Travel Itinerary Management
Team 1
Project Proposal and Plan

1.   Introduction

The management of itinerary is one of driving force for this Travel itinerary management software. The proper management of itinerary is essential part of a trip for every traveler since everyone wants to cover all feasible places in a fixed period of time and since most of times traveler will not have any information about the country he is travelling to.

This software helps him to get all information about place in his fingertip and also pre-departure stuffs. This software makes his travel experience smoother and easier.

1.1   Project Overview and Statement of Proposal

Overview

The travel itinerary management creates a platform for a traveler to plan the complete trip. Traveler can book the hotels, plane, and taxies for travelling. This software also provides a wide variety of options like travel management that includes planning his travel according his past travelling history, weather prediction and suggestions for the places based on it. The one click feature provides all information all his fingertips and also travelers' valuable feedback can guide future travelers.

Statement of Proposal

We proposed the travel management software that includes accommodation details, travel itinerary and management, weather prediction, feedback and one click feature in one platform.

1.2   Project Scope and Objectives

Objectives

1. Increase ease of use and efficiency by streamlining the travel booking and expense management process

2. Improve cost savings through travel management supplier consolidation and by establishing airline, hotel, and car rental contracts.

3. Provide better expenditure reporting for planning purposes, integrate travel booking, accommodation, weather forecast and travel itinerary for efficient and streamlined processing.

Scope

The travel management system provides application that can assist the traveler to plan his trip on fingertips and also it allows him to feasibly manage his trip in the optimal amount of time. The worldwide travelling destinations are the scope of this project.

2.   Risk Management Strategy

2.1   Risk Table

RISK ID	RISK TITLE	CATEGORY	PROBABILITY	IMPACT
1	Sickness or Vacation	PE	Low	Marginal
2	Awareness of technology	PE	Medium	Critical
3	Conflicts and Mutual Understandings	PE	Medium	Critical
4	Communication Gap	RE	High	Catastrophic
5	Unclear Requirements	RE	High	Catastrophic
6	Module Alteration	RE	High	Catastrophic
7	Software compatibility with any platform	TE	Low	Critical
8	Extensibility of software	TE	Low	Marginal
9	Tools license expiry	TR	Low	Critical
10	Dependency between different software's	TR	Medium	Critical
11	Software and Tools	TR	Low	Marginal
12	Resource Analysis	ES	Medium	Marginal
13	Software Requirement	OR	Medium	Critical
14	Role Conflicts and Ambiguity	OR	High	Critical
15	Participation in Decision Making	OR	Medium	Marginal
16	Interpersonal Relations within the Organization	OR	Medium	Marginal

Category values:

TE – Technology Risk

PE – People Risk

OR – Organizational Risk

TR – Tool Risk

RE – Requirements Risk

ES – Estimation Risk

Impact values:

1 – catastrophic

2 – critical

3 – marginal

4 – negligible

2.2   Discussion of Risks to Be Managed

→ **People Risk:**

People are the main aspects of the software development. So we will discuss few People Risks that occurs or might occur during the software development phase.

1. **Sickness or Vacation**

   When it comes to humans, there is an always a probability of he getting sick. So this aspect can cause a risk in software development. If any of the project people falls sick for a longer time then it can hamper the progress of the team and the work assigned to that particular person can cause a lag in software completion. The probability of people getting

sick for longer time is very low then too the impact of it can marginally affect the development of the software. Also if any of the people goes to a vacation without completing his work then this can cause problems for other members to integrate the modules and this also can cause a marginal effect to software completion.

2. **Awareness of technology**

The other risk under the people risk category can be that all the members of the project are not aware of the technologies which are going to be used to develop the project. Due to this problem the project development will take a longer time as people will first get known to the technology and then start developing. As a project comprises of many technology there is a medium probability of every member of the project team may not know the technology. This risk can have a critical impact on the development of project as the overall progress of the project goes down.

3. **Conflicts and Mutual Understandings**

When people are grouped there is always a probability of difference in thoughts. So because of these differences there can be a problem of conflicts among the people of project team. If there is a conflict then the teamwork effect and also the quality of product developed will not be that good and this is a critical problem. So for the project to be successful and also to be of good quality there should always be mutual understanding between the project members. This mutual understanding can always lead to a better idea in development of project and also it reduces the tough task of the project to simpler form.

