
Software Requirements Specification

for

BUS TAP

Version 1.0 approved

**Prepared by
Anna Lynn Alcaraz
Sammy Boy Angot
Justin Besmano
Job Briosos>**

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of this document is to full describe what the project is all about. It will provide detailed description about the bus tap application. This document would explain the objectives, purpose and the goal of the project. Moreover, it will also explain how users perform while using the application, how users would use the application, and how the users become the beneficiary of the project. This document is intended for all actors involved: Managers, Administrators, and Customers.

1.2 Document Conventions

This document strictly followed the IEEE Format for the Software Requirement Specification Document.

1.3 Intended Audience and Reading Suggestions

- *Typical BGC Bus passengers that wants to be guided accordingly with his/her trip.*
- *Management of the BGC Bus that would track passengers and gather information about the current situation in a specific area.*
- *Managers that would like to hear concerns and problems so that planning on whatever action would be planned.*

1.4 Product Scope

Bus TAP is a mobile application that would cater all passengers of the BGC Bus. It aims to help users to travel from one point to another. This application would allow commuters to be more knowledgeable about the place they were looking for. Moreover, this would help the management since it will have a user satisfaction feature that will make users cite concerns and problems they encountered while on trip or during their stay at the area. Lastly, this will allow management to keep track of passenger who ride the BGC Bus.

1.5 References

Doing this document, the team referred to some documents made by b the group. Including the vision and scope document and the scope of work document.

2. Overall Description

2.1 Product Perspective

The Project will probably consist of 2 parts: the web and the mobile application. The mobile application will be used by the user to locate stops/buses. Moreover, the mobile application allows user to navigate the BGC and view needed information. On the other hand, the web application is about managing the information about the employee and all users.

The mobile application will need to use the GPS features of android phones. This would allow the user to be located by the system with the user's location. This would also help the user to access the others feature like locating the nearest bus stop and have detailed information to the user's travel.

Data would be important upon doing this project, so data would be stored in the database. The job of the mobile app is to get necessary information while the web application needs to push data to the mobile application.

Using this application would be limited only to all android devices. Since some feature may work smoothly on phones with android processors.

2.2 Product Functions

By using the mobile application, users would be able to gather information about their trip. More likely, the result would be based on the input coming from the user. Especially the users would need input their location.

Upon the user finish to input location, map would show up so that bus stops would be visible around the location of the user. User would have a choice to reserve a trip, view estimated time of arrival, and send some concerns.

The user satisfaction feature would allow to user to cite concerns regarding their trip. It may vary from their experience while on board or it would depend upon what users describe a problem that needs assistance immediately.

The web app will be available to manage the system and the employee and the user's information.

2.3 User Classes and Characteristics

Most likely, 3 types of users would be interacting while using the system: Users of the mobile application, employee, and the managers. Each of them would play different roles that each of them would require individual requirements.

The users can use features of the application. This means that the user can search for a bus stop, search for a bus, reserve a trip and send concerns. This would help them to navigate and be guided about their trip. But ordinary users, cannot access the database because of confidentiality of data and they can't add data to the system.

Employee would be needed to manage the system. They would be responsible in securing the database and receive user's rating and concerns. They are also responsible in giving data, especially data like news that the users need to read and view.

Last would be the Managers. Managers are responsible in creating reports. They will be the one who will be receiving the data so that they can track what is happening around their business. Furthermore, the job of managers is to check the credentials of every users and manage the whole system.

2.4 Operating Environment

The project would only be available for android devices. Android phones that has 4.0 or higher processor. By using the processor, it will ensure that the app would run smoothly. Also, GPS would also be needed while using the application. Furthermore, NFC feature looks to be a requirement, but it would not be available upon the release.

2.5 Design and Implementation Constraints

One issue that development team sees upon deploying the application is about security. Data is an important factor in this application. Storing them in a database needs confidentiality. But the team would be not sure on how security protocol would be implemented in this scenario. The security feature would be limited to the security feature by the database.

2.6 User Documentation

<List the user documentation components (such as user manuals, on-line help, and tutorials) that will be delivered along with the software. Identify any known user documentation delivery formats or standards.>

2.7 Assumptions and Dependencies

The project would be dependent on the state of internet connection. And according to some sources, there are dead spots in the BGC area, meaning internet connection is slow. This might be a huge problem since almost all of the application's feature would rely on the internet. Meaning, if the internet connection tends to be slow it might affect the overall quality of the project.

