December 10

FindIT 2012

Geo-Location Based Service Directory

Deliverable 1- SRS

Software Requirements Specification

for

JoinIT

Geo-Location Service Directory

Prepared by

Capt Fahad Haleem

NC Tabraiz Ahmed

NC Yousuf Bilal

Military College of Signals

Table of Contents

1. Introduction

1.1 Purpose

Smart phones are wonderful devices. Not only do we use them for calling, texting and e-mail, but they have increasingly become our go-to cameras, music players, handheld gaming devices, and a mobile lifeline to everything from our bank accounts to the latest news and weather. And because of their ability to be recognized and tracked by location services, smartphones have become highly reliable navigational aids, replacing many stand-alone GPS devices in passenger cars and other vehicles. So by keeping in mind all the navigational capabilities of Smart Phones, we need to have application which can make a person to know about his surroundings and can gain access to many places very easily.

Enhancements in the technology of smart phones changes the way of living, business and social interaction. Location-based services (LBS) are a general class of computer program-level services used to include specific controls for location and time data as control features in computer programs. As such (LBS) is an information and has a number of uses in Social Networking today as an entertainment service, which is accessible with mobile devices through the mobile network and which uses information on the geographical position of the mobile device. This has become more and more important with the expansion of the smartphone and tablet markets as well. LBS are used in a variety of contexts, such as health, indoor object search, entertainment, work, personal life, etc.

LBS include services to identify a location of a person or object, such as discovering the nearest banking cash machine or the whereabouts of a friend or employee. LBS include parcel tracking and vehicle tracking services. LBS can include mobile commerce when taking the form of coupons or advertising directed at customers based on their current location. They include personalized weather services and even location-based games.

Modern countries are already using many of these applications. Pakistan is developing in Telecom sector and now the enhancement in business is done via social media. It is slowly moving from the Social Media to the Geo-Location based service directory because smart phone / traditional phones are now a very close part of people. Now looking into this we find that Pakistan has large number of mobile phone users which has now crossed almost 100 million count. So if Pakistan has some application where we can allow our large number of population to enhance their business , to advertise about their ideas and much more.

Here we have large variety of mobile users which include android smart phone; windows based smart phone and symbion mobile user. We can thus develop application for smart phone and symbion phone to trace the location of nearby things. Here a survey report provides us information that use of internet is also on rise and we have large number of population using internet. According to survey we have more than 10 million internet users. Thus for the application will also be developed for web where a person can get the services nearby with the offers , discounts and coupons, So that selection can be done easily.

1.2 Document Conventions

Following typographical symbols will be used in SRS.

1.2.1 Font size

Font	Font Size
Main Headings	14
Sub Headings	13
Text	12
Tables	12
Pictures/Images/Diagrams	12

1.2.2 Emphasis:

Font	Emphasis
Main Headings	Bold
Sub Headings	Bold
Text	Simple
Tables	Simple
Pictures/Images/Diagrams	Bold

1.2.3 Text Font:

Font	Font Style
Main Headings	Times New Roman
Sub Headings	Times New Roman
Text	Times New Roman
Tables	Times New Roman
Pictures/Images/Diagrams	Italic/Calibri

1.3 Intended Audience and Reading Suggestions:

1.3.1 Types of Readers:

FindIT SRS will cover huge canvas of readers because of large range of users I.e Smart phone, web and symbion phone users. It will include:

- Project Manager
- Project Executives
- Designers
- Marketing staff
- Testers
- Developers
- End users
    - Web users
    - Smart phone users
    - Symbion cell users

1.3.2 Organization of SRS:

FindIT SRS is organized keeping in view the clarity and brevity for the use and intended readers. Later section of SRS contains the scope of Geo-location service directory to ascertain the boundaries of the project. Then it is followed by perspective, features and operating environment. This will enable the users with basic use of FindIT application.

Later FindIT SRS explains the low level design information, specifying the implementation constraints. For the ease of use user manual and aid provided by FindIT is described also.

ThenFindIT SRS follows the interface requirements their features in hardware, software and communication interfaces. Keeping the sequence FindIT SRS explains the critical and important system features. These will elaborate the functional requirements of the system. This section will deal with the basic functionality of the FindIT and thus this is important one.

TheFindIT SRS explains other nonfunctional requirements like performance requirements, safety requirements, security requirements and software quality attributes. FindIT SRS also specifies the business rule. At the end glossary and analysis model is described.

1.3.3 Suggested Sequence of Reading:

FindIT SRS is written by following the internationally accepted specimen SRS 1999 by Karl E. Wiegers. This is well structured format for requirement engineering which enables the user to understand the project requirements easily.

Thus the suggested sequence is to follow the FindIT SRS as per index sequence, so as to get clear insight of the project.

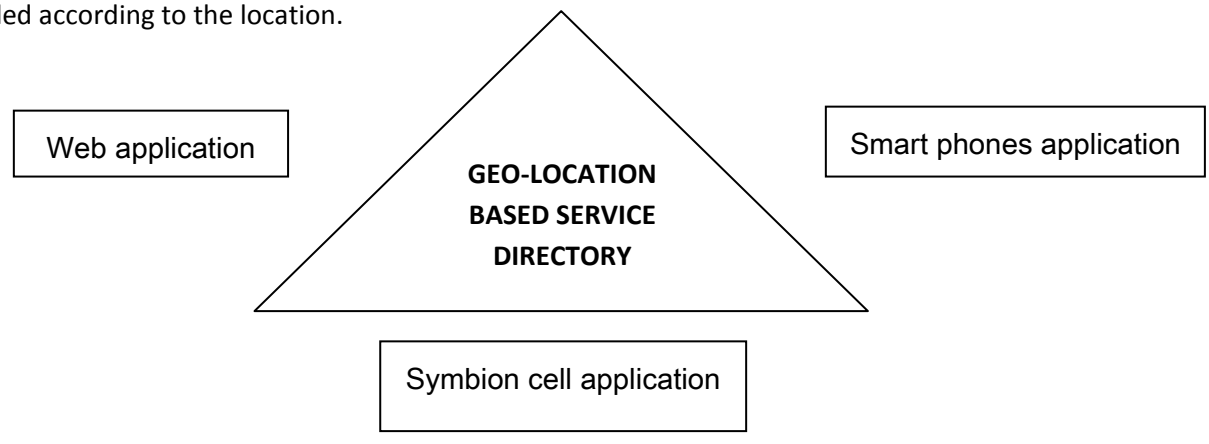
1.4 Product Scope:

1.4.1 Short description of FindIT:

FindIT is a geo-location based service directory which will provide the information to all the nearby locations. User can find these services on web or mobile.Mobile users include web, smart phone users and symbian cell phone users. In smart phone both android based mobile users are included.

However symbion mobile users can only report it through text via sms. User is at the liberty to draft text at his ease. Location in symbions users' will be in the sms format. Web users can also use geo-location services to find the nearby locations. Web will entail the primary ways for the smart phone users also. it adds flexibility to the application.