→ **Requirement Risk:**

Another aspect where risk can occur are the requirements. Thus, below are some of the requirement risk discussed:

1. **Communication Gap between the client and developer's team**
   These risks are normally caused by interaction between stakeholder, user and developers team. This may occur when users and stakeholder have lack of knowledge in education about software engineering.

2. **Requirements changes with time (Unclear requirements)**

   Changes in the requirement is one of the major cause of project over budget, delay, and scope which significantly reduces the effectiveness of the software. In worst case scenario, projects are cancelled due to improper requirements engineering. Fixing errors in the later stages of the process would elevate the costs to a very high value.

3. **Module Alteration**

   There are several modules in the project. They are tested to meet client requirements. Any changes in the client's requirements will be catastrophic risk for the project as it may affect the entire project or the intermediate module which was dependent upon it.

→ **Technology Risk:**

The Technology risk is a kind of risk which arises due to the faulty technology or the technology which is not update and which needs lot of alteration as per the present market requirement. The below listed are some of the technological risks.

1. **Software compatibility with any platform**

   The users of software developed by any organization varies from lay users to professional software engineers. The software designer should make sure that software runs on all of the operating system to make it compatible with all platforms. The risk of software being not compatible results in decrease in market value of the software and number of users using it since, it is specific and not user friendly, which is a critical one and since compatibility is area of concern for designers during designing, the probability of occurrence is low.

2. **Extensibility of software**

   The software must be designed in such a way that it should allow programmers to add extra features and patches into it whenever needed. The risk of software not being extensible may make it outdated and again in turn decrease in the market value and number of users. Since users always wants to have additional features as per his requirement. The severity of risk is less critical because most of the users do not worry about extra features since they get satisfied with the primary features and probability of occurrence is low.

→ **Tool Risk:**

The tool risks are the risks that happen due to the unavailability of tools or the faulty tools which may affect the whole project plan. The below listed are some of the tool risks.

1. **Tools license expiry**

   The different kinds of tools used for the software development are the licensed and their period of license is limited and they need to be purchased or renewed. The risk of tool license expiry is critical since the project gets interrupted if any of tools required is unavailable for usage and this may affect the entire project plan and estimated date of delivery. The probability of occurrence is low since the programmers always make sure of period of license before starting the designing process.

2. **Dependency between the different software's**

   The different software's used in a software development are dependent on one another. The risk of dependency between the software's comes into picture when they are interdependent on one another and one of software gets crashed or unavailable, it is the critical risk and it effects the software development process plan and its probability of occurrence is medium.

3. **Software and Tools**

   The application needs a Java web application development IDE such as netbeans 8.0 or eclipse , mysql database server for database design. The extra tools required for the application to run are Apache Tomcat server and JDBC driver that supports the database connection, the designer must make sure of availability of tools and softwares. This risk is

of low severity since almost all the systems allow the users to install the tools and softwares through internet.

→ **Estimation Risk:**

Risks that derive from the management estimates of the system characteristics and the resources required to build the system.

This risk is expressing duration, intensity, magnitude, and reach of the potential consequences of a risk in quantifiable or dollar value (monetary) term.

1. **Resource Analysis**

   The current project that is being built, needs no funding from the organization. The resources that are essentially required by the current project are team consisting of at least five members who are skilled in designing a java web application and the Java web application development software and tools.

→ **Organizational risk**

Organizational risks are derived from the organizational environment where the software is being developed. Few Organizational risks are mentioned below.

1. **Software Requirements**

   Employees design the tasks according to the specifications given by a superior member of the team. If the manager's specifications and the team member's expectations and goals are not compatible to meet the deadlines, then it will cause organizational risk. For example if the software specified by the employee is not a licensed one and the company rejects his design, then he/she will have to change the tasks according to the superior managers in the company and may create critical or sometimes medium impact.

2. **Role Conflicts and Ambiguity**

   Role conflict occurs when individuals are faced by incompatible expectations by their superiors or even when these expectations contradict employee's values or beliefs or goals. Role conflicts may also occur when the material and the resources needed to properly perform the work are not available. Ambiguity occurs when individuals don't know what is expected from them, what tasks to perform, or what responsibilities are in the context of their work. For example they are unaware of how to meet clear expectations, or they may even be unaware of the consequences and extent associated with performing their work. The probability of Role conflicts is more and can have a huge impact on the organization.