Moreover, about the assumption, the team assumes that the GPS works ideally the same on all android phones. Meaning if the GPS of one android phone works different or has different version, it needs to adjust about what the team develops or on what other android phone has.

3. External Interface Requirements

3.1 User Interfaces

The first page that the user would be able to see is the login menu. The user needs to log in to their respective accounts, however if the user does have an available account, the user should click the sign up button and they should fill out the forms and have their account registered.

After signing or logging in, the menu would show up. The menu would be divided on several buttons depending on how many features. Meaning one feature is to one button. The choice would be dependent upon how the user would use the application.

In the map, bus tops would be represented by pins, clicking the pin would give information about the location of the stop.

For the web app, it almost works the same thing. Login and sign p is needed. After validating the credential, the web application would display forms that the admin should fill out so that users can retrieve.

3.2 Hardware Interfaces

Using the application does not require much of the hardware. Android phones would only be the requirement upon using the application. All other functionalities would be dependent on the software being used like the GPS system and the databases.

3.3 Software Interfaces

The mobile application needs to communicate to the GPS systems. By doing so, it would allow user to view geographical data about the place. Also the database would also be needed since everything that the user would view will be stored first in a database.

3.4 Communications Interfaces

The communication between the parts of the system would be important. It is important since the will be dependent on one another. Data would be passed from the web down to the mobile app, however it would depend on the systems when doing these processes.

4. Domain Model

<Sometimes, this section is optional. However, it may be important to have it since domain model may give more useful as well>

5. System Features (Use Cases)

5.1 Use Case 1

Use Case Name:	Login (Passenger)
Scenario:	Passenger logs in to their Bus Tap account.
Triggering Event:	Passenger entered their login details on the login page of the app.
Brief Description:	When passenger logs in to their account, the system validates that the login details entered by the passenger matches the login details of an existing Bus Tap account.
Actors:	Passenger
Related Use Case:	Login (Employee), Login (Manager)

Stakeholders:	Passenger – provides the login details	
Preconditions:	Passenger must have an existing Bus Tap account	
Postconditions:	Passenger is logged in.	
Flow of Activities:	Actor	System
	<ol style="list-style-type: none"> 1. Passenger requests the login page of the app. 2. Passenger enters the registered email address and corresponding password. 	<ol style="list-style-type: none"> 1.1 System displays the login page. 2.1 Validate data input 2.2 Match email address and password to an existing account 2.3 Log in passenger 2.4 Display passenger information
Exception Conditions:	<ol style="list-style-type: none"> 1. If email address entered does not match any existing accounts, redirect to sign-up interface or forgot username interface. 2. If password entered does not match the email address, redirect to forgot password interface. 3. Users are only given 10 chances to enter their correct login details at a time. 	

5.2 Use Case 2 (and so on)

Use Case Name:	Reserve seat	
Scenario:	Passenger reserves a seat on a BGC Bus.	
Triggering Event:	Passenger entered travel details on the seat reservation page of the app.	
Brief Description:	When passenger wants to reserve a seat on the BGC Bus, the system displays the seats available on the selected schedule. Passenger selects an available seat, and the bus driver reserves the seat on the bus for the passenger.	
Actors:	Passenger Driver	
Related Use Case:		
Stakeholders:	Passenger – provides date and time of travel, bus stop; selects the bus schedule; selects the bus seat Driver – reserves the bus seat	
Preconditions:	Passenger must be logged in to their Bus Tap account.	
Postconditions:	A seat is reserved for the passenger.	
Flow of Activities:	Actor	System

	<ol style="list-style-type: none"> 1. Passenger requests the seat reservation page of the app. 2. Passenger enters the date, time, and the bus stop. 3. Passenger selects the bus schedule. 4. Passenger selects the seat to reserve. 5. Driver reserves the seat. 6. Passenger shows the reservation code to claim the reserved seat. 7. Driver enters the reservation code. 	<ol style="list-style-type: none"> 1.1 System displays the seat reservation page of the app. 1.1 System displays the available schedules closest to the travel details entered by the passenger. 1.1 System displays the seat map for the selected schedule. 4.1 System reserves the selected seat for the passenger. 4.2 System notifies the corresponding driver of the seat reservation. 7.1 System verifies reservation code. 7.2 System sets the reservation as claimed.
Exception Conditions:		