Once it reaches the server, it is first organized in separate queues for web, smart phone user requirements and symbion mobile user requirements. Server then validate the location of the user. On being validated, the nearby locations who have already registered in the database at the server will be provided according to the location.



1.4.2 Purpose of FindIT:

To develop a Android based , Traditional Mobile phones & Web based system to enable People to Know about the Services present Nearby according to their Locations. This system will help users to enhance their Business by advertising through the Directory Service Specially for Small Businesses. It will help the User to find Services like Petrol pumps, CNG pumps, ATM machines, Banks, Restaurants on their way while Driving. It will also provide Real Time Notifications of Events / Courses Occurring in any Academic Institute.

1.4.3 Objectives of FindIT:

Objectives of FindIT are to develop an application for android based smart phones, web users and symbion mobile user to perform following functions:

- Finding Nearby Petrol / CNG Pump while on drive
- Finding Nearby ATM
- Finding Restaurants / Hotels in the Nearby Area
- Real State Marketing
- Discounts and Coupons
- Finding a Friend in Nearby Location
- Real Time Notifications
    - Events at Academic Institutes
    - Special Offers by Small Businesses
- Integration with Social Networks
    - Friend Finder
    - Chat with nearby friend

1.4.4 Benefits of FindIT:

- It will allow users to find nearby locations / services according to own location
- It will allow to find restaurants / Hotels in nearby locations
- It will allow to find friends in nearby locations
- It will allow to get the discounts and coupons provided by different shops
- It will provide real time notifications of events by Academic Institutes

- It will allow to chat with nearby friends

1.5 References

- http://en.wikipedia.org/wiki/Location-based_service.
- http://www.theonlinemom.com/secondary.asp?id=2288
- http://www.gisuser.com/content/view/23231/222/
- http://sproutsocial.com/insights/2010/11/top-5-geo-location-based-services-to-help-you-reach-local-customers/
- http://en.wikipedia.org/wiki/Geolocationhttp://www.pcworld.com/article/231026/how_to_use_location_based_services_for_your_business.html

2. Overall Description:

2.1 FindIT Perspective

2.1.1 The Context of FindIT:

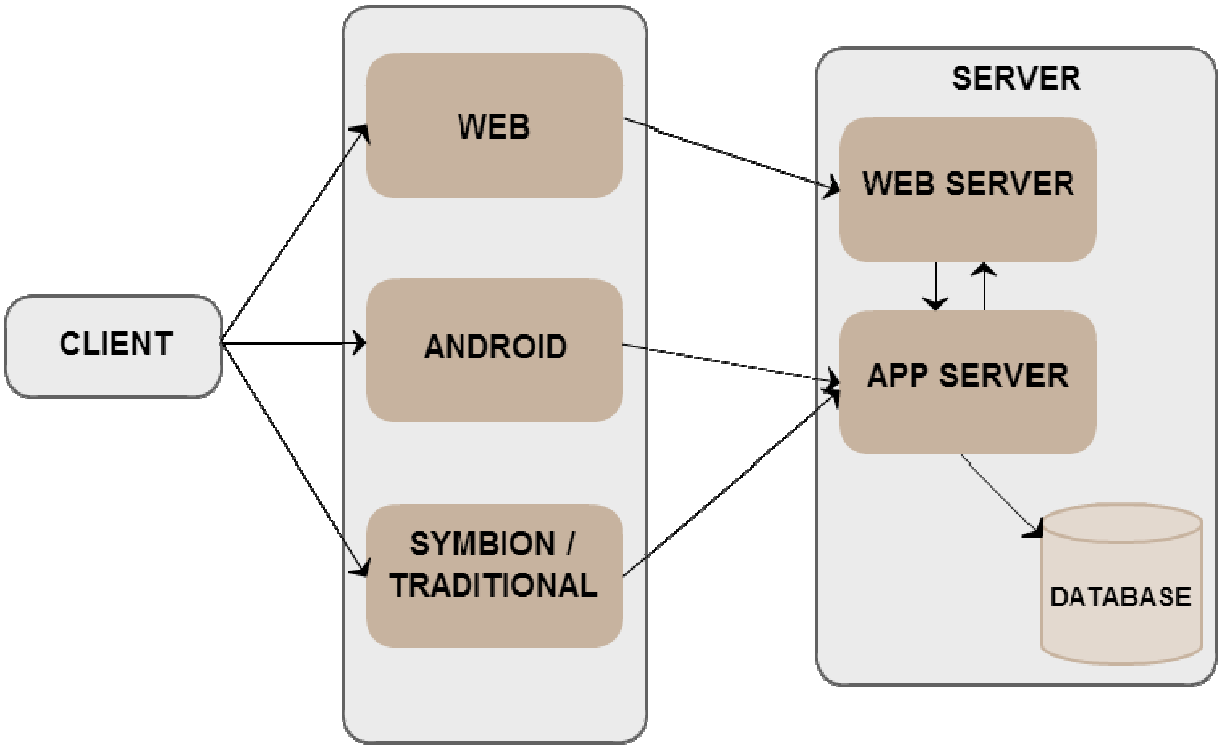
Geo-Location Based services are very useful now a day. They provide you information about the services nearby according to your location.Business now a day is shifting to the mediums like mobiles, so the Geo-Location service directory provides the Business personnel to enhance their business by using the directory of nearby persons. Academic Institutes have many events for students , so they can also use these services to inform about the events in universities.

Thus FindIT is aimed at covering all those resources which are useful for the users according to their locations.

2.1.2 Origin of FindIT:

FindIT is not a new idea to be implemented in our country. Android applications are there for the services. But these are not according to the own geographical locations. Secondly they donot focus on many things like the events of Academic Institutes. So to make the service directory more enhanced and to make it useful for the users of Pakistan FindIT will be developed.

