Milestone 2 Project Proposal

WinWin

Ride-hailing platform for local-motorcycle service provider and user

Present to

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Introduction

Nowadays, motorcycle taxis are a major type of transportation in Bangkok (second only to MRT). However, riders have low income because ride-hailing platforms snatch their market share. Moreover, ride-hailing platforms can make users more satisfied than motorcycle taxis e.g., users can call ride-hailing platforms everywhere.

Therefore, WinWin wants to digitalize the motorcycle taxi system and to utilize route familiarity and locality of local motorcycle taxis to be an advantage that other ride-hailing platforms do not have.

Organization background

WinWin, an online platform that connects customers with the local motorcycle taxis, has two business partners. Firstly, the Department of Land Transport, Ministry of Transport, which provides WinWin with the information about motorcycle taxis in the Bangkok area. Secondly, Winnonie, a startup founded by Bangchak Corporation group that rents out electric motorcycles.

WinWin believes that employing local motorcycle taxis as service providers is the best option since the riders are familiar with the route and can arrive at the customer's location faster than other riders from other ride-hailing platforms.

WinWin also thinks that building this application would satisfy stakeholders such as the Department of Land Transportation, Ministry of Transport, Winnonie, Motorcycle taxis, and consumers. Because Winnonie would be the market leader in the electric-vehicle rental market, the government and the Ministry of Transportation would receive a lot of positive credit for reorganizing local motorbike service. Riders would have more ways to make money, and consumers would benefit from a low-cost service provided by locals.

As-is system

In the as-is system, WinWin have used Line Official Account with Google Dialogflow and Google Apps Script as a medium between riders, and customers with overseeing admins.

Admins manually assign rider to customer based on their location and communicates with riders and customers through the Line Official Account mentioned above.

Problem statements

Table 1: Problem statements

Problem types	Problem description	Cause and effect	The proposed solution
1. Inconvenience of accessing and using motorcycle taxis	User can call motorcycle taxi only at their station	Ride-hailing platforms use their digital platform to make customers more satisfied than motorcycle taxi, making it a preferred choice among customers.	Developing a mobile application to be a new way to call motorcycle taxis and encourage user to use motorcycle taxi through this application.
2. Motorcycle taxi service fees are higher than legal limits.	If the destination is not on the price tag at the kiosk, motorcycle taxis tend to offer prices that are higher than the actual legal cost.	There is no system that calculates the price. This forces motorcycle taxis to charge fares based on experience, such as time, and their personal feelings, which may result in overpriced rates.	Develop a system that calculates the price from a given origin to a given destination using the pricing regulations.
3. The untrustworthiness of motorcycle taxi service provider (rider)	Currently, motorcycle taxi service doesn't have a review system where users can leave or view reviews on motorcycle taxi riders.	Motorcycle taxi service is perceived as a mode of transport that lacks credibility.	Develop a system for users to leave review and satisfaction rating on the service they received as well as view the overall rating from other users.

The proposed solution

Developing a Mobile-based Application for using motorcycle taxi service in nearby areas. The application has a system for matching motorcycle taxis with users, calculating prices, and giving reviews. This will provide motorcycle taxis with more channels to acquire users. Besides, users can use the service at a legitimate price and be able to give their reviews or impressions of the service, as well as view reviews from other users to make an informed decision about using a motorcycle taxi.

Definitions

Table 2: Definitions

Terms	Definition
Personal Information	Full-name, Phone number, Address, E-mail
Admin	WinWin platform provider
Job	A service sequence, starting from booking a motorcycle taxi and end with reviewing
Rider	In-service motorcycle taxi
Review	Writing comments and impressions of the service, including star rating and description in various fields such as cleanliness, speed, courtesy of the service provider.

Reference documents

Table 3: Reference documents

Document Name	Description
WinWin final pitch deck link	WinWin startup project presentation document
วิธีหาเงินจากรถมอเตอร์ไซค์ไฟฟ้าเดือนละ 2-3 หมื่นบาท link	Clip video from Facebook Page Winnonie "วิเคราะห์กันชัดๆ เช่ารถกับ Winnonie คุ้มค่าแค่ไหน"
WinWin as-is system operation flow Version1 link	Sequence of operation flow in as-is system
WinWin as-is system operation flow Version2 link	Detailed sequence of operation flow in as-is system
WinWin pricing link	Customer pricing
Class recommended template link	Format and topic in this document

Objective of the project

The aim of this project is to develop a Mobile-based Application that will give customers the advantage of the locality of motorcycle taxis and cheaper prices. Along with increasing income to motorcycle taxis that have their market share taken from various ride-hailing nowadays, it also makes motorcycle taxis more reliable and fairer price. This project will match users with motorcycle taxis, clearly state the fare and let users select their own preference e.g., fast/slow ride.