3. **Participation in decision making**

   Encouraging participation and communication between team members fosters social support within the organization. Low level participation in the decision-making process results in a low level of job satisfaction which is very less probable and thus makes a marginal impact.

4. **Interpersonal Relations**

Trust is the most important factor for an individual to succeed in a job. An atmosphere of mistrust and hostility may harm the well-being and thus the affects the functioning of the organization. The probability of Interpersonal conflicts may be medium and hence has a marginal impact.

2.3   Risk Mitigation, Monitoring, and Management Plan

Here, we discuss how we will manage the risk. This can be done either by risk mitigation, risk monitoring or risk management plan.

People Risk:

For the above mentioned people risk, we can have following risk management techniques:

1. **Sickness and vacations**
   a) **Risk Mitigation:** Regarding sickness there is no measure to avoid it but for vacation the team member can previously provide his details of absence so that it can be managed accordingly.

   b) **Risk Monitoring:** The team can keep a check of its activities and its deadlines and if those are not met by a member who falls sick or goes on vacation then the team can manage this risk with proper plan.

   c) **Risk Management:** If a member do not complete his assigned work on time and if this is more regular than the team can cover up his work which is undone and can warn the team member to be more regular in his work.

2. **Awareness of technology**

   a) **Risk Mitigation:** The team should be formed according to the projects requirements and the members of team should have proper knowledge of technology which is to be used to develop the project.

   b) **Risk Monitoring:** The team can regularly check whether the modules developed by every member are correct and can be integrated to deliver the final project.

   c) **Risk Management:** If there is a risk of awareness of technology among any member then that member can be assigned a different task and the other member who are good in that particular technology can continue the work. Also the member who is not aware of the technology can be removed from team and a new member who has knowledge of the technology can be hired.

3. **Conflicts and mutual understanding:**

   a) **Risk Monitoring:** The team members should always come to a common conclusion regarding the methods to be used in all phases of development and no biased decision to be made if someone's method is not considered in the conclusion.

   b) **Risk Management:** If there is a problem of conflict then the team members should decide which is the best method and then should continue to work on it without differentiating. Also if there is a case of regular conflicts then the two members can

be warned or the team can decide to remove both and look for new members(this is possible only in early stage of project).

Requirement Risk:

Requirement risk can be managed using the following risk management techniques:

a) Risk Mitigation: The best way to manage requirements is to put trained and experienced people on the job. Building up the knowledge areas and processes will also support the need to improve requirements management.

b) Risk Monitoring: All the requirements can be monitored by keeping track of them in a checklist called RTM (Requirement Traceability Matrix).

c) Risk Management: We manage this risk by ensuring that the requirements from the clients are taken in a systematic manner and evaluate them carefully from time to time.. We also see that the requirements are not manipulated or changed in some or the other way.

Technology Risk:

Technology risk can be managed using the following risk management techniques:

1. Software compatibility with any platform:

a) Risk Mitigation: The team members should always make sure that the designed software runs on each and every machine or platform before deploying it into server and releasing it into market.

b) Risk Monitoring: The designers should do regular check of software to make sure that it runs on each and every platform and they should make sure to introduce new patches that support new platforms.

c) Risk Management: The designers should timely respond to user's problem about compatibility and make sure it runs on user's machine by using additional features.

2. Extensibility of software:

a) Risk Mitigation: The designers should make sure that they design the program in such a way that future programmers can add additional feature to it without any effort.

b) Risk Management: It is designers job to have a look on the present market and to make sure that their product is up to the mark and has the sufficient features to compete with other products and if falls in any of the criteria they should add the patches to extend it.

Tools Risk:

Tool risk can be managed using the following risk management techniques:

1. Tools license expiry:

a) **Risk Mitigation:** The team members should always make sure that the license of the software that are very essential for the development process is available till the end of the software development process.

b) **Risk Monitoring:** The designers should do regular check of software to make sure that the license of software is not about to get expired.

c) **Risk Management:** The designers should approach the higher authorities or the project manager who are concerned with renewal of the license and get its renewal as soon as possible or purchase a new product.