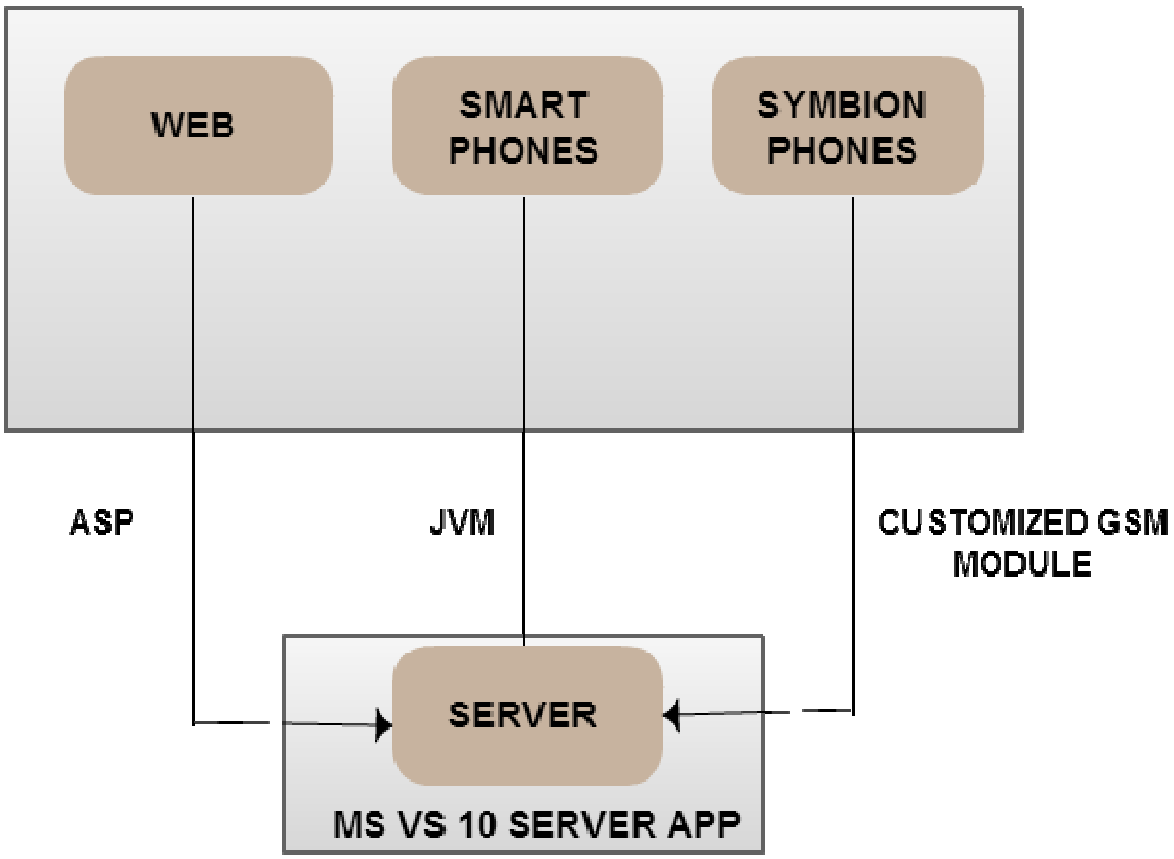
2.1.3 Diagrammatic layout of FindIT:



2.1.4 Sub Systems Interconnection:

In FindIT we have three main sub systems i.e. web, smart phones and symbions. Whereas other dimensions of FindIT include two main components i.e. user, server. In first sub system which is smart phone user, we have only one types of smart phones i.e. Android mobiles.

Now the overall system is built in .Net frame work using visual studio IDE. In this we have web end development in ASP (or PHP). However for android based smart phones we will use JVM platform to integrate it with MS VS10 server application. For symbion mobile we will develop a customized GSM module to allow users of traditional mobiles to ask for the resources.Diagrammatic representation is given below:



2.2 Product Function:

2.2.1 Major Function / High level summary

a) Android Phone Users can user Geo-Location Service Directory

b) Symbion Mobile users can also use Service Directory

c) Web user can also use Geo-Location service directory

f) Web users can use it in the following ways

i) By mentioning the own locations

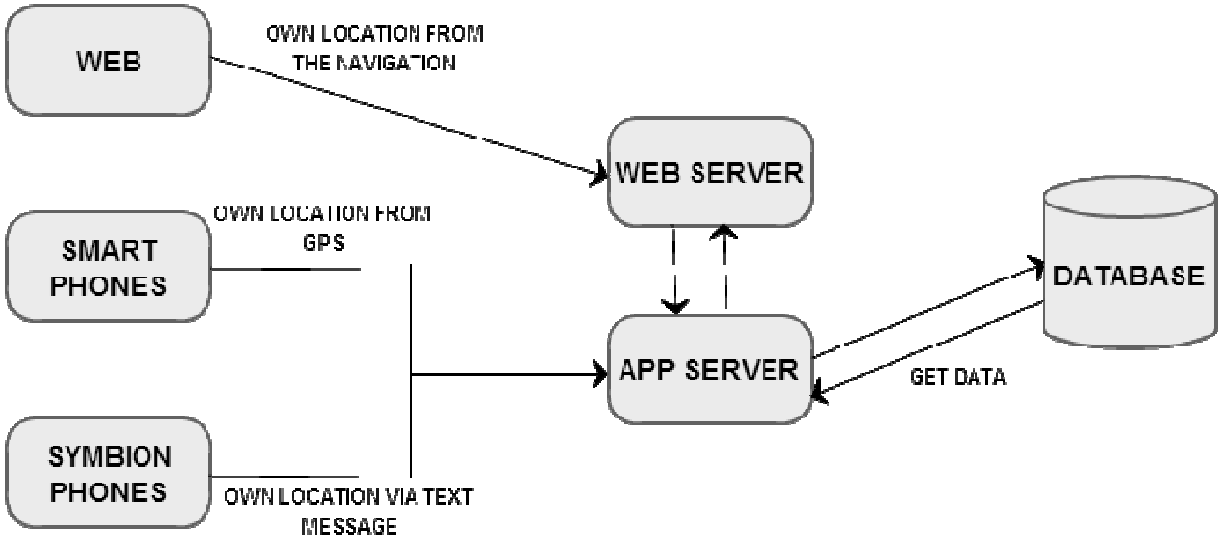
ii) By Allowing the maps to get the location of their ISP provider and then use it to get the services

g) Symbian Cell user can use through text messages

h) Allow system to validate the locations and then provide the services according to that validated location.

m) Maintaining and updating the services in the directory.

2.2.2 Data Flow Diagram



2.3 User Classes and Characteristics:

Various user classes are:

2.3.1 Smartphone users:

(a)Characteristics:

- Well experienced user in mobile
- Conversed with the use of GPRS and mobile internet
- Can tell the information about the location if use web on mobile
- Percentage of such users is very less

(b)It is the most important because the location can be tracked exactly by using the GPS which in inbuilt in smart phones.

2.3.2 Symbion cell user:

(a) Characteristics:

- They encompass the majority of users
- Not conversant with GPRS etc.
- Can only ask for services through text

2.3.3 Web Users:

(a) Characteristics:

- Can be a moderate number of users
- Not an immediate geo-location services
- If mobile net users are, then it's the most reliable and quick user class
- They will give information about their location and then services directory will be made available accordingly.

2.3.4 Most important user class:

It is the smart phone user who has GPRS/Mobile internet. Because their location can easily get from the inbuilt GPS in smart phones and exact location can help in giving the exact services nearby.

2.4 Operating Environment:

FindIT development environment will include following:

2.4.1 OS: MS Windows 7

2.4.2 Environment: Visual Studio 10

2.4.3 Supporting Software:

- Android application development kit eclipse developer
- Eclipse
- Customized GSM module

2.5 Design and Implementation Constraints:

2.5.1 Corporate or Regulatory Policy:

The business personnel will register their business and that will be provided to the users when they require some nearby service. Coupons and discounts will also be broadcasted to the users so that business can be enhanced.