An overview of the as-is (existing) system

WinWin used Line Official Account (Line OA) with Google Dialogflow and Google Apps Script as a medium between all users.

There are 3 main types of users associated with LINE OA: admin, rider, and customer.

In as-is system, the LINE OA system mainly focusses on 1 feature: ride-hailing.

The flow of ride-hailing protocol is as follow,
- Customer decides to use ride-hailing service with WinWin and select their destination on Line OA.
- When the admin received customer's request, the admin then send messages to riders who are available near customer's waiting area.
- If rider decides to take the job, the rider shall press the "Accept" button on Line OA and go to the customer waiting point.
- When rider reaches the customer waiting point, the rider shall press the "Arrived" button on Line OA to update to the admin that the rider is on the way to send their customer to the destination.
- When rider and customer reach the destination, the rider shall press the "Finished" button on Line OA to update to admin for the last time that the service is complete.
- After the service is completed, customer will transfer the service fee to the rider through Line OA and rate the rider who serves them.
- Service charge rate is distributed as follows,
    o For distance less than 5 kilometers, the first 2.5 kilometers charges a fix amount of 30 baht and charges 6 baht per kilometer later on.
   o For the distance further than 5 kilometers, the charge rate is fixed at 12 baht per kilometers.
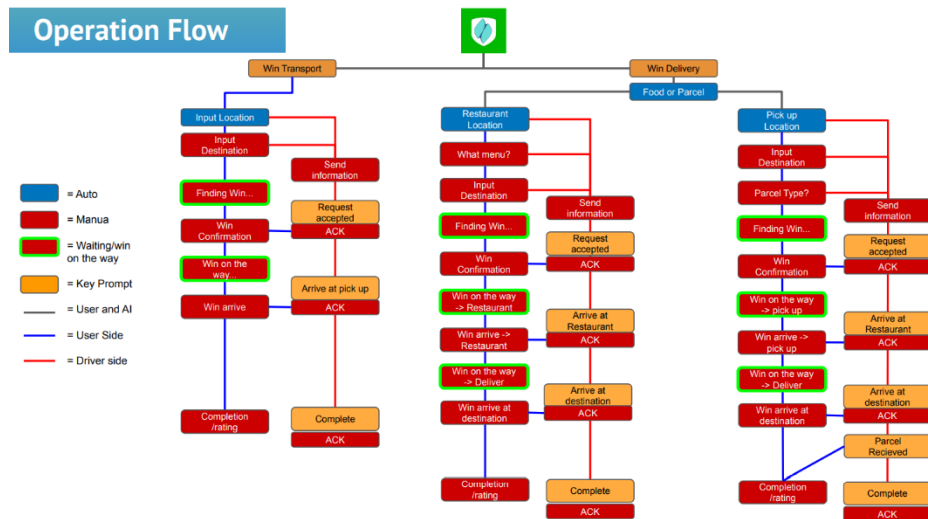
Figure 1: Operation Flow of Line Official Account (as-is system)

Figure 2: User Interface of Line Official Account (as-is system)

An overview of the to-be (proposed) system

This application is designed to bring benefits to both users and motorcycle taxis. Both customers and riders will use the same application, however, their interface will be different based on their user type.

For rider to get started, they will need to register through filling in their full name, citizen ID and reference number from Department of Land Transport, pay entrance fee including taking a picture of themselves to verify the identity of motorcycle taxis. This is to assure users that all motorcycle taxis in the application will be legal motorcycle taxis and to build confidence to customers that the rider is the approved one.

On the user side to register, it is necessary to verify identity through personal information.

The match making system starts when the user selects the pick-up location and destination they want to go to, selects payment method, and selects rider preferences. The motorcycle taxis in the surrounding location will be notified that there is new user's ride booking. When a motorcycle taxi accepts a ride from any user, users will see motorcycle plate number and rider name, and then wait for a motorcycle taxi to pick up.