2. Dependency between different software's:

a) **Risk Mitigation:** The designer should make sure that the critical software's that are required for the development process and interdependent on each other are working properly and to have backup of critical software.

b) **Risk Monitoring:** The designers should do regular check of software to make sure that it is running smoothly and the chances of getting crashed are very less.

c) **Risk Management:** The designers should timely respond to software dependency issues. He should either get the new software or else get the things which is already stored in the backup.

3. **Software and tools:**

a) **Risk Mitigation:** The team members should make sure that all software and tools required for the smooth run of the software are pre-installed.

b) **Risk Management:** The designers should timely respond to user's problem about software or tool requirement issue and make sure that additional software or tool required by the user are readily available in the organizational website as an open source .

Estimation Risks:

Estimation risk can be managed using the following risk management techniques:

1. Resource Analysis:

a) **Risk Mitigation**: Resources needed for the application development are properly analysed and reported. The designer makes sure that these software and tool resources are readily available before starting the designing process.

b) **Risk Monitoring:** We don't monitor this risk as it is checked only while starting the project.

c) **Risk Management:** We manage this risk by ensuring that all softwares and supporting tools are readily available before starting the designing process.

Organization Risk:

Organization risk can be managed using the following risk management techniques:

1. Software requirements:

a) Risk Mitigation: To avoid this risk we can previously decide all the software requirements of the project and accordingly check with the organization whether all the required software's are available or not.

b) Risk Monitoring: The team can look for updated software's and also check whether the software's have proper licenses and it does contain all the functionality.

c) Risk Management: If the software requirements become a problem then we can check for its plug-in available or also we can check for other software which has the functionality which we require.

2. Role Conflicts and Ambiguity:

a) Risk Mitigation: For this risk to overcome we can decide each team member functionality and also we can check for no interference between each member's work.

b) Risk Monitoring: We can ask each member to submit their modules on time and also not to rate others work and have a superior part of his work.

c) Risk Management: If any risk relating to conflicts occurs then we can ask firstly to sort it out and even if it becomes a bigger problem the person can be asked to leave the group and a new member for the work can be appointed.

3. Participation in decision making:

a) Risk Mitigation: We can conclude all the projects details and ask for higher authority to decide on final prospect of the project.

b) Risk Monitoring: Appoint a member in the team to make sure every team member is progressing in the particular tasks assigned to them.

c) Risk Management: Conduct some training classes to ensure every lagging team member is updated of the tasks and also encouraging the person to equally participate in the decision-making.

4. Interpersonal Relations:

a) Risk Mitigation: We can ensure that every team member shares a good rapport between other team members and also superior managers.

b) Risk Monitoring: We can organize face-to-face meetings in person and discuss the problems with higher authorities and come to conclusions with counselors within the organization.

c) Risk Management: If any risk relating to conflicts occurs then we can ask firstly to sort it out and even if it becomes a bigger problem the person can be asked join another group in the same organization.
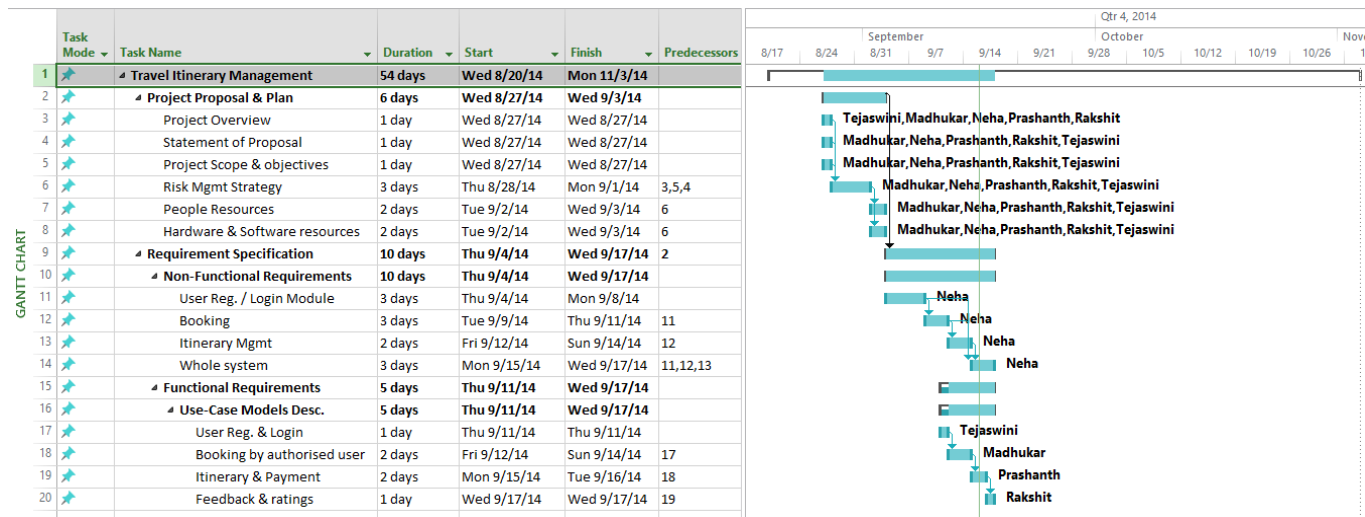
3. Plan