2.6 User Documentation:

a. User manual

b. Tutorial

c. Project Documentation

2.7 Assumptions and Dependencies:

- All smart phone users are well conversed with the use of mobile internet application.
- All smart phones have mobile internet/GPRS.
- GSM module will be used for symbion cells.
- Necessary training to various users.

3. External Interface Requirement:

3.1 User interface

It includes the following

i) Smart Phone user Interface

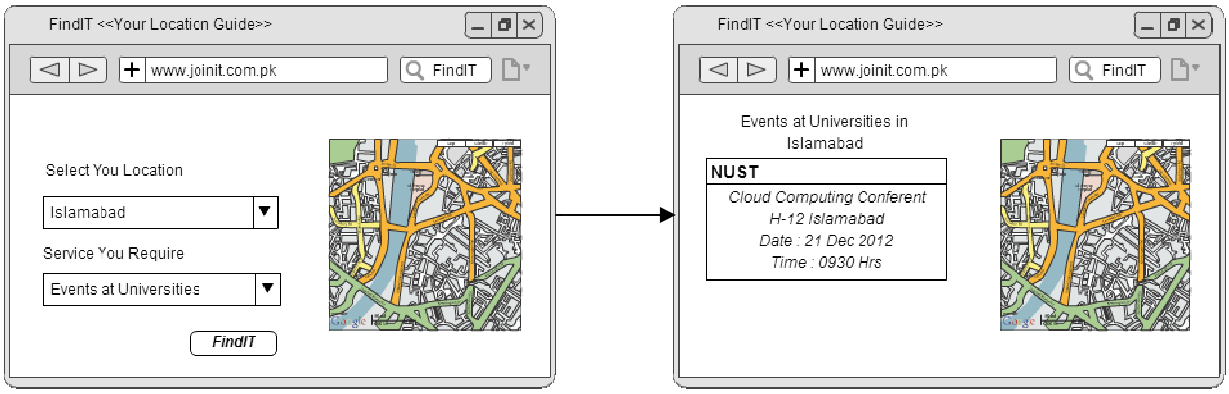
ii) web user interface

iii) Symbian user interface

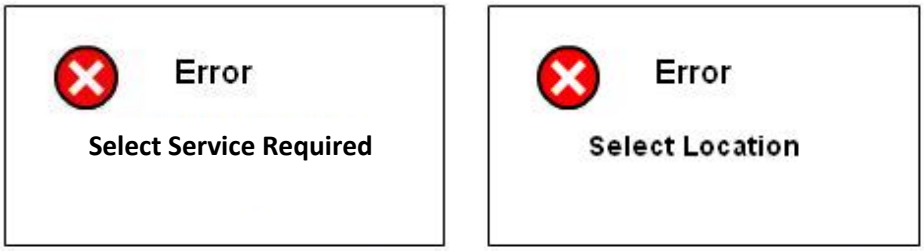
iv) Server Room operator interface

v) Response Generation from Interface

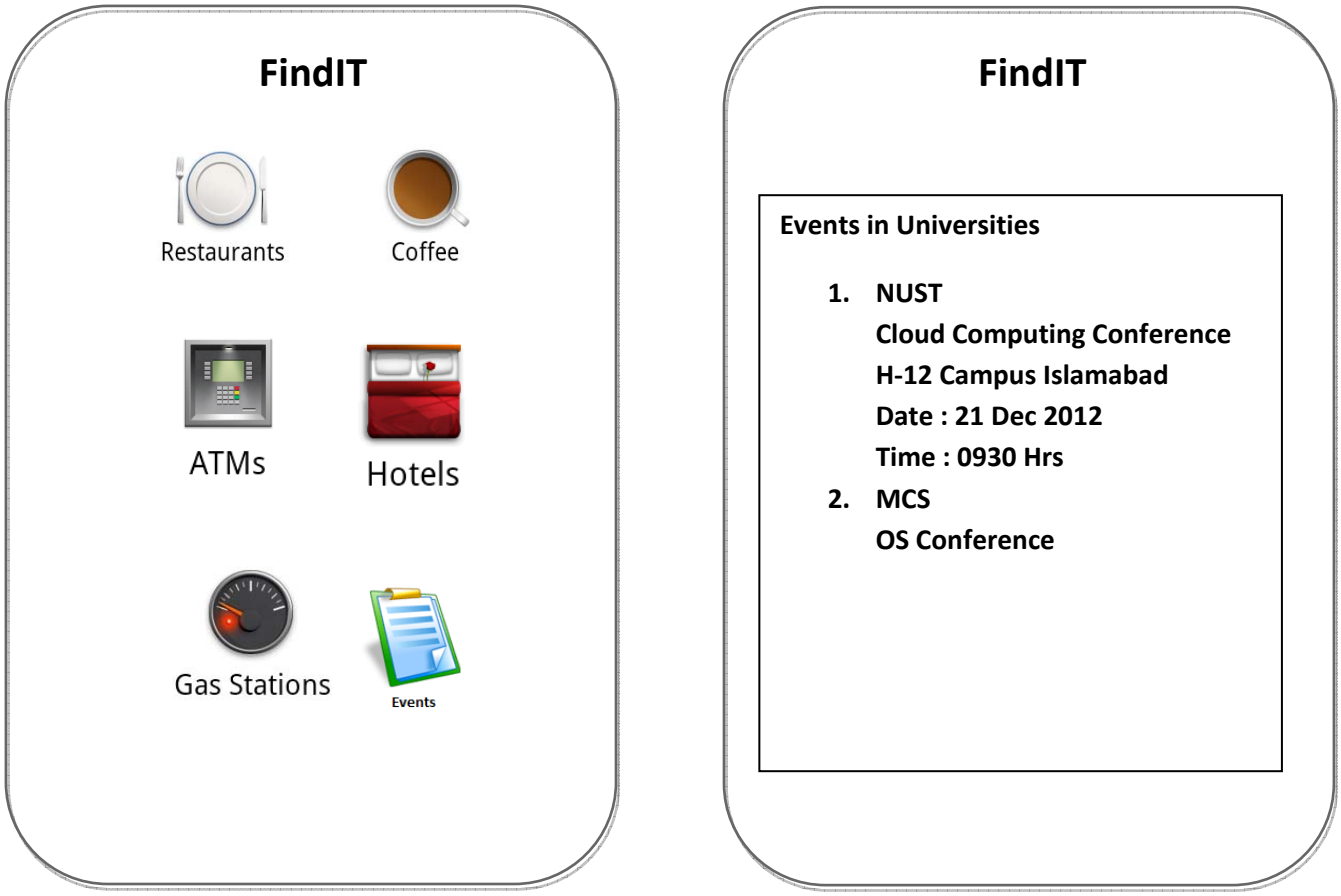
3.1.1 Web user interface:



a) Location is mandatory to be filled else error message.
b) Service demand must also be mandatory.



3.1.2 Smartphone user interface:



3.2 Hardware component Interfaces:

a. Smart phone interfacing is done by Android OS between mobile and application.

b. Symbion mobile interfacing is done through customized GSM module.