During the service, on motorcycle taxi side, there shall be an update to let the system know that the motorcycle taxi has arrived, on the way to the destination, or arrived at the destination.

When the service is completed. The customer will be charged for the ride fare via the selected payment method and gives a review the rider who serves them with rating and description.
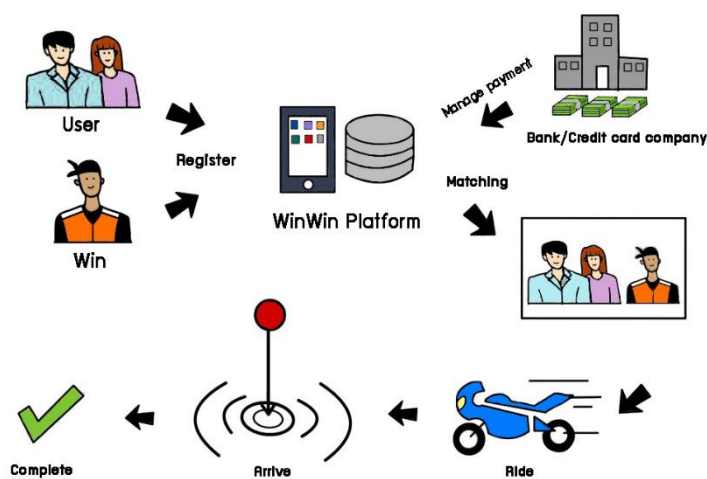

Figure 3: The flow of to-be system

The software development assumptions and constraints

- During the beginning phase, the application is to be used only in Bangkok.
- Travel fares, including legal issues, are according to the Department of Land Transportation's regulations.
- Information regarding motorcycle taxis is to be provided by the Department of Land Transportation.
- As there will be collaborations with government agencies, this may cause delays.

The scopes of the project

Functional Requirements

1. Register and manage account
    1. The system shall allow both user and rider to create a new account with a unique userID on the system.
    2. The system shall allow both user and rider to create a specific password corresponding to the user's userID.
    3. The system shall allow both user and rider to select account type from two categories including user and rider.
    4. The system shall allow the user to fill-in their profile including citizen ID number, first-name, last-name, and phone number.
    5. The system shall allow the rider to fill-in their profile including Reference number, first-name, last-name, citizen ID number, and phone number.
    6. For rider to start the service, the system shall allow the rider to pay entrance fee via bank transfer, credit card or debit card. This entrance fee will return to rider as rider's cash credit
    7. The system shall allow both user and rider to update their profile.
    8. The system shall allow the user to save their favorite location.
2. Login/logout system
    1. The system shall allow the user and rider to login/logout the system.
    2. When a user or a rider tries to login, the system shall validate their identity by userID and password.
3. Match riders to user
    1. The system shall allow riders to set their availability to either available or unavailable.
    2. The system shall make notifications to riders about ride requests made by users in their acceptable vicinity.

3. The system shall allow riders to accept ride requests that are available.

4. The system shall allow riders to decline available ride requests that are notified to them.

5. The system shall allow riders to cancel their acceptance of a ride request.

6. The system shall allow one rider only, at a time, to accept a ride request.

7. The system shall allow the user to look up available riders by location.

8. The system shall record every ride every rider has accepted.

4. Book a ride

1. The system shall allow the user to look up available riders by location.

2. The system shall allow the user to set their destination for the ride.

3. The system should allow the user to choose their preference for the ride.

4. The system shall allow the user to choose between booking a ride right away or booking a ride in advance.

5. In case of a right-away ride, the system shall allow the user to cancel the ride before the ride is accepted, without any penalty.

6. In case of an in-advance booked ride, the system shall allow the user to cancel the ride before the scheduled time, without any penalty.

7. The system shall record every ride users have requested.

8. The system shall allow the user to see the price rate of the requested ride.

9. The system should allow users to see the predicted amount of time for the ride.

5. Initiate a ride

1. The system shall make notification to the user about the acceptance of their ride request.

2. The system shall show the user the profile of the rider who accepted their ride request.

3. The system shall allow the user to be able to see the current location of the rider who accepted their ride request.

4. The system shall make notification to the user of the arrival of the rider who accepted their ride request.

5. The system shall allow users to cancel their rides that are currently in progress but with a penalty.

6. Make payment

1. Before the user books a ride, the service shall allow the user to select their desired payment method.

2. In case the user decides to pay the service by transferring to a bank account, the system shall allow the user to transfer service fee when the user reaches the destination.

