. Perform Coding 4. Conduct Unit Testing
Integration Testing and acceptance testing	To ensure interface compatibility and confirm that the integrated system hardware and system software meets requirements and is ready for acceptance testing.	1. Prepare System Test Specifications 2. Prepare for Test Execution 3. Conduct System Integration Testing 4. Evaluate Testing 5. Establish Product Baseline
Acceptance Testing	To obtain ISS user acceptance that the system meets the requirements.	1. Plan for Acceptance Testing 2. Conduct Training for Acceptance Testing 3. Prepare for Acceptance Test Execution 4. ISS Evaluate Testing 5. Obtain Customer Acceptance Sign-off
Delivery	To deploy the system into production (ISS standalone server) environment.	1. Software must be packed by following ISS's standard 2. Deployment guideline must be provided in ISS production (ISS standalone server) format 3. Production (ISS standalone server) support and troubleshooting process must be defined.

Team Formation & Registration

Team Name:
Smart Mobic
Project Title (repeated): Mobile Phone Recommendation System
System Name (if decided):
Team Member 1 Name: Dev Kapil
Team Member 1 Matriculation Number:
Team Member 1 Contact (Mobile/Email): dev@live.com.sg
Team Member 2 Name: Kyaw Myotun
Team Member 2 Matriculation Number:
Team Member 2 Contact (Mobile/Email): Kyawmyotun180@gmail.com

For ISS Use Only		
Programme Name: Graduate Certificate in Intelligent Reasoning Systems	Project No:	Learner Batch:
Accepted/Rejected/KIV:		
Learners Assigned:		
Advisor Assigned:		
Contact: Mr. GU ZHAN / Lecturer & Consultant Telephone No.: 65-6516 8021 Email: zhan.gu@nus.edu.sg		

APPENDIX 2: USER GUIDE

User Guide:

The Best Phone system is easy to use. It requires answering a series of 7 preference and usage questions.

Question 1: Price preferences

May I know your budget to buy a smartphone?

300|

NEXT

Question 2: Brands preferences

Would you like only iPhones?

Yes

No

Question 3: Usage preferences

What do you mostly do with your phone?

Watch video

Reading

Play games

Question 4: Charging preferences

Do you want Fast Charge?

Yes

No

Question 5: Network preferences

Do you want 5G carrier?

Yes

No

Question 6: Battery usage

How often do you need to charge your previous phone in one day?

One time

More than One time

Question 7: Size preferences

May I ask which of the following categories do you satisfy with screen size?

Small (less than 6.2 inches),

Medium (between 6.2 and 6.7 inches)

Large (greater than 6.7 inches)

Doesn't matter

Sample Results

Our system recommends the following phones for you:

																															
Oppo A53 5G SGD 290	Specification																														
<table border="1"><thead><tr><th>CPU</th><td>MediaTek MT6853 Dimensity 720 5G (7 nm)</td></tr></thead><tbody><tr><th>GPU</th><td>Mali-G57 MC3</td></tr><tr><th>RAM</th><td>4 GB / 6 GB</td></tr><tr><th>STORAGE</th><td>128 GB</td></tr><tr><th>RESOLUTIONS</th><td>1080 x 2400 pixels, 20:9 ratio</td></tr><tr><th>SCREEN SIZE</th><td>6.5 inches</td></tr><tr><th>DIMENSIONS</th><td>162.2 x 75 x 7.9 mm (6.39 x 2.95 x 0.31 in)</td></tr><tr><th>WEIGHT</th><td>175 g (6.17 oz)</td></tr><tr><th>FRONT CAMERA</th><td>8MP</td></tr><tr><th>REAR CAMERA</th><td>Triple 16 MP + 2 MP + 2 MP</td></tr><tr><th>BATTERY</th><td>4040 mAh</td></tr><tr><th>FAST CHARGE</th><td></td></tr><tr><th>SIM CARD</th><td>Dual SIM (Nano-SIM, dual stand-by)</td></tr><tr><th>COLOR</th><td>Black, Green, Purple</td></tr><tr><th>CARRIER</th><td>5G/4G/3G/2G</td></tr></tbody></table>		CPU	MediaTek MT6853 Dimensity 720 5G (7 nm)	GPU	Mali-G57 MC3	RAM	4 GB / 6 GB	STORAGE	128 GB	RESOLUTIONS	1080 x 2400 pixels, 20:9 ratio	SCREEN SIZE	6.5 inches	DIMENSIONS	162.2 x 75 x 7.9 mm (6.39 x 2.95 x 0.31 in)	WEIGHT	175 g (6.17 oz)	FRONT CAMERA	8MP	REAR CAMERA	Triple 16 MP + 2 MP + 2 MP	BATTERY	4040 mAh	FAST CHARGE		SIM CARD	Dual SIM (Nano-SIM, dual stand-by)	COLOR	Black, Green, Purple	CARRIER	5G/4G/3G/2G
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BATTERY	4000 mAh																														
FAST CHARGE																															
SIM CARD	Dual SIM (Nano-SIM, dual stand-by)																														
COLOR	Aurora Glamour																														
CARRIER	5G/4G/3G/2G																														
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APPENDIX 3: POSSIBLE USE CASES