3.3 Software interfaces:

3.1.1 Connection between product and software component:

a. FindIT will be built on MS window 7 OS.
b. Operating environment will be on MS visual studio 10 for server application.
c. SQL will provide the database to server system.
d. Web will be built in ASP environment.
e. Android smart phone application will be built in Android mobile OS development kit using Eclipse.
f. Symbion application will be inherent to symbion cells.

3.1.2 Services needed for communication:

a. For the web, we need GPRS/Edge to connect to server application.
b. For smart phone application we again need GPRS/Edge to connect to server.
c. Server will listen both messages at specific ports.
d. Symbion message will be routed through GSM module to connect with server.

3.4 Communication interfaces:

3.4.1. Network communication protocol for web reporting and smart phone application will be TCP.

3.4.2. Message format will be TCP oriented and necessitate handshake between application and server.

3.4.3. HTTP standards will be the basis of both web and smart phone application.

3.5 Data sharing between software components:

3.5.1. FindIT web and server will exchange a TCP oriented packet transfer.

3.5.2. Smart phone and server will also share services data built in specific smart phone environment i.e. Android.

3.5.3. Symbion cells and server will share a text message by GSM module.

4. System features:

FindIT system features are organized by the combination of functional hierarchy and use case diagrams. Initial organization is based upon the functionality of the system which includes:

- System feature 1 i.e. Server
- System feature 2 i.e. Users

Now within these system features we can further subdivide them on the basis of use cases which include:

- System feature 1 i.e. Server--System processing
- System feature 2i.e. Server-- Database server
- System feature 3 i.e. Web users
- System feature 4 i.e. Smart phone users
- System feature 5 i.e. Symbion users

4.1 System feature 1, System processing at server:

4.1.1 Description:

FindIT server is semi-automatic processing based. It automatically processes the request of service from the web & phones whether it is smart phone or symbion phone. FindIT server validates these locations from the database and then search nearby areas from the database and send the data back to the users.

However symbion cell sends a text message in a described format, that message must include the own position. That own position will be validated from the database at server and then nearby locations will be send back to the user.

4.1.2 Priority of system feature, Server processing:

Server automatic processing feature has a higher priority because it is the primary step at server end for the processing of requests for services from the users whether they are web users or mobile users.

4.1.3 Priority component ratings:

a. Benefits:

- It will automatically validate the locations provided by the users.
- It will produce error report if the location is not validated.
- It will automatically ask the database about the nearby locations according to the user location.

b. Risks:

- If it malfunctions, the wrong services can be provided to the user.

4.1.4 Sequence of user actions – The stimulus:

- Web services request will be listened at a particular port.
- On system call, they will be validated according to the location of the user.
- If locations are validated then it will be processed.
- If the location was not validated then error will be send.
- Validated location will be processed at application server and the nearby services from the database will be collected and will be returned back to the user.

4.1.5 Functional requirements:

Functional requirement 1:

Server automatic processing will always listen at specific port and buffer the requests of services of web users as well as smart phone users.

Functional requirement 2:

Server automatic processing will de queue the first request for the geo-location services on the basis of FIFO from queue.

Functional requirement 3:

Location will be then validated that whether it is a correct user location or not.

(a) Web users must select location from the navigation to get the data about the services nearby.
(b) Smart phone location must be from the GPS and will be transferred to the server.
(c) Any request message without location will not be valid.
(d) Location will be matched with the locations in the database and verified.

Functional requirement 4:

Valid locations will be then moved to the application server to get the data about the nearby locations and the services provided.

Functional requirement 5:

After getting the data from database that response will be send back to the user.

4.2 System feature 2 – Server database:

4.2.1 Description:

Server data base is the main component of FindIT server. It will be used in because all the data about the location, services, and events are there in the database. FindIT database will have following modules or tables:

a. Locations data of small businesses
    a. ATMs
    b. Restaurants / Hotels
    c. Banks
b. Live Events (e.g. Conferences/Workshop at Universities)
c. Integration of Social Networks with above two modules

4.2.2 Priority:

FindIT server database priority is high since it is forming a base for all major functionalities of server.

4.2.3 Priority component rating:

Benefits:

- It will enable to get all the information related to locations of the users
- It will enable to fetch all the events from the universities
- It will enable to fetch all the coupons and discount information for the small businesses

4.2.4 Sequence of user actions:

a. Server will match the location mentioned in the information sent by the user.

b. On getting matched, the location will be validated.

c. After validation of information of the user, the application server will search for the nearby locations in the database.

d. If user requested for any other resource then the server will fetch that information from the database.

e. Server will maintain all the information about the events in universities , coupons and discounts of different businesses for their enhancement in the database.

4.2.5 Functional requirements:

Functional requirement 1:

Allow to validate the locations of users.

Functional requirement2:

After validation of location, search for the services , places and events nearby to that location.

Functional requirement3:

Allow storing of all the information about the events in universities and all the data regarding discounts of different businesses.

Functional requirement4:

4.3 System feature 3 – Web User Application:

4.3.1 Description:

Web users are the important feature of FindIT. Since these are the major amount of users who use geo-location services on web. This category is basically the specialized users who know about the web and usage of internet.The user can register also on the website, so that afterwards when they log in their data will be according to the last searches they did.

4.3.2 Priority component rating:

a.Benefits:

1. Web users can ask for resources / services / events from the server by:
    a. Giving own location from the navigations or drop downs on the website
    b. Ask the resources by using the drop down menus on the website
    c. Ask for events by selecting the universities in the location nearby.

b.Risks:

1. The main problem is finding the own location with reference to web , because web gives the location of ISP or service provider if we find the geo-location.

4.3.3 Sequence of user actions:

1. Users will browse the FindIT web for homepage.

2. Users can select categories of actions like:

- Want to find nearby services
- Want to find events at universities nearby
- Want to find any friend at nearby location

3. Then user will give his location through the navigations provided at the web page.

4. User will be provided with all the locations, events and details on the web page according to own location.

4.3.4 Functional Requirements:

Functional requirement 1:

User should be able to browse FindIT website.

Functional requirement2:

Users can select categories of actions like:

- Want to find nearby services
- Want to find events at universities nearby
- Want to find any friend at nearby location

Functional requirement 3:

Then user will give his location through the navigations provided at the web page.Image and location

Functional requirement4:

User will be provided with all the locations, events and details on the web page according to own location.

4.4 System feature 4 – Smart phone users' application:

4.4.1 Description:

Smart phone users are the main focal users of JointIT. These include Android smart phone. The GPS of the smart phone will be used to find the location of the user and then the services demanded by the user will be provided accordingly.They are the main focus because the own position can be found out exactly from the GPS of the phone and the services will be provided as per the exact location. The users of the smart phones are the specialized users as they can handle the operating system like android.

4.4.2 Priority:

Smart phone user application is of high priority since these include specialized users which can handle android operating system.

4.4.3 Priority component rating:

Benefits:

- Smart phone user can easily provided with the services as the own location will be easily accessed by the GPS.
- The own location will be exact and services will be provided with respect to the exact location.