3. In case the user decides to make a payment automatically from their credit or debit card, the system shall automatically make a payment from that credit or debit card after the rider marks the service as done.

4. In case the user decides to pay by cash, the system shall deduct the rider's cash credit equivalent to the service fee for that ride after the rider marks the service as done. (User pays the rider when they reach the destination.)

5. In case the rider's cash credit is under 50 baht, the system shall allow rider to top-up credit by bank transfer, credit card, and debit card.

7. Make review
   1. In case the service is success, the system shall allow users that use the service to review their rider via anonymous comment and rate them from 0 to 5 after the ride.
   2. The system should allow the user to view comments and ratings they have given to past rides.
   3. The system should allow the rider to view comments and ratings given to them.

Non-functional Requirements

1. Operational requirements
   1. The system shall operate in a mobile device environment.
   2. The system shall automatically back up its database daily.

2. Performance requirements
   1. The system shall respond in less than 5 seconds for every interaction between system and user.

3. Security requirements
   1. The system shall authenticate users and riders using userID-password.
   2. The system shall be able to keep users' transactions confidential.

4. Usability requirements
   1. The system should be easy to use for both new and experienced users.

The selected SDLC methodology and rationale

Selected methodology: Throwaway Prototyping

Reasons:

1. WinWin's CTO and our developer team are inexperienced with Mobile-based Application Development.
2. Some problems do not yet have a clear solution such as
   - How to queue up for app and walk-in users
   - How to solve the problem of long-term use in other provinces
   - Problems with paying the rider
3. The functionality of the features is still inconsistent.
4. There is enough time to deliver the final system.

As the functionality of the features is still inconsistent, making it difficult to decide which feature to implement first. Besides, due to lack of experience in mobile-based application development, the developer team may not be able to prepare for any technical issues that may arise. For this reason, it is not suitable for using Prototyping or Phased development.

Moreover, the system may be redesigned frequently to provide a better understanding between the developer and the user and to make the system as responsive as possible to the customer's needs. This makes it inappropriate to use Waterfall or Parallel development due to the need for consistency of requirements.

With enough time to deliver the final system, the focus is primarily on the design and mock-up of the system to understand the system's features and potential problems, and then to design and implement the final system afterward.

From all reasons above, the Throwaway prototyping is a preferable methodology. As this methodology aims to focus on understanding between the developer team and the user.