Scenario 1:

Molly is a student at NUS who wasn't planning to purchase a new phone, but her phone was water damaged and she needs an affordable new phone urgently. She tries Best Phone to help her find a great deal within her limited budget.

Q1: What is her budget?

May I know your budget to buy a smartphone?

300|

NEXT

Q2 : Is she open to other brands besides the iPhone?

Would you like only iPhones?

Yes

No

Q3: What is the primary activity of her preferred phone?

What do you mostly do with your phone?

Watch video

Reading

Play games

Q4: Is Fast Charging essential?

Do you want Fast Charge?

Yes

No

Q5: Is 5G essential?

Do you want 5G carrier?

Yes

No

Q6: How much battery life need is estimated?

How often do you need to charge your previous phone in one day?

One time

More than One time

Q7: What is her screen size preference?

May I ask which of the following categories do you satisfy with screen size?

Small (less than 6.2 inches),

Medium (between 6.2 and 6.7 inches)

Large (greater than 6.7 inches)

Doesn't matter

RESULTS SCENARIO 1:

The system offers three options that fit Molly's needs. These are all affordable and good quality phones that are compact and attractive.

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SCENARIO 2:

Benny is a college freshman with a generous budget and preference for purchasing an iPhone. He likes gaming, charges his phone multiple times a day, and mostly uses the phone in his dormitory. He doesn't have a preference about the phone's size.

Q1:

May I know your budget to buy a smartphone?

1000

NEXT

Q2:

Would you like only iPhones?

Yes

No

Q3:

What do you mostly do with your phone?

Watch video

Reading

Play games

Q4:

Do you want Fast Charge?

Yes

No

Q5:

Do you want 5G carrier?

Yes

No

Q6:

How often do you need to charge your previous phone in one day?

One time

More than One time

Q7:

May I ask which of the following categories do you satisfy with screen size?

Small (less than 6.2 inches),

Medium (between 6.2 and 6.7 inches)

Large (greater than 6.7 inches)

Doesn't matter

RESULTS SCENARIO 2:

Benny uses Best Phone and discovers there is one iPhone that fits his requirements and also two other options based on his preferences for him to consider alongside the iPhone.