This section contains a list of tasks and deliverables associated with the project, a Gantt chart depicting task durations, dependencies and completion dates, and a summary of resource requirements and assignments for each task. Till now, as we have discussed only the project

proposal and its planning, so all the tasks related to it are mentioned in the Gantt chart. It will be updated as soon as move to the next phases of the project.

3.1   Timeline Chart

Gantt chart

A Gantt Chart describes the activities performed in the project along with start and end time, resources involved along with their percentage allocation to each of these activities. Below is the snapshot of the Gantt chart consisting of activities till requirement specification phase.

	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		◢ Travel Itinerary Management	54 days	Wed 8/20/14	Mon 11/3/14	
2		◢ Project Proposal & Plan	6 days	Wed 8/27/14	Wed 9/3/14	
3		Project Overview	1 day	Wed 8/27/14	Wed 8/27/14	
4		Statement of Proposal	1 day	Wed 8/27/14	Wed 8/27/14	
5		Project Scope & objectives	1 day	Wed 8/27/14	Wed 8/27/14	
6		Risk Mgmt Strategy	3 days	Thu 8/28/14	Mon 9/1/14	3,5,4
7		People Resources	2 days	Tue 9/2/14	Wed 9/3/14	6
8		Hardware & Software resources	2 days	Tue 9/2/14	Wed 9/3/14	6
9		◢ Requirement Specification	10 days	Thu 9/4/14	Wed 9/17/14	2
10		◢ Non-Functional Requirements	10 days	Thu 9/4/14	Wed 9/17/14	
11		User Reg. / Login Module	3 days	Thu 9/4/14	Mon 9/8/14	
12		Booking	3 days	Tue 9/9/14	Thu 9/11/14	11
13		Itinerary Mgmt	2 days	Fri 9/12/14	Sun 9/14/14	12
14		Whole system	3 days	Mon 9/15/14	Wed 9/17/14	11,12,13
15		◢ Functional Requirements	5 days	Thu 9/11/14	Wed 9/17/14	
16		◢ Use-Case Models Desc.	5 days	Thu 9/11/14	Wed 9/17/14	
17		User Reg. & Login	1 day	Thu 9/11/14	Thu 9/11/14	
18		Booking by authorised user	2 days	Fri 9/12/14	Sun 9/14/14	17
19		Itinerary & Payment	2 days	Mon 9/15/14	Tue 9/16/14	18
20		Feedback & ratings	1 day	Wed 9/17/14	Wed 9/17/14	19

3.2   Task Descriptions

Task 1- Travel Itinerary Management -

This describes the project which we are implementing. The timeline to implement this project is 76 days.

Task 2 - Project Proposal and Plan -

This is the foremost task of the project. In this task, we discussed about the project planning and its scope and objectives. It also constitutes risk planning and management. Here, we also create a Gantt chart which will tells the different tasks involved in the project development phase.

Task 3 – Project Overview –

This is subtask of project proposal and planning task. It discusses about the overview of the project and is implemented in 1 day.