Gantt chart
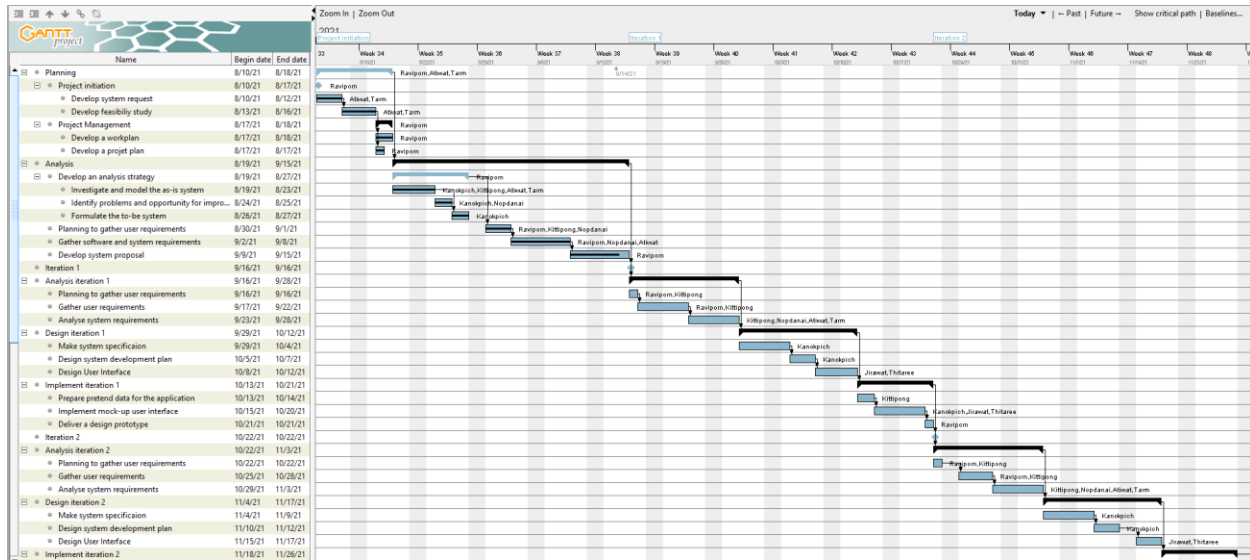
Figure 4: Gantt chart part 1
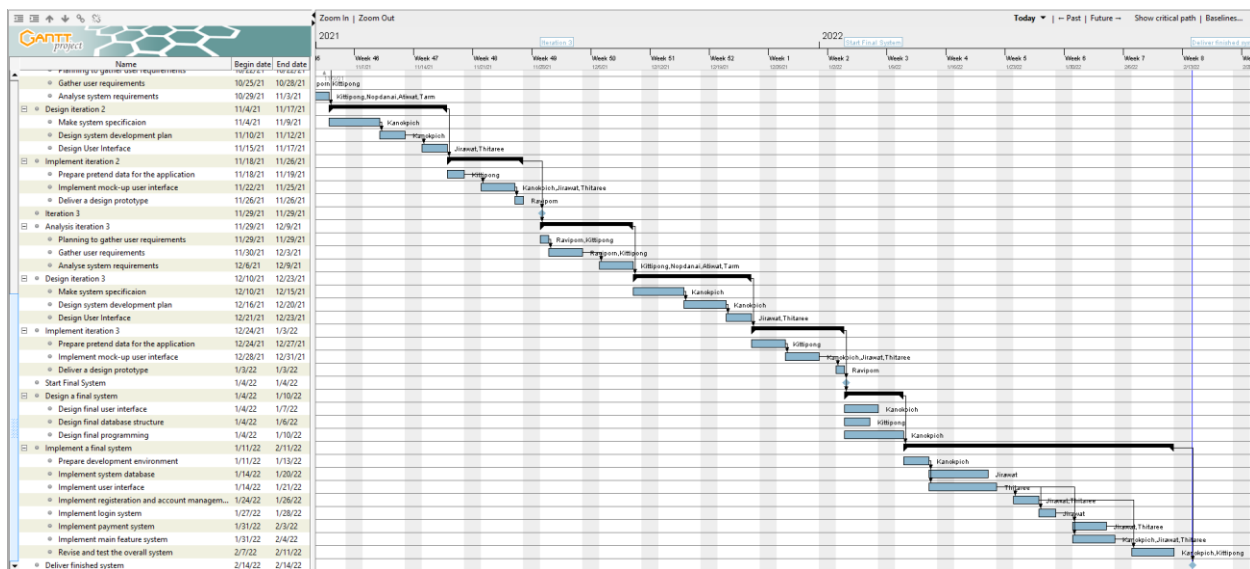
Figure 5: Gantt chart part 2

Software project cost estimation using decomposition technique

Table 4: Project cost estimation

Task	Responsible Roles	Effort (person-day)	Average Labor Rate (THB per day)	Labor Cost (THB)
Planning	Project Manager System Analysts	12	1,758.33	21,100.00
Analysis	Project Manager System Analyst Business Analyst Infrastructure Analyst Technical lead	54	1,762.04	95,150.00
Analysis iteration 1	Project Manager System Analyst Business Analyst Infrastructure Analyst	26	1,759.62	45,750.00
Design iteration 1	Technical Lead Software Developer	13	1,607.69	20,900.00
Implement iteration 1	Project Manager Technical Lead Software Developer Infrastructure Analyst	15	1,606.67	24,100.00
Analysis iteration 2	Project Manager System Analyst Business Analyst Infrastructure Analyst	26	1,759.62	45,750.00
Design iteration 2	Technical Lead Software Developer	13	1,607.69	20,900.00