4.4.4Sequence of actions:

1. Smart phone user can download the application from web.
2. Smart phone user can install the application and use it.
3. Smart phone user can ask for any service by just using the application.

4.4.5 Functional Requirements:

Functional requirement1:

Smart phone user get the own location by using the GPS of the smart phone.

Functional requirement2:

Smart phone users will have the options available in the application , the type of resource they want to access.

Functional requirement3:

Smart phone users can also use web application to access the geo-location services.

4.5Symbion Users' Application:

4.5.1 Description:

These users are the majority users use traditional mobile and ask for resources via sms. These users can have variety of reporting language and format. It necessitates for the scrutiny, validity the operator at server. A format must be defined so that user can access the geo-location services by sending message on a pre defined format.

4.5.2 Priority:

Priority of symbion users is low since validity and processing is objectionable

4.5.3 Priority component rating:

Benefits:

It will let common user of mobile to access the geo-location services. It will be addressing the majority but in an structured format.

Risks:

If the message will not be structured as per the defined way then the user will not be able to access it.

4.5.4 Sequence of user actions:

1. Symbion mobile user will draft text specifying the following:

- Own Location
- Service need to access like:
    - Events at universities
    - Nearby hotels, ATMs, Banks or other services
    - Nearby Friends

4.5.5 Functional Requirements:

Functional requirement1:

Use of symbion mobile OS already in use

Functional requirement2:

User must send the message in a defined structured way.

Functional requirement3:

Server then validates that sms and search accordingly for the services.

5. Other Non-Functional Requirements:

5.1 Performance requirements:

In the FindIT application, we have various performance requirements, like smart phone application must be able to connect and communicate by GPRS/Edge services so that Geo-Location services can be time effective. Furthermore at server end automatic processing must be set as default so as to enhance the speed and response of system. Constant up gradation of various records is another functionality which requires performance specification.

5.2 Safety Feature Requirement:

In the FindIT application, safety is main concern. Since the server application is prone to various attacks, thus we need to have safety mechanism to cater for the loss or damage of the product. In FindIT we have the following safety requirements.

5.2.1 Validation of the Location:

FindITmade for variety of user having large range of characteristics good or bad. So no one can deny for any malicious designs to fool off the system by sending fake locations. This vulnerability is thus catered by FindIT by validating the location. If the location is valid then the services asked will be provided but if they are not valid then no services will be provided and error will be reported.

5.2.2 Maintaining Database:

The database which includes all the details about the events happening in universities, all the nearby locations and information about discounts and coupons. This database will be maintained according to a defined policy.

5.3 Security Requirement:

Security of database will be considered as a priority that as an open application no one can have such an access to database that it will disrupt the system and defect the database. So security measures will be taken to stop the written access to the database except the administrator of application.

5.4 Software Quality Attributes:

1. Availability:

This is one of the most important attributes that is needed to be achieved. The Joint is destined to let the users to get the information about the happening and services nearby. The FindITserver must be available to the users all the time, to ensure that the users can access the resources and services at all times.

2. Adaptability:

The FindIT applications made for smart phones and web users need to be designed in such a way that if new versions of the smart phone sets or web browsers arrive, the applications should be compatible with the new versions also.

3. Flexibility:

It is ensured that the FindIT applications are flexible enough so that any future changes could be accommodated easily. Any new functionality or feature could be added easily to the system.

4. Maintainability:

As no system is perfect, so the FindIT system needs to be improved with the passage of time. As the system is being divided into modules so its maintainability becomes an easy job as the defects in one module would not render defects in other modules

5. Correctness:

It has been ensured that the specification of the FindIT system is in complete correspondence to the requirements given by the stakeholders. The main purpose of FindIT is to access the services according to the own location. And the requirements are being specified according to that and so would be the future design and implementation.

6. Interoperability:

FindIT system vast variety of reporting mechanism i.e web, smart phones, symbions etc. Thus it necessitates interoperability issues at server end where all reports are to be processed.

7. Portability:

The FindIT system is divided into modules, which makes it highly portable. i-e there is a separate application for smart phones users, symbion users and web users. Each one of them has a separate application through which it can be accessed. These Modules can be reused by other systems.

8. Reliability:

This property is related to the availability feature of the FindIT system. As we make sure that the system would be available 24/7, this also makes sure that the system would be reliable, i-e it would perform the specified task efficiently during the time it is available.

9. Usability:

The FindIT interface is kept very simple, so that the users can access the resources very easily without taking any training for it.

10. Robustness:

TheFindIT system would be able to cope with any errors that take place. It needs to operate in

such a way such that if any error occurs, it will respond to the user about it.

5.5 Business Rules:

Certain business rules are to be created for implementing FindIT in true perspective. The business rules along with their category are explained below.

a. Geo-Location should be made available online because it will help the business personnel to enhance their business by sending about the discounts and coupons about their business.

b. It will help universities to inform about the events happening to the users.

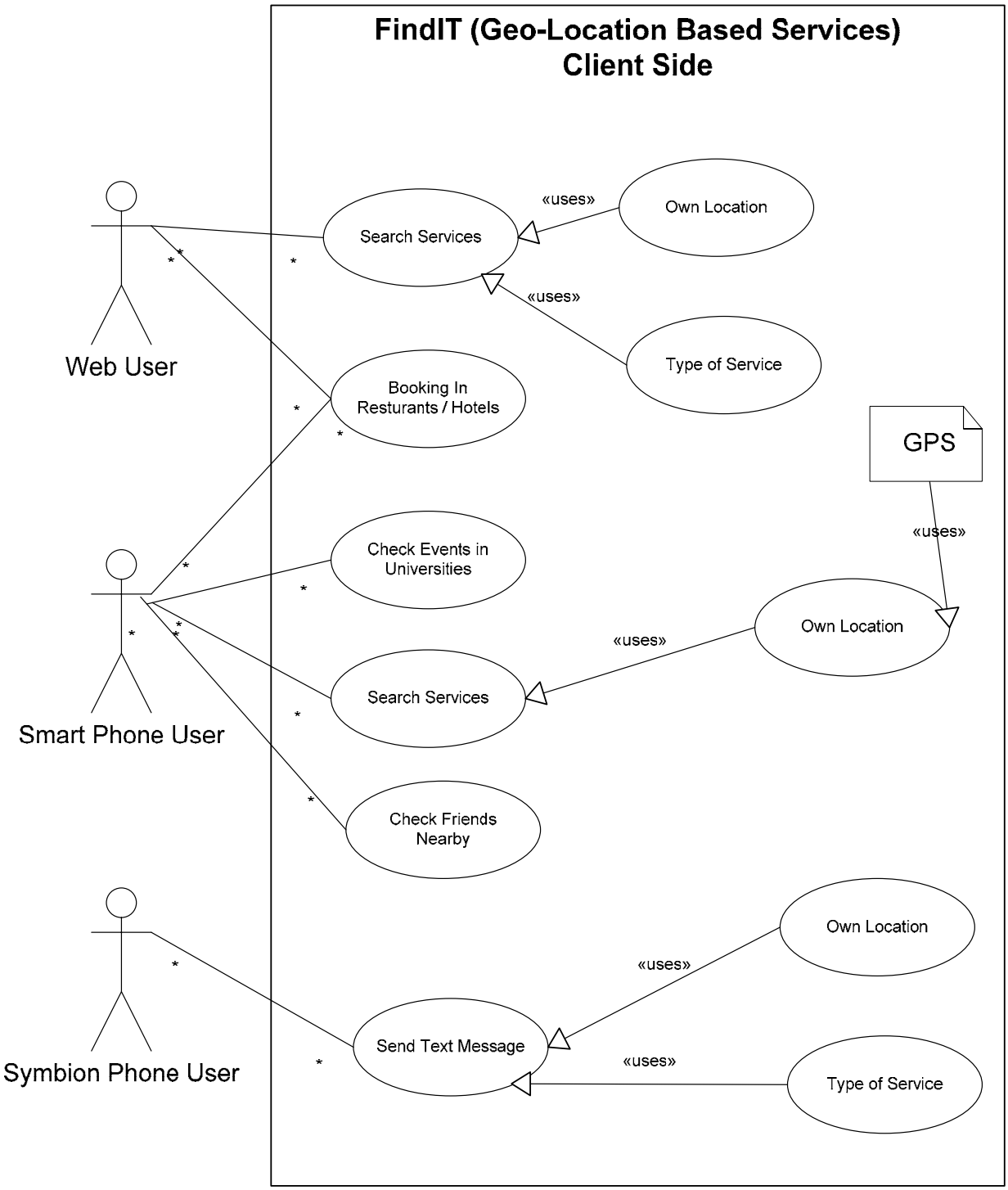
6. Other requirements:

