myTaxyService®

Project Plan

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1 Purpose

Our purpose of this document is to create a project plan for myTaxiService. In order to do this project well, we are going to use two units of measurements which are called The Function Point that is suitable for estimating the project size and the other one COCOMO which is relevant for estimating the cost and effort of the project. In the next step we are going to specify the schedule of the project and the tasks which should be done. Then we must allocate any part of project to a person, in the other word (assigning people to tasks). After that the project manager should assess and monitor the risks that may affect a project. In the following we are going to discuss each units of measurements.

2 Function Points

In this section we want to explain how to estimate our project size by using some characteristics such as:

1. Internal Logical File (ILF): set of data used and managed by the DataBase.
2. External Interface File (EIF): set of data used by the application but generated and maintained by other applications
3. External Input: Elementary operation to elaborate data coming form the external environment (Input)
4. External Output: Elementary operation that generates data for the external environment
5. External Inquiry: Elementary operation that involves input and output

Below there is a table that we should use it for estimating project.

Function types Weights	Simple	Medium	Complex
N. Inputs	3	4	6
N. Outputs	4	5	7
N. Inquiry	3	4	6
N. Internal Files	7	10	15
N External Files	5	7	10

N. Internal Logical File (ILF): The application includes a number of ILFs that will be used to store information about Passenger, Taxi Driver, Administrator, So we can consider these datas as simple weight. As a result, we get 3*7=21 FPs.

N. External Interface File (EIF): As far as we do not have an extra system or we do not use API, so we do not have any External Interface File.

N. External Inputs: The application interacts with the user to allow him/her to:

- Login/Logout: these are simple operation, so we can adopt the simple weight for them. 2*3=6 FPs.
- Request/Reservation: we can consider these operations as a simple wieght. so 2*3=6 FPs.
- Accept/Refuse: again we are going to consider them as simple weight. 2*3=6 FPs.
- Availability/Unavalability: We consider these factors as medium weight. 2*4=6 FPs.
- Add/Delete/Modify user info: We consider these functions as medium weight. 3*4=12 FPs.

N. External Outputs: The application will extract some functions from database:

- Notification: We can consider this function as a simple one. 1*4=4 FPs.
- Waiting time and taxi plate number: These operations are considered as medium weight. so we have 2*5=10 FPs.
- Location of Passenger: These operation is considered as simple weight. Thus we have, 1*4=4 FPs.

N. External Inquiry: The application will allow its users to require some functions such as:

- Report: We consider this operation as complex weight. Thus we have, 1*6= 6 FPs.
- List of Available Taxi drivers: we consider it as a medium weight. 1*4=4 FPs.

Function Type	Value
Internal Logic Files	21
External Logic Files	0
External Inputs	36
External Inquiries	10
External Outputs	18
Total:	85

3 COCOMO

In this part we are going to use an Algorithm called COCOMO in order to estimate the effort of the system.

Below is a table that shows analysis which get from COCOMO II.

Table 10. Scale Factor Values, SF_i, for COCOMO II Models

Scale Factors	Very Low	Low	Nominal	High	Very High	Extra High
PREC	thoroughly unprecedented	largely unprecedented	somewhat unprecedented	generally familiar	largely familiar	thoroughly familiar
SF_i:	6.20	4.96	3.72	2.48	1.24	0.00
FLEX	rigorous	occasional relaxation	some relaxation	general conformity	some conformity	general goals
SF_i:	5.07	4.05	3.04	2.03	1.01	0.00
RESL	little (20%)	some (40%)	often (60%)	generally (75%)	mostly (90%)	full (100%)
SF_i:	7.07	5.65	4.24	2.83	1.41	0.00
TEAM	very difficult interactions	some difficult interactions	basically cooperative interactions	largely cooperative	highly cooperative	seamless interactions
SF_i:	5.48	4.38	3.29	2.19	1.10	0.00
PMAT	The estimated Equivalent Process Maturity Level (EPML) or					
	SW-CMM Level 1 Lower	SW-CMM Level 1 Upper	SW-CMM Level 2	SW-CMM Level 3	SW-CMM Level 4	SW-CMM Level 5
SF_i:	7.80	6.24	4.68	3.12	1.56	0.00

Effort Equation:

This final equation gives us the effort estimation measured in Person-Months (PM)

Effort := A * EAF * KSLOC E

4 Task and Schedule

In this part, Tasks and Schedule must have specified in order to estimate the time that the project will take. Our project divides into 3 categories:

- Analyze Part:
  - Gathering Specification: 3 Month
  - Review specification with client: 2 Weeks
  - Designing Requirement and specification documents: 2 Month
  - final review with client: 2 Weeks
- Implementation Part:
  - Guest Component: 2 Month
  - Passenger Component: 3 Month

- Taxi Driver: 3 Month
- Administrator: 2 Month

- Testing
  - Unit Testing: 1 Month
  - Integrated Testing: 1 Month

5 Resource Allocation

In this part we have to allocate all members of our group to each task. So we can distribute our team like below:

- There should be a team consists of 3 persons for communicating with client for gathering information (specification), Reviewing specification. The team should composed 1 experience person and other can be junior engineer.
- A team includes 2 persons should design Requirement and Specification document (RASD).
- For the implementation part it is better to have 3 persons consist of 1 expert and 2 junior or amateur engineer for Implemening high level components.
- Finally Testing part need 2 persons consists of one expert and a junior engineer for foing Unit testing and integrated testing.

6 Risks of project

In this part we are going to specify the risks of project in the other words the contingencies that may happen during project. Below there are some risks.

1. Project manager realised that the project need more budget.
2. Project manager will understand that the project in not going to be ready on time and it may have delay for delivering the project.
3. Some employees won't be able to carry on the project and more force will require.
4. The project manager will be changed and a new manager need to control the project.
5. Some problems may happen with hardware and software facilities.
6. The environment may not available more.
7. Requirement change in which a new desing document should be created.
8. Stakeholder conflict over proposed changes Change requests may be the source of stakeholder conflict.

9. Users have inaccurate expectations The risk that users believe the project is building an apple when you're really building an orange (i.e. users don't understand the product that's coming their way).

10. Resource shortfalls Inability to secure sufficient resources for the project.

11. Users reject the prototype One of the key methods of improving user acceptance is to get regular prototypes in front of users. There's always a risk that these prototypes will be rejected (require significant rework).