Task 4 – Statement of Proposal –

This is subtask of project proposal and planning task. It proposes what the project can do and its functionalities. It is completed in 1 day.

Task 5 – Project Scope & its objectives –

This is subtask of project proposal and planning task. It describes the purpose of implementing the project. It is completed in 1 day.

Task 6 – Risk Management Strategy –

This is subtask of project proposal and planning task. It discusses about the various risk involved in the project and also their risk management techniques.

Task 7 – People Resources–

This is subtask of project proposal and planning task. It discusses about the people resources involved in the project.

Task 8 – Hardware & software Resources–

This is subtask of project proposal and planning task. It describes the various hardware and software needed to implement the project.

Task 9 – Requirement Specification –

This task looks after the requirement gathering and its analysis. This task is performed after task 2. The requirements can be functional or nonfunctional.

This task is further divided into 2 subtasks.

Task 10 – Non-Functional Requirements –

Non Functional requirements describe the business standards and the business environment, as well as the overall user's experience (user attributes).

These requirements are the properties that your product must have. In this tasks, we have divided our non-functional requirements on the basis of modules.

Thus, the different modules involved in our project is as follows:

Task 11 – User Registration/Login Module –

In this module, all the non-functional requirements are analyzed pertaining to user registration. The software must provide a security to all the personal details of the user.

Task 12 – Booking Module –

In this module, the authorized user can book flight, hotel or taxies as per his need. The user can select his choices from the various options available to him. All the non-functional requirements are catered and analyzed.

Task 13 – Itinerary Mgmt Module –

In this module, the software provides various features to the authorized user to customize his itinerary or cancel it in case of any emergency. All the transactions made by the user is done in secure way.

Task 14 – Whole Software Functionality –

This comprises of all the non-functional requirements of the software as a whole. It looks after product, organizational, security and external requirements.

Task 15 – Functional Requirements –

The functional requirements specify what the product must do. They relate to the actions that the product must carry out in order to satisfy its objectives. We can describes these functional requirements by using Use-Case Diagrams.

Task 16 – Description of Use-Case Diagrams –

A Use-Case Diagrams is a graphic depiction of the interactions among the different elements of a software. The different modules of the project are described using these diagrams in order to understand their functional requirements.

Subtask 17 – User Registration & Login Use-Case

Subtask 18 – Booking by authorized User Use-Case

Subtask 19 – Itinerary & Payment Use-Case

Subtask 20 – Feedback & Rating Use-Case

All these subtasks are described in detail in the **SECTION 3: Functional Requirement** of Project Requirement Specification Document.

3.3   Resource Table

TASK	PEOPLE	HARDWARE & SOFTWARE	SPECIAL
1. Travel Itinerary Mgmt 2. Project Proposal and Plan 3. Project Overview 4. Statement of Proposal 5. Project Scope and its Objectives 6. Risk Management Strategy 7. People Resources 8. Hardware & S/w Resources 9. Requirement Specification 10. Non-Functional Req. 11. User Registration/Login Module 12. Booking Module 13. Itinerary Mgmt Module 14. Whole Software Functionality 15. Functional Requirements 16. Description of Use-Case Diag. 17. User Reg. & Login Use-case 18. Booking by authorized User Use-case 19. Itinerary & Payment Use-case 20. Feedback & Rating Use-case	Madhukar, Neha, Prashanth, Tejaswini, Rakshit Neha Neha Neha Neha Tejaswini Madhukar Prashanth Rakshit	Microsoft Word 2013 Microsoft Project 2013 (for Gantt Chart) Microsoft Visio 2013 (for Use-Case Diagrams)	

4.   Project Resources

4.1   People

1.   Madhukar Ganesh Chatra

2.   Rakshit Rathi

3.   Tejaswini Devappa

4.   Prapull Prashanth Marrupedhi

5.   Neha Gupta

4.2   Hardware and Software Resources

Software Requirements:
·   Visual Studio 2010, Java NetBeans 8.0 framework.
·   Microsoft SQL Server 2012 (Developer Edition)
·   Operating System (Windows 8/Windows 7)

Hardware Requirements:
·   1.0 GHz or faster processor
·   10 MB HDD space available
·   Internet Connection
·   0.5 GB RAM or more