Task	Responsible Roles	Effort (person-day)	Average Labor Rate (THB per day)	Labor Cost (THB)
Implement iteration 2	Project Manager Technical Lead Software Developer Infrastructure Analyst	15	1,606.67	24,100.00
Analysis iteration 3	Project Manager System Analyst Business Analyst Infrastructure Analyst	26	1,759.62	45,750.00
Design iteration 3	Technical Lead Software Developer	13	1,607.69	20,900.00
Implement iteration 3	Project Manager Technical Lead Software Developer Infrastructure Analyst	15	1,606.67	24,100.00
Design a final system	Infrastructure Analyst Technical Lead	8	1,718.75	13,750.00
Implement a final system	Technical Lead Software Developer Infrastructure Analyst	55	1,570.00	86,350.00
Deliver finished system	Project Manager	1	1,800.00	1,800.00
Total		292		490,400.00

Team organization and responsibility

Table 5: Team organization and responsibility

Name	Role	Responsibility
Wallapha Chantrasri	Chief Executive Officer (CEO)	- Making major corporate decisions - Managing the overall operations and resources of a company
Passakorn Passakornnatee	Chief Marketing Officer (CMO)	- Generating revenue by increasing sales through successful marketing for the entire organization
Jenjira Kitwakin	Chief Financial Officer (CFO)	- Tracking cash flow and financial planning
	Chief Technology Officer (CTO)	- Overseeing the development and dissemination of technology for external customers, vendors, and other clients
Gene Koshpasharin	Chief Operating Officer (COO)	- Providing leadership and strategic vision to the organization - Overseeing the day-to-day administrative and operational functions of a business
Raviporn Akekunanon	Project Manager	- Planning and develop the project idea - Creating and lead team - Monitoring project progress - Solving group issues - Ensuring stakeholder satisfaction
Kanokpich Chaiyawan	Technical leader	- Translating the business requirements into a technical solution - Leader of the development team
Jirawat Kusalangkurwat	Software developer	- Using the technical requirements from the Technical Leader to create cost and timeline estimates - Building the derivable and communicating the status of the software project

Name	Role	Responsibility
Thitaree Setwipattanachai	Software developer	- Using the technical requirements from the Technical Leader to create cost and timeline estimates - Building the derivable and communicating the status of the software project
Kittipong Deevee	Infrastructure Analyst	- Ensuring the system conforms to infrastructure standards - Identifying infrastructure changes required by the system
Nopdanai Sayamnet	Business Analyst	- Analyzing the key business aspects of the system - Identifying how the system will provide business value - Designing the new business processes and policies
Tarm Kalavantavanich	System Analyst	- Identifying how technology can improve business processes - Designing the new business processes - Designing the information system
Atiwat Deepo	System Analyst	- Identifying how technology can improve business processes - Designing the new business processes - Designing the information system

The benefits of the project for the stakeholder and the organization

Motorcycle taxis

- Receive more jobs from WinWin platform and riders can get jobs at their local station too
- The image of motorcycle taxi is improved because they are in system where they can be reviewed and examined

Customers

- Get convenience and faster service because local motorcycle taxi is familiar with the route and the fares is within the legal prices
- Get services from riders who are standardized and safe

Department of Land Transport, Ministry of Transport

- Can monitor data of motorcycle taxi easily through digital database system
- The image of Department of Land Transport is improved by modernizing transportation of the country

Business Owner

- Get income from revenue share of transportation fares
- Gain experience from developing a digital match-making platform which might lead to further opportunities
- Can apply the motorcycle taxi system to build new business model such as electric motorcycle taxi and subscription fee

Winnonie

- Create new channel to get more income such as renting electric motorcycle for riders
- Image of Winnonie improve because they can be leader of selling and renting out electric motorcycle

Contributions

Table 6: Contributions

Name	Contributed part	Level of Achievement
6230123921 Thitaree Setwipattanachai	Problem statement Scopes of the project	5 5
6230252121 Tarm Kalavantavanich	Objective of the project Assumptions and constraints	5 5
6231301421 Kanokpich Chaiyawan	Objective of the project An overview of the to-be system	5 5
6231304321 Kittipong Deevee	As-is system An overview of the as-is system An overview of the to-be system	5 5 5
6231307221 Jirawat Kusalangkurwat	Introduction Problem statement The benefits of the project	5 5 5
6231333521 Nopdanai Sayamnet	Cover page Organization background Reference documents	5 5 5
6231353021 Raviporn Akekunanon	Definitions Reference documents Gantt Chart Team organization and responsibility Document correction and organization	5 5 5 5 5
6231372021 Atiwat Deepo	Problem statement The proposed solution Selected SDLC methodology Cost estimation	5 5 5 5

Appendixes

Appendix A: The results of feasibility study

Technical feasibility

1. Functional Area

   Development team is not familiarized with transportation businesses. Even though they are fast learners, some application's features are complex with many details.