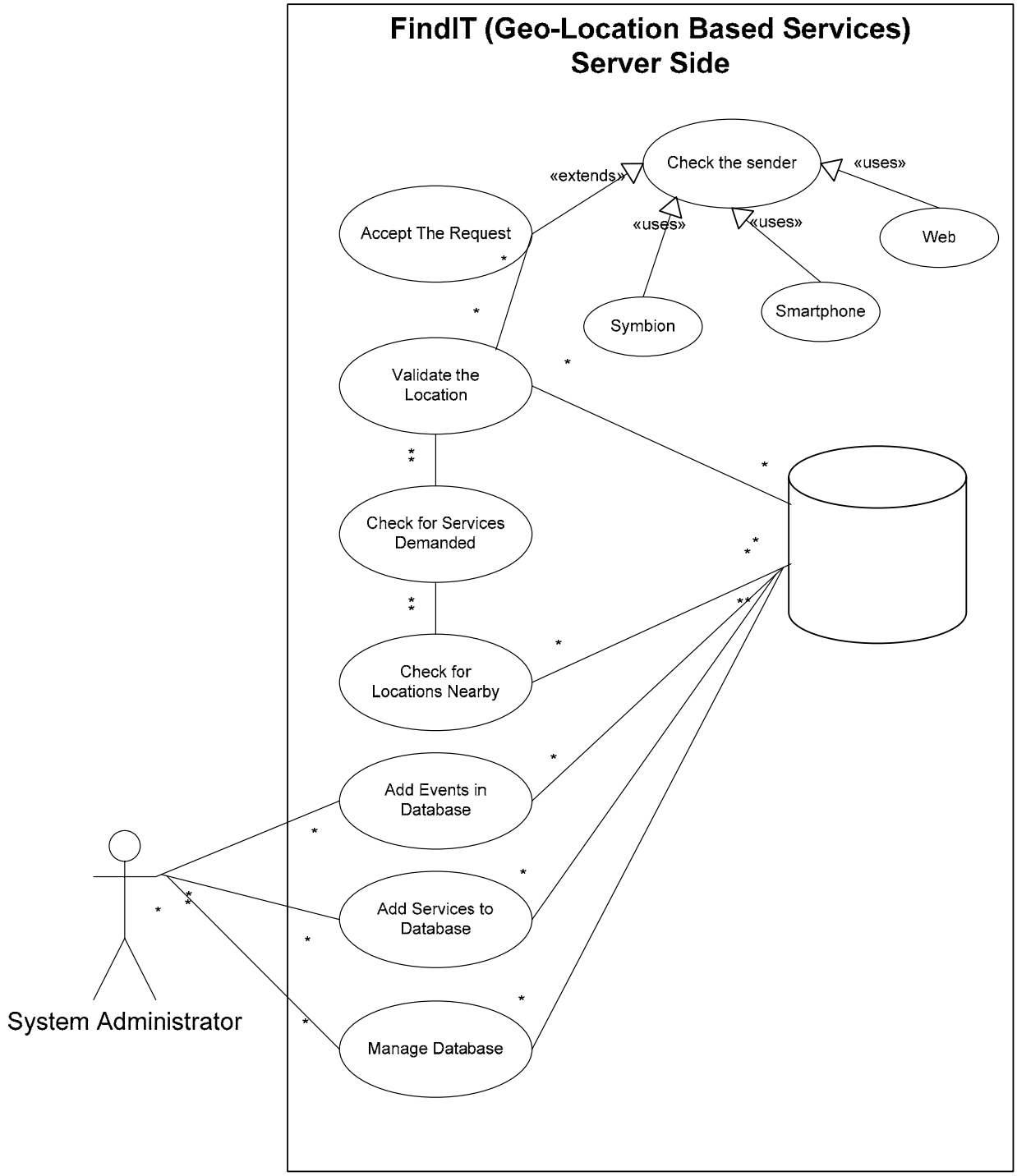
FindIT application has a large canvas of user. For example cellular cell users include Android smart phone, Symbian cell users, web users. Besides this, there exists a large variety of means which will add much to true objectives ofFindIT. For asking the services via text/sms , navigations.