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SCREEN SIZE	6.67 inches, 107.4 cm ² (~85.2% screen-to-body ratio)																																																																																																	
DIMENSIONS	165.1 x 78.4 x 9.3 mm (6.5 x 3.09 x 0.37 in)																																																																																																	
WEIGHT	218 g (7.69 oz)																																																																																																	
FRONT CAMERA	20 MP f/2.2, 27mm (wide), 1/3.4", 0.8µm																																																																																																	
REAR CAMERA	108 MP f/1.7, 26mm (wide), 1/1.33", 0.8 µm, PDAF + 13 MP f/2.4, 13mm (ultrawide), 1.12 µm5 MP f/2.4 (macro), AF																																																																																																	
BATTERY	5000 mAh																																																																																																	
FAST CHARGE	Fast charging 33W/Power Delivery 3.0/Fast wireless charging/Reverse wireless charging 15W																																																																																																	
SIM CARD	Dual SIM (Nano-SIM, dual stand-by)																																																																																																	
COLOR	Cosmic Black, Lunar Silver, Aurora Blue																																																																																																	
CARRIER	5G/4G/3G/2G																																																																																																	
Specification																																																																																																		
CPU	Snapdragon 765G (7 nm)																																																																																																	
GPU	Adreno 620																																																																																																	
RAM	8 GB																																																																																																	
STORAGE	256 GB																																																																																																	
RESOLUTIONS	1000 x 2340 pixels, 19.5:9 ratio																																																																																																	
SCREEN SIZE	6.65 inches																																																																																																	
DIMENSIONS	171.7 x 75.5 x 9.1 mm (6.76 x 3.09 x 0.36 in)																																																																																																	
WEIGHT	215 g (7.58 oz)																																																																																																	
FRONT CAMERA	12 MP (wide)																																																																																																	
REAR CAMERA	48 MP (wide) + 8 MP (ultrawide) + 2 MP (macro) + 2 MP (depth)																																																																																																	
BATTERY	5100 mAh																																																																																																	
FAST CHARGE	Fast charging 18W																																																																																																	
SIM CARD	Hybrid Dual SIM (Nano-SIM, dual stand-by)																																																																																																	
COLOR	Black, Blue																																																																																																	
CARRIER	5G/4G/3G/2G																																																																																																	
DETAIL LINK																																																																																																		

SCENARIO 3:

Christo has a mid-range budget for a new phone and he would also like an iPhone especially. He mostly uses his phone for playing games while out and about and while waiting public transport.

Q1 :

May I know your budget to buy a smartphone?

680

NEXT

Q2:

Would you like only iPhones?

Yes

No

Q3:

What do you mostly do with your phone?

Watch video

Reading

Play games

Q4:

Do you want Fast Charge?

Yes

No

Q5:

Do you want 5G carrier?

Yes

No

Q6:

How often do you need to charge your previous phone in one day?

One time

More than One time

Q7:

May I ask which of the following categories do you satisfy with screen size?

Small (less than 6.2 inches),

Medium (between 6.2 and 6.7 inches)

Large (greater than 6.7 inches)

Doesn't matter

RESULTS SCENARIO 3:

There aren't any iPhones that fit with Christo's budget. Our system therefore offers him lesser-known brands with similar features.

 Xiaomi Poco F2 Pro SGD 725	 Xiaomi Redmi K30 Pro Zoom SGD 725	 Google Pixel 4a 5G SGD 725																																																																																														
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[DETAIL LINK](#)

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APPENDIX 4: KYAW MYOTUN

1. Personal contribution

The group project has also been a great experience for me. Working with Dev Kapil I have learned about teamwork and how to apply techniques in Machine Learning to solve real-world problems. I have also learned to create business solutions and opportunities using knowledge of AI.

My personal contribution to the project was with the back-end development and database.

2. What is learnt?

I have learned valuable lessons from this experience, not only from the back-end and database engineering but also from my partner Dev I have learned new techniques and how to apply these to complex business problems.

3. How can you apply the knowledge and the skill gained?

This course has taught me a lot about how to communicate and work in a team. I now feel confident to apply knowledge of Intelligent Systems in the business environment.

APPENDIX 5: DEV KAPIL

1. Personal contribution

The group project has been a great experience for me. Working with Kyaw Myotun I have been able to apply lessons from the course in order to develop a completely new and viable business product using Machine Learning.

My personal contribution to the project was with the front-end development and business models.

2. What is learnt?

This project has been a very valuable learning experience for me. I have learned about system design, smart functions, system implementation and how to link these to business value and value adds such as user experience.

The course has taught me to solve problems by computational reasoning and how to leverage domain knowledge for this purpose.

I feel confident now to lead the development of Intelligent Systems using AI, ML, prediction, forecasting, classification, clustering and optimization. This project has given me a practical opportunity to solve a real-world problem.

3. How can you apply the knowledge and the skill gained?

This course has helped me gain knowledge and apply this knowledge to design and customize algorithms to solve complex business problems and to create strategic business advantage.