   Risk: M

2. Technical Area

   The team have experiences in developing web applications and a good understanding of how websites work, including technical tools. But the team is inexperienced in developing mobile application. Moreover, the application is complex with high user count and concurrency.

   Risk: M

3. Project Size

   Large, comparing to the size of team (8 developers and 4 QA staffs) and the complexity of project. But they were given long time to develop (6 months), have enough time for trial-and-error and learning.

   Risk: L

4. Compatibility

   Low, because the to-be system, which is a mobile application, is not in line with the as-is system, a LINE OA. Moreover, the to-be system wants to digitalize the existing motorcycle taxi system, the difference is huge.

   Risk: H

Summary of Technical feasibility level = Medium

Economic feasibility

Table 7: Economic feasibility

	2021	2022	2023	2024	2025	2026	2027	2028	Total
Total benefits	0.00	2,635,200.00	28,717,200.00	45,537,200.00	50,845,760.00	57,004,040.00	61,401,444.00	67,543,728.00	313,684,572.00
PV of benefits	0.00	2,483,928.74	26,280,306.06	40,459,212.40	43,859,999.22	47,739,986.07	49,924,992.90	53,319,642.60	264,068,067.99
PV of all benefits	0.00	2,483,928.74	28,764,234.80	69,223,447.20	113,083,446.42	160,823,432.49	210,748,425.39	264,068,067.99	
Development Cost									
Development Labor Costs	379,500.00	110,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
Consultant fees	363,000.00	126,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
Devices for development	400,000.00	200,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
Software licenses	30,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Server	90,000.00	0.00	90,000.00	270,000.00	90,000.00	0.00	0.00	0.00	
Server software	120,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total development Cost	1,003,000.00	326,000.00	90,000.00	270,000.00	90,000.00	0.00	0.00	0.00	
Operation Cost									
Hardware	50,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	80,000.00	
Software	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	
Operational Labor	0.00	1,080,000.00	1,080,000.00	1,080,000.00	1,080,000.00	1,080,000.00	1,080,000.00	1,080,000.00	
Cloud Services	120,000.00	400,000.00	400,000.00	400,000.00	400,000.00	400,000.00	400,000.00	400,000.00	
App dev license	4,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	
Employees	1,060,000.00	1,300,000.00	2,040,000.00	2,340,000.00	2,820,000.00	3,102,000.00	3,412,200.00	3,753,420.00	
Marketing fee	50,000.00	10,000,000.00	10,000,000.00	11,000,000.00	12,100,000.00	13,310,000.00	14,641,000.00	16,105,100.00	
Total operation Cost	1,384,000.00	12,963,000.00	13,703,000.00	15,003,000.00	16,583,000.00	18,075,000.00	19,716,200.00	21,521,520.00	
Total Costs	2,387,000.00	13,289,000.00	13,793,000.00	15,273,000.00	16,673,000.00	18,075,000.00	19,716,200.00	21,521,520.00	120,727,720.00
PV of Costs	2,317,475.73	12,526,157.04	12,622,548.91	13,569,862.68	14,382,276.26	15,137,527.94	16,031,074.86	16,989,286.62	103,576,210.04
PV of all Costs (cumulative)	2,317,475.73	14,843,632.76	27,466,181.67	41,036,044.35	55,418,320.62	70,555,848.56	86,586,923.41	103,576,210.04	
Total Project Benefits - Costs	-2,387,000.00	-10,653,800.00	14,924,200.00	30,264,200.00	34,172,760.00	38,929,040.00	41,685,244.00	46,022,208.00	192,956,852.00
Yearly NPV	-2,317,475.73	-10,042,228.30	13,657,757.15	26,889,349.72	29,477,722.96	32,602,458.13	33,893,918.04	36,330,355.98	160,491,857.96
Cumulative NPV	-2,317,475.73	-12,359,704.02	1,298,053.13	28,187,402.84	57,665,125.81	90,267,583.93	124,161,501.98	160,491,857.96	
Return on Investment	154.95%								
Breakeven Point	2.904958544								

Tangible Benefits

- Since WinWin's application is the online matmaking platform between customers and motorcycle taxis, The motorcycle taxis will earn more money, and the company will receive an 8 percent cut of each ride.