APPENDIX A: Glossary

1. GPS – Global Positioning System
2. GPRS – General Packet Radio Service

APPENDIX B: Use case Diagram

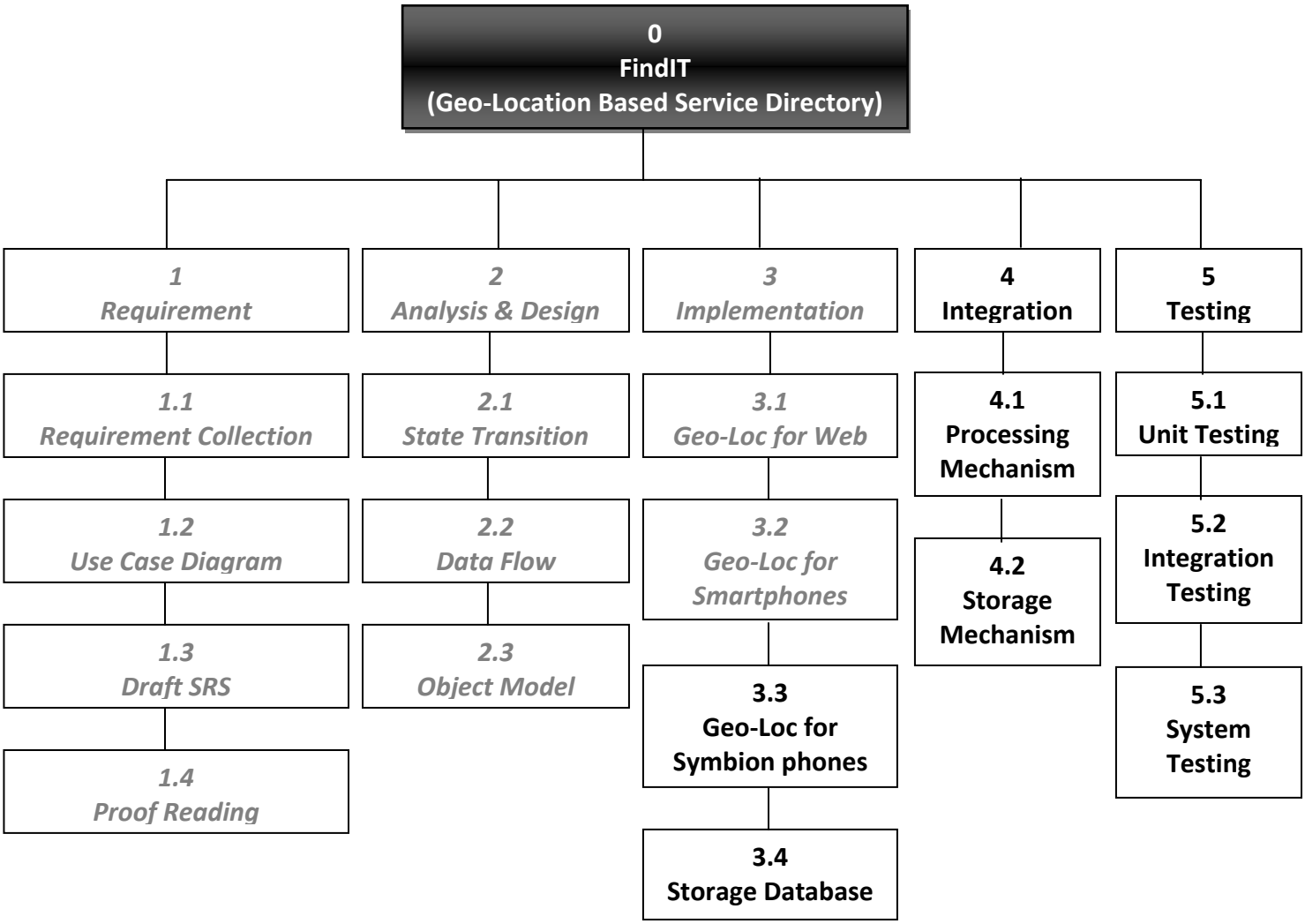



FindIT (Geo-Location Based Services)
Server Side
Check the sender
«extends»
«uses»
«uses»
«uses»
Web
Accept The Request
Symbion
Smartphone
Validate the Location
Check for Services Demanded
Check for Locations Nearby
Add Events in Database
Add Services to Database
Manage Database
System Administrator

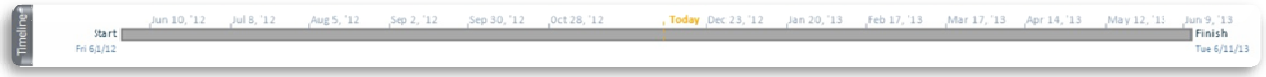
APPENDIX –C: WBS

Roles and responsibilities:

#		Activity / Task	Responsibility Matrix		
			Fahad	**Tabraiz**	**Yousuf**
1.		**Requirement Engineering**			
	1.1	Requirement collection	✓	✓	✓
	1.2	Use case diagram	✓		
	1.3	Draft SRS	✓	✓	✓
	1.4	Proof reading		✓	✓
2.		**Analysis and design**			
	2.1	State Transition	✓		
	2.2	Data flow diagram		✓	
	2.3	Object model			✓
3.		**Implementation**			
	3.1	Geo-Location for web	✓		
	3.2	Geo-Location for Smart phone		✓	
	3.3	Geo-Location for Symbion cell			✓
	3.4	Storage Data base	✓		
4.		**Integration**			
	4.1	Processing mechanism	✓	✓	
	4.2	Storage medium		✓	✓
5.		**Testing**			
	5.1	Unit testing	✓		
	5.2	Integration testing		✓	
	5.3	System testing			✓


0
FindIT
(Geo-Location Based Service Directory)
1
Requirement
2
Analysis & Design
3
Implementation
4
Integration
5
Testing
1.1
Requirement Collection
1.2
Use Case Diagram
1.3
Draft SRS
1.4
Proof Reading
2.1
State Transition
2.2
Data Flow
2.3
Object Model
3.1
Geo-Loc for Web
3.2
Geo-Loc for Smartphones
3.3
Geo-Loc for Symbion phones
3.4
Storage Database
4.1
Processing Mechanism
4.2
Storage Mechanism
5.1
Unit Testing
5.2
Integration Testing
5.3
System Testing

APPENDIX –D: Project Timeline



	Task Mode	Task Name	Duration	Start	Finish
1		Feasibility	8 days	Fri 6/1/12	Tue 6/12/12
2		Proposal Defense	2 days	Wed 6/13/12	Thu 6/14/12
3		**Requirement Engineering**			
4		Requirements Collection	40 days	Fri 6/15/12	Thu 8/9/12
5		Use Case Design	15 days	Fri 8/10/12	Thu 8/30/12
6		Development of SRS	30 days	Fri 8/31/12	Thu 10/11/12
7		Proof Reading	10 days	Fri 10/12/12	Thu 10/25/12
8		Approval of SRS	7 days	Fri 10/26/12	Mon 11/5/12
9		**Analysis and Design**			
10		State Transition Diagram	11 days	Tue 11/6/12	Tue 11/20/12
11		Data Flow Diagram	10 days	Wed 11/21/12	Tue 12/4/12
12		Modularization	10 days	Wed 12/5/12	Tue 12/18/12
13		Object Class Model	15 days	Wed 12/19/12	Tue 1/8/13
14		**Implementation**			
15		For Web	15 days	Wed 1/9/13	Tue 1/29/13
16		For Smart Phones	15 days	Wed 1/30/13	Tue 2/19/13
17		For Symbion Phones	15 days	Wed 2/20/13	Tue 3/12/13
18		**Integeration**			
19		Processing Mechanism	20 days	Wed 3/13/13	Tue 4/9/13
20		Storage Mechanism	15 days	Wed 4/10/13	Tue 4/30/13
21		**Testing**			
22		Unit Testing	10 days	Wed 5/1/13	Tue 5/14/13
23		Integeration Testing	10 days	Wed 5/15/13	Tue 5/28/13
24		System Testing	10 days	Wed 5/29/13	Tue 6/11/13