De La Salle University- Manila
Gokongwei College of Engineering

PROLOGI
Programming Logic and Design

Project Proposal

<TransitMode>

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Project Description

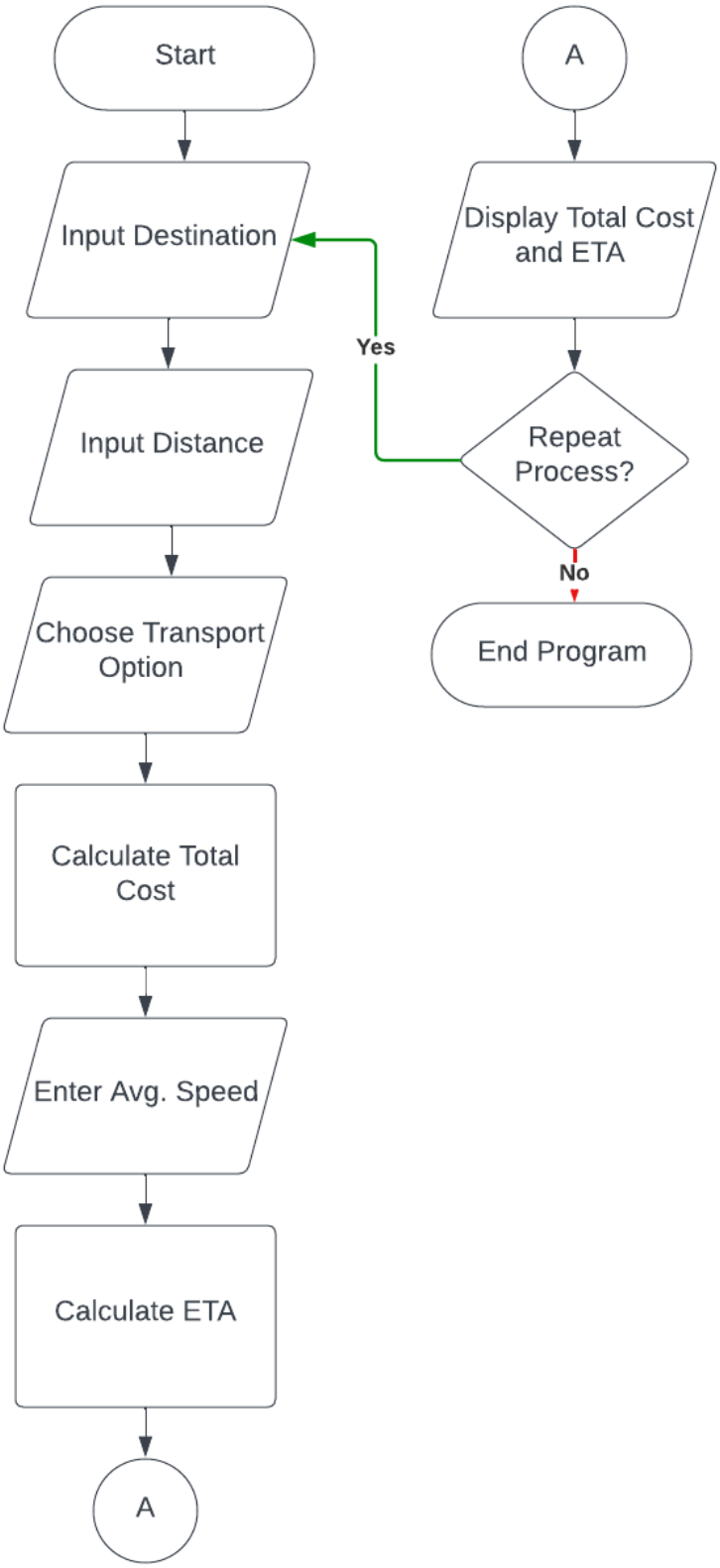
A python program called TransitMode estimates the price and duration of transit. It offers consumers a variety of transportation choices, together with information about the prices, cost per kilometer, routes, and peak hours. The user can then enter their average speed, choose mode of transportation, then input their destination and distance. The application then calculates the estimated time of arrival (ETA) using the distance, speed, and rush hour times of the selected mode of transportation, and displays the cost and ETA information to the user. The software executes in a while loop that prompts the user to input a different destination if requested and ends if the user decides not to proceed. This tool might be helpful for people who are organizing their travel routes and want to calculate the length and expense of their journey in advance. To generate more precise ETA estimates, it might also be enhanced to include real-time traffic information.

