Intra ville Route Finder

Software Engineering Course Project

Project Plan Document

Group # 11

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Project Plan Document

Project Type

The software project is a mobile phone app. The targeted audience is obviously huge. It's a Google maps based software which, more precisely, is a bus service helper whose task is to pamper the user during his journey to desired location using intra city bus service.

Process Model

We are using waterfall model because our project is implemented in a way that our requirements change. Using feedback loops, we can modify our implementation. Furthermore, a lot of time was spent on documentation and each checkpoint has its own specific deliverables.

Project Deliverables

1. Requirements document
2. Project plan
3. System design document
4. Test reports
5. Final code
6. Software manuals e.g. user, installation

Project Tasks

Tasks to determine product statement
1. Identify needs and benefits
2. Identify needs and project constraints
3. Define project purpose and scope
4. Identify user characteristics
5. **Milestone**: Product statement defined

Tasks to determine functional specification

1. Define desired input/output
2. Input functions/output functions
3. Review with customer
4. Review with team members
5. **Milestone:** Functional specification defined

Tasks for scheduling

1. Group meetings schedule
2. Gantt charts
3. **Milestone:** scheduling accomplished

Tasks to determine estimation

1. Cost estimation
2. Software model specified
3. Project based estimation
4. H/w and s/w cost estimations

5. Customer meeting
6. **Milestone**: estimations calculated

Tasks for designing phase

1. Data flow diagrams for the proposed system
2. Entity relationship diagrams
3. Normalization of tables
4. Data dictionary
5. **Milestone**: final design

Tasks for coding/implementation

1. Designing the database in SQL
2. Java is used for functions and methods
3. XML is used in layout elements
4. Connectivity handling
5. **Milestone:** coding accomplished

Tasks for risk management

1. Customer meeting
2. Risks identified
3. Working on risk free software
4. **Milestone:** risk control achieved

Tasks for testing

1. Devising test cases
2. Test cases run
3. User acceptance activity
4. **Milestone:** system tested

Project Scheduling

The plan for the scheduling covers the entire life cycle of the project. It entails all the activities that must be performed before starting the development work. Scheduling estimation and staff requirement estimations are perhaps the most important activities after cost estimation. As there is a strong relationship between the project duration and the staff time (measured in staff -months) required for completing the project. Later this schedule can be used for monitoring the progress of the project.

Timeline Chart

Task Name	Duration	Start	Finish	Predecessors	Resource Names
Product	3 days	Thu 2/21/13	Mon 2/25/13		Rao Fawad Qamar
Preliminary Requirments	1 day	Tue 2/26/13	Tue 2/26/13	1	Rao Fawad Qamar
Meeting with the course	1 day	Wed 2/27/13	Wed 2/27/13	2	Rao Fawad Qamar,Shahzaib
Identification of	4 days	Thu 2/28/13	Tue 3/5/13	3	Rao Fawad Qamar,Shahzaib
Project Meeting	1 day	Wed 3/6/13	Wed 3/6/13	4	Rao Fawad Qamar,Shahzaib Al
Use Cases	2 days	Thu 3/7/13	Fri 3/8/13	5	Shahzaib Ali Jamal
Team Meeting	1 day	Mon 3/11/13	Mon 3/11/13	6	Rao Fawad Qamar,Shahzaib Al
Division of Team	4 days	Tue 3/12/13	Fri 3/15/13	7	Rao Fawad Qamar,Shahzaib
Use Case Point analysis	4 days	Wed 3/20/13	Mon 3/25/13		Rao Fawad Qamar
Project Plan Document	2 days	Tue 3/26/13	Wed 3/27/13	6,8,9	Rao Fawad Qamar,Shahzaib
Project Meeting	1 day	Wed 3/27/13	Wed 3/27/13		Rao Fawad Qamar,Shahzaib Al
Project Design	2 days	Thu 3/28/13	Fri 3/29/13		Rao Fawad Qamar,Shahzaib Al
Architecture, State and	3 days	Sun 3/31/13	Tue 4/2/13		Rao Fawad Qamar

