4.1 Feasibility study

A feasibility study is an assessment and analysis of the practicality, viability, and potential success of a proposed project, plan, or business idea. It serves as a crucial step before a project's commencement, evaluating various aspects to determine whether the project is achievable and advisable to pursue.

4.1.1 Technical Feasibility

UniRide is a ride-hailing mobile app designed specifically for students at Universiti Teknologi Malaysia (UTM). UTM students looking to request a ride can seamlessly download UniRide from Google Play or the App Store on their Android or iOS smartphones, without the need for additional hardware or software. What sets UniRide apart is its exclusive accessibility for UTM students, whether they are drivers or passengers. To enhance cost-effectiveness and convenience, the app integrates with the UTM portal database—an efficient system containing comprehensive student information. This integration serves a dual purpose: not only does it improve user security by verifying the UTM student status of drivers and passengers, but it also streamlines the project's technical feasibility by leveraging the existing infrastructure of the UTM portal.

4.1.2 Operational Feasibility

Operational feasibility for UniRide becomes evident through its strategic design elements, drawing inspiration from well-established ride-hailing apps like Grab, Maxim, AirAsia, and inDrive. This familiarity ensures that UTM students requesting UniRide don't face a steep learning curve, as the app's features—authentication, location selection, order placement, payment options, and driver details—are intuitively similar to those found in other ride-hailing applications. Considering that many students have prior experience using platforms like Grab for transportation, the seamless integration of UniRide into this framework eliminates the need for any user training. Additionally, UniRide's user interface is thoughtfully crafted with familiar icons and a simplistic layout, facilitating smooth navigation for an enhanced user experience. This approach not only aligns with industry standards but also enhances the operational feasibility of UniRide within the UTM community.

4.1.3 Economic Feasibility

Below is the Cost-Benefit Analysis (CBA)

Assumptions	
Discount rate	8%
Sensitivity factor (cost)	1.1
Sensitivity factor (benefits)	1.1
Annual change in production costs	3%

Annual change in benefits	4%

Estimated cost	
Hardware	RM 15 000
Software	RM 20 000
Consultant	RM 8 000
Training	RM 5 000
Maintenance	RM 8 000 per year
IS Support	RM 10 000 per year

Estimated benefit	
Increase sales	RM 50 000 per year
Saving	RM 15 000 per year

Costs	Year 0	Year 1	Year 2	Year 3
Development Costs				
-Hardware	16 500			
-Software	22 000			
-Consultant	8 800			
-Training	5 500			
Total	52 800			

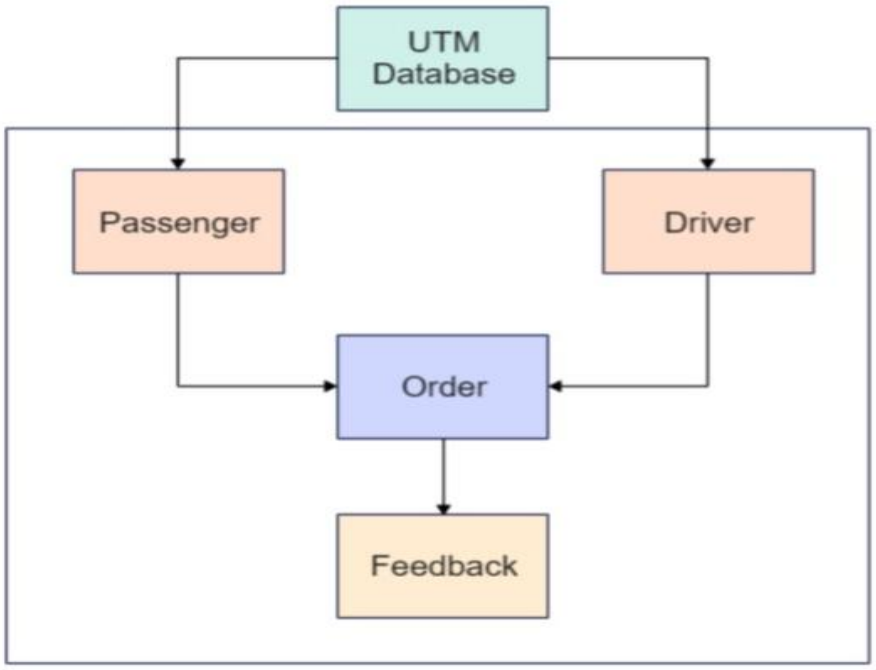
Production Costs -Maintenance -IS Support		 8 800 11 000	 9 064 11 330	 9 336 11 670
Annual Production Costs (Present Value)		19 800 18 000	20 394 16 855	21 006 15 782
Accumulated Costs		70 800	87 655	103 437

Benefits	Year 0	Year 1	Year 2	Year 3
-Increase Sales -Saving		55 000 16 500	57 200 17 160	59 488 17 846
Annual Benefits (Present Value)		71 500 65 000	74 360 61 455	77 334 58 102
Accumulated Benefits		65 000	126 455	184 557
Gain or Loss		(5 800)	38 800	81 120
Profitability Index	1.54			

From the table above, the profitability index is 1.54. This suggests the project could be a good investment because its index is more than one. A profitability index of 1.54 indicates a promising project, which indicates a present value return of RM1.54 for every RM1 invested. This signals positive value and potential profitability in ringgit terms. However, while the index is favorable, a comprehensive analysis of other factors is crucial before making any investment decisions.