The main way this is achieved is similar to waze and grab, where the program has a dictionary on certain transportation modes and the prices often given for each individual mode of transportation. Like grab having certain fares per km or jeepneys and buses with certain fares of km. The other modes of transportation like trains will not necessarily be time efficient as the lines for the trains can often affect the time spent for transportation. Another restriction to this is we will only be able to provide data based on our own experiences as making a more complex dictionary would be more time consuming and the lack of resources and experience on multiple routes will hinder us in giving a good output.

IPO

Input	Process	Output
- Destination location - Distance to destination - Transportation option choice - Average speed of transportation	- Calculates the estimated time of arrival (ETA) based on the distance, speed, and rush hour times of the selected transportation option. - Calculates the cost of transportation based on the distance and cost per kilometer of the selected transportation option.	- Transportation option name - Destination location - Cost of transportation - ETA, either during rush hours or not, depending on the selected transportation option and the current time. - Prompts the user whether they would like to enter another destination.

Methodology



Process

1. User inputs their distance, budget, preferred transportation, time and desired destination
2. Calculates the estimated time of arrival (ETA) based on the distance, speed, and rush hour times of the selected transportation option.
3. System displays transportation information to the user, depending on transportation
4. If they wish to repeat the process then it will go back to the main functions which are the inputs

The program will use the concepts of python:

1. **Arithmetic operators -** This will be used for the calculations of cost and time
2. **Dictionaries -** this will be used to store the data that will be used for the function
3. **If-else Statements -** this will be used to execute for the conditional repeating statement and will also be used for the main comparison as the first main condition for the best route would be price
4. **User Defined Functions** - the main backbone of the program will have a few different functions

Schedule of Activities

Task number	Planned action	Planned outcome	Time estimated	Target completion date	Actual Completion Date
1.	Project Proposal	Showing Project description with brainstormed idea	3 days	3/20/23	3/20/2023(submitted through different github link)
2.	Flowchart	Showing process of the program to make the coding easier	3 days	3/23/2023	4/5/2023
3.	Actual Coding	Coding the actual program with the database file	1 ½ week	4/1/2023	4/8/2023
4.	Debugging	Debugging the current program, fixing all the incorrect, typos or bugs	1 week	4/8/2023	4/9/2023
5.	Presentation	Presenting the program with its uses, how it works and show the results of the output	1 day	4/10/2023	4/10/2023

References

1. Terzidis, K. (2020, September 23). Top Python concepts for Data Science. FreeCodeCamp. https://www.freecodecamp.org/news/top-python-concepts-for-data-science/#strings-in-python
2. Statista. (2021). Philippines: minimum fare by type of public transport (in Philippine pesos) as of 2021. https://www.statista.com/statistics/1329307/philippines-minimum-fare-by-type-of-public-transport/
3. Philippine News Agency. (2021, January 1). Transport groups raise minimum jeepney fare in Metro Manila. https://www.pna.gov.ph/articles/1183909
4. Light Rail Manila Corporation. (n.d.). Fare matrix. https://lrmc.ph/our-business-featured/fare-matrix/
5. Philippine Star. (2023, February 2). Fare hike for LRT-1 and LRT-2 looms. Retrieved from https://www.philstar.com/nation/2023/02/02/2241863/fare-hike-lrt-1-lrt-2-looms-

Note : The three sources will be used for the data regarding the fares of the philippines