Intangible Benefits

- The Customers will have more transportation options and will be more convenient because they will no longer have to wait in line for motorcycle taxis.
- The local motorcycle service will be more digitalized, reliable, and standardized than ever before.

Development costs

- Development Labor Costs
- Consultant fees
- Devices for development
- Software licenses
- Server and Server software

Operational Costs

- Hardware
- Software
- Operational Labor
- Cloud Services
- App Development License
- Employees
- Marketing fee

Summary of Economic feasibility level = High

Organizational feasibility

1. Strategic alignment: The operational strategy of the project is consistent with the company's and business partners' objectives since they all seek to digitalize local motorbike service.
   Risk: L

2. Stakeholder analysis

   1. Customers: Even though motorcycle service in Bangkok has a negative reputation due to several issues (e.g., charging prices that are above the standards), WinWin makes the process of getting a motorbike service much easier and more standardized, so customers may prefer to use WinWin's application for these reasons.

   2. Motorcycle taxis: have additional ways to make money, better personal finance.

3. The Department of Land Transport, Ministry of Transport: As WinWin reorganizes and digitizes local motorcycle services, the government gains the majority of the positive credit for these initiatives.

4. Winnonie:

- Winnonie would be the market leader in electric vehicle rental.

- Because Winnonie's objective is to assist motorcycle taxis in becoming debt-free, so, the benefits of using WinWin's application are in line with Winnonie's vision, as the rider will make more money.

Risk: L

3. Impact of the to-be system (on society)

Table 8: Organizational feasibility - impact of the to-be system

Type	Positive Impact	Negative Impact
Economic impact	Customers would have more options for transportation, and motorcycle taxis would have more jobs, resulting in a shift in the economy.	-
Society impact	Using the service from local motorcycle taxi supports increasing in work employments and cash flow in the community.	If any motorcycles taxis are unfamiliar with using a smartphone or other new type of technology, this might cause inequality among them.
Environmental impact	If motorcycle taxis rent electric motorcycles from Winnonie, this move might help reduce the environmental stress by lessening petrol energy use.	On the other hand, if motorcycle taxis did not rent electric motorcycles from Winnonie or continued to use petrol motorcycles, Winnonie would be dissatisfied since they want to be a leader in the electric vehicle rental market and want to minimize use in patrol vehicles, which causes air pollution.

Global impact	Due to the spread of COVID-19, customers should not wait in a group for motorcycle taxis at the station. As a result, if customers use WinWin's application, the spread may be reduced because they no longer need to wait at the station.	-

Risk: Medium low

Summary of Organizational feasibility level = Medium High

An overall of three aspects summary

Technical Feasibility Level	M
Economic Feasibility Level	H
Organizational Feasibility Level	MH
Overall Feasibility Level	MH

Approved, despite numerous technical issues, WinWin's project has a remarkable capacity to meet all stakeholder expectations since financially, they have a payback period of just 2 years and 10 months and a ROI of 155 percent, which might be regarded as a well-achieved project if they were able to do so.

Appendix B: Software tool

Software project management	GanttProject
System and software modeling	draw.io
User Interface Design	Figma

Appendix C: Team standard list

Documentation standards

- All margins should be set to 1 inch.
- Use Thai Distributed (การจัดหน้ากระดาษชิดช้ายขวาแบบไทย)
- Font face: TH Sarabun New
- Font size:
  - Heading 1 = 20pt Bold
  - Heading 2 = 18pt Bold
  - Heading 3 = 16pt Bold
  - Body = 14pt
  - Caption = 14pt

Coding standards

- Git will be used as version control and should commit frequently.
- Variable names and git commit messages should be intuitive and self-explanatory e.g., not x, asd, fix etc.
- The code should have high reusability, decompose modules as often as possible.

Procedural standards

- All changes to requirements document must be approved by the project manager.
- Report to project update meeting on Saturdays at 8pm.
- Task progress should be recorded regularly throughout the work plan.

User interface design standards

- The user interface must be responsive.
- The design of user interface elements must comply with the corporate identity.