6.4 System Boundaries

The figure below shows the system boundary for our project. The things inside the box will be included in our system planning. The project focuses on creating the database system for UniRide, an online ride-hailing mobile application designed specifically for UTM students.



Major User View

The users are Administrator, Driver and Passenger. The major user views for each of the user groups are shown in the table below:

Data	Access Type	Administrator	Passenger	Driver
Passenger	Maintain		**X**	
	Query	**X**		
	Report	**X**		
Driver	Maintain			**X**
	Query	**X**		
	Report	**X**		
Order	Maintain		**X**	

	Query Report	**X** **X**	**X**	**X**
Feedback	Maintain Query Report	 **X** **X**	**X** **X**	 **X**

7.0 Project Planning

7.1 Human Resources

Role	**Person In Charge**	**Responsibilities**
Project Manager	**Tan Sin Yi**	-Develop detailed project plan -Ensure projects are on schedule and within budget. -Coordinate communications among team members and stakeholders. -Identify potential risks and develop mitigation strategies
Project Advisor	**Dr. Sharin Hazlin binti Huspi** **Dr. Layla Rasheed Hasan**	-Provide professional guidance and advice -Ensure content meets high-quality standards
Database Administrator	**Yasmin binti Johari**	-Design and implement database architecture -Collaborate with developers to optimize database queries -Establish and maintain regular backup procedures and recovery mechanisms

System Analyst	**Hak Tai Huei**	-Gather detailed requirements from stakeholders -Analyze and document system requirements
Developer	**Goh Zi Qin**	-Test and debug the system -Design and implement the database system -Document the code base
Project Client	**Nasrul Nazwan bin Muhanad**	-Provide detailed requirements for the project -Provide timely and constructive feedback

9.0 Transaction Requirements

Entity	Data	Data Entry	Data Update	Data Delete	Data queries
Passenger	1. Passenger ID 2. Name 3. Matric Number 4. Telephone Number 5. Semester 6. Faculty	Enter the details for passenger's information	Update the details for passenger's information	Delete passenger account	Query the details for passenger's information by passenger
Driver	1. Driver ID 2. Name 3. Matric Number 4. Study Status 5. Identity Card Number(IC) 6. License Details 7. Car Insurance Details 8. Car's Plate Number 9. Phone Number	Enter the details for driver's information	Update the details for driver's information	Delete driver account	Query the details for driver's information by driver

	10. Address				
Order	1. Order number 2. Pick up date & time 3. Pick up address 4. Drop off address 5. Number of passengers 6. Travel Route 7. Total amount of price 8. Passenger's comment 9. Payment Status 10. Payment Method 11. Phone number of driver	Enter the details for order placement and payment by passenger	Update the details for order placement and payment by passenger	Cancel order and payment by passenger	Query the details for order placement and payment by passenger and driver
Feedback	1. Feedback Number 2. User Type 3. Date and Time 4. Feedback Details 5. Driver Ratings 6. Feedback Status	Enter the details for feedback by passenger	Update the details for feedback by passenger	Delete feedback by passenger	Query the details for feedback by passenger and driver

11.0 Summary

In Summary, UniRide is a pioneering initiative designed to revolutionize the transportation landscape at Universiti Teknologi Malaysia (UTM). At its core, UniRide seeks to address the inefficiencies and safety concerns prevalent in the current student transportation system through the development of a dedicated and structured mobile application exclusively for UTM students. Besides that, the existing system suffers from significant drawbacks such as informal booking process, lack of an official platform, challenges in payment tracking, and safety concerns without a formal reporting mechanism. UniRide intends to remedy these shortcomings by introducing a comprehensive and efficient solution.

Additionally, the project's scope includes the design, development, and implementation of the UniRide platform, featuring a structured database system for streamlined order management, safety protocols, and driver accountability. Safety is a paramount focus, encompassing GPS

tracking, safety reporting, and driver verification mechanisms to ensure a secure and trustworthy transportation experience. Hence, UniRide's anticipated features encompass a structured booking system, a dedicated platform for seamless communication between drivers and passengers, a reliable payment tracking mechanism, and a stringent focus on safety and security.

Overall, UniRide aspires to deliver a safe, efficient, and structured transportation solution, mitigating the existing challenges and providing an enhanced travel experience exclusively for UTM students. In other words, embracing innovation and safety, UniRide is committed to providing a reliable and convenient transportation solution within the UTM community.