Class Diagram and	2 days	Sun 3/31/13	Mon 4/1/13		Shahzaib Ali Jamal
Logo and Background	1 day	Fri 4/5/13	Fri 4/5/13		Rao Fawad Qamar
User Interface and	1 day	Sat 4/6/13	Sat 4/6/13		Rao Fawad Qamar
Project Design Document	3 days	Mon 4/8/13	Wed 4/10/13	12,13,14,1	Rao Fawad Qamar,Shahzaib
Project Meeting	1 day	Wed 4/17/13	Wed 4/17/13		Rao Fawad Qamar,Shahzaib Al
Coding and	14 days	Thu 4/11/13	Tue 4/30/13		Shahzaib Ali Jamal
Database	3 days	Sat 4/20/13	Tue 4/23/13		Rao Fawad Qamar
Testing	3 days	Wed 5/1/13	Fri 5/3/13	19	Shahzaib Ali Jamal
Presentation	1 day	Mon 5/6/13	Mon 5/6/13	21	Rao Fawad Qamar,Shahzaib Al
Final Submission	1 day	Tue 5/7/13	Tue 5/7/13	22	Rao Fawad Qamar,Shahzaib Al

Team Structure

We are only two people in our group so we have decided to work side by side in each phase mutually i.e. helping each other and doing half the task. So there's no as such role of both of us. We as a group are responsible for our project and its each phase.

Role	Responsibility	Person
Project Manager/ Designer/ Database Manager	Project management, project design and documentation and making the database design and database.	Rao Fawad Qamar
Designer/Coder	Coding and implementing the code, testing.	Shahzaib Ali Jamal

Task and Member Assignment Table

Allocation of People to Activities

No.	Activities	Members
1	Idea + Proposal	Fawad Qamar
2	Requirements Document	Fawad Qamar + Shahzaib Ali
3	Use Cases	Shahzaib Ali
4	Scheduling	Fawad Qamar + Shahzaib Ali
5	Design Plan	Fawad Qamar + Shahzaib Ali
6	Coding+ Implementation	Fawad Qamar + Shahzaib Ali
7	Testing	Fawad Qamar + Shahzaib Ali

Project/Product Estimates:

Project Estimation by Use Case Point Analysis:

Use Case Name	No. of Transactions
Enter Destination	3
Show nearest Bus Stop	3
Show Map	4

Use case Complexity	Weight	Number of Use cases	Product
Simple	5	2	10
Average	10	1	10
Complex	15	0	0
Total		**3**	**20**

UUCW= **20**

Actor Type	Weight	Number of Actors	Product
Simple	1	2	2
Average	2	1	2
Complex	3	0	0
Total			**4**

UAW= 4

Factor	Weight	Assessment	Impact
Distributed System	2	0	0
Performance Objectives	2	4	8
End-User efficiency	1	5	5
Complex Processing	1	3	3
Reusable Code	1	4	4
Easy to install	0.5	5	2.5
Easy to use	0.5	5	2.5
Portable	2	5	10
Easy to change	1	4	4

Concurrent use	1	5	5
Security	1	3	3
Access for Third Parties	1	1	1
Training need	1	0	0
Total (TFactor)			**48**

TCF =0.6 + (0.01×TFactor) = 0.6 + (0.01*48) = **1.08**

Factor	Weight	Assessment	Impact
Familiar with the development Process	1.5	1	1.5
Application experience	0.5	1	1.5
Object Oriented Experience	1	2	2
Lead analyst capability	0.5	2	1
Motivation	1	4	4
Stable requirements	2	4	8
Part-time staff	-1	0	0
Difficult Programming language	-1	4	-4
Total (EFactor)			**14**

EF =1.4 + (−0.03× EFactor) = 1.4+ (-0.03 * 14) = **0.98**

UUCP= UUCW + UAW= 20 +4 = **24**

UCP= TCF * EF * UUCP = 1.01 * 0.86 * 97 = **25.40**

Putting it all Together:

Factor	Description	Weight
UUCW	Unadjusted Usecase Weight	20
UAW	Unadjusted Actor Weight	4
TCF	Technical Complexity Factor	1.01
EF	Environmental Factor	0.86

Tools and Technology with reasoning

Front End Tools
Adobe Photoshop

Reasons
Adobe Photoshop will be used to make icons and graphics to be used in the GUI construction.

Documentation Tools
Microsoft Word, Microsoft Visio

Reasons
Microsoft Word and Microsoft Visio will be used for documentation and technical writing and compilation purposes. Some project diagrams will be created in Visio and then imported in Word.

Project Management Tools:
Microsoft Project

Reasons
Microsoft Project will be used basically to track the progress of our project to see how it is going according to schedule. It helps to visually track and manage the ongoing project.

Back End Tools
SQL Server or XML and JAVA

Reasons
The project deals with a huge amount of data which is predicted to be in thousands or greater. We have a choice to use either SQL Server or Oracle. Java is a powerful language in that it is object oriented. Furthermore, all the team members have a previous experience of working on JAVA and it will be easier for everyone to work with this language.