5.3

Use Case Name:	Plan travel
Scenario:	Passenger wants to know how to travel from one place to another in BGC using the BGC Bus.
Triggering Event:	Passenger entered origin and destination on the plan travel page of the app.
Brief Description:	When passenger enters an origin and destination, the system displays a detailed travel itinerary for the passenger, including the bus stop nearest to the origin, available BGC bus routes, fare, and estimated travel time.
Actors:	Passenger
Related Use Case:	
Stakeholders:	Passenger – provides origin and destination
Preconditions:	The user must have an internet connection. The user must allow the app to access the passenger's location through their mobile phone.

Postconditions:	Detailed travel itinerary must be displayed. Map must display the location of the bus stop nearest to the origin. Map must display the relevant BGC bus routes. Estimated travel time must be displayed. Fare must be displayed.	
Flow of Activities:	Actor	System
	<ol style="list-style-type: none"> 1. Passenger requests the plan travel page of the app. 2. Passenger enters the origin and destination. 	<ol style="list-style-type: none"> 1.1 System displays the plan travel page of the app. 2.1 System checks the location of the passenger. 2.2 System displays the location of the bus stop nearest to the passenger's location. 2.3 System displays the BGC bus routes that can take the passenger from the bus stop nearest the origin to the bus stop nearest the destination. 2.4 System displays the bus fare for the corresponding bus route. 2.5 System estimates the travel time for the trip.
Exception Conditions:	<ol style="list-style-type: none"> 1. Internet Connection is required. 2. Origin and destination entered must be within the scope of the app. 	

5.4

Use Case Name:	Locate Bus	
Scenario:	Locating the bus	
Triggering Event:	Passenger wants to know the location of the bus	
Brief Description:	Passenger should successfully know the location of every bus	
Actors:	Logged in Passenger	
Related Use Case:	Log in, Plan travel	
Stakeholders:	Logged in Passenger	
Preconditions:	The bus should be available Passenger should be logged in	
Postconditions:	The logged in passenger should be able to locate the bus nearest to a bus stop.	
Flow of Activities:	Actors	System
	1. Passenger wants to know the location of the bus	1.1 The system would validate the credentials of the user
Exception Conditions:	1. If the user does not have an account, redirect it to the log in account page 2. The system should be successfully able to show the location of the bus.	

5.5

Use Case Name:	Rate and Provide Feedback	
Scenario:	The passenger wants to give feedback regarding the user's trip	
Triggering Event:	Users feedback and detailed itinerary	
Brief Description:	The passenger should be able to give feedback and rate regarding his/her trip	
Actors:	Logged in Passenger	
Related Use Case:	Log in	
Stakeholders:	Logged in passenger – the one who will give feedbacks	
Preconditions:	Users must successfully log in to their accounts	
Postconditions:	The rate and feedbacks should be able to go to the administrator's database	
Flow of Activities:	Actor	System
	3. User will rate the driver and his/her overall trip . 4. User will give feedbacks	1.1 Validate the credentials of the user 1.2 Rating page would show up 1.3 Allow the user to rate his/her travel 1.4 Save it to the system's database 2.1 Validate the credentials of the user 2.2 Feedback page should show up 2.3 Allow the user to give feedback 2.4 Save the feedback of the user
Exception Conditions:	The user should be registered, if not, redirect to create account and log in page	

6. Other Nonfunctional Requirements

6.1 Performance Requirements

Bus TAP application would require phones who has android processors. Android processors who has an ice cream sandwich version and higher. Phones who has this specification, will have insurance that the application would work smoothly and effectively.

6.2 Safety Requirements

To ensure that users would not lose any data, administrator should keep track on what is happening on the database system. Database would be the most important tool of the system since the application relies so much on data.

6.3 Security Requirements

To promote data confidentiality, typical users would be able to access the database nor the administrator side. In this case, users will be just limited on using the features rather than accessing the database which could give users possibility alter data.

6.4 Software Quality Attributes

The application would contain simple GUI design. This would allow users to pick what they intend to do. Each feature will be on the menu list of the user. However, to fully use the capabilities of the application, maps should be installed.

7. Other Requirements

Appendix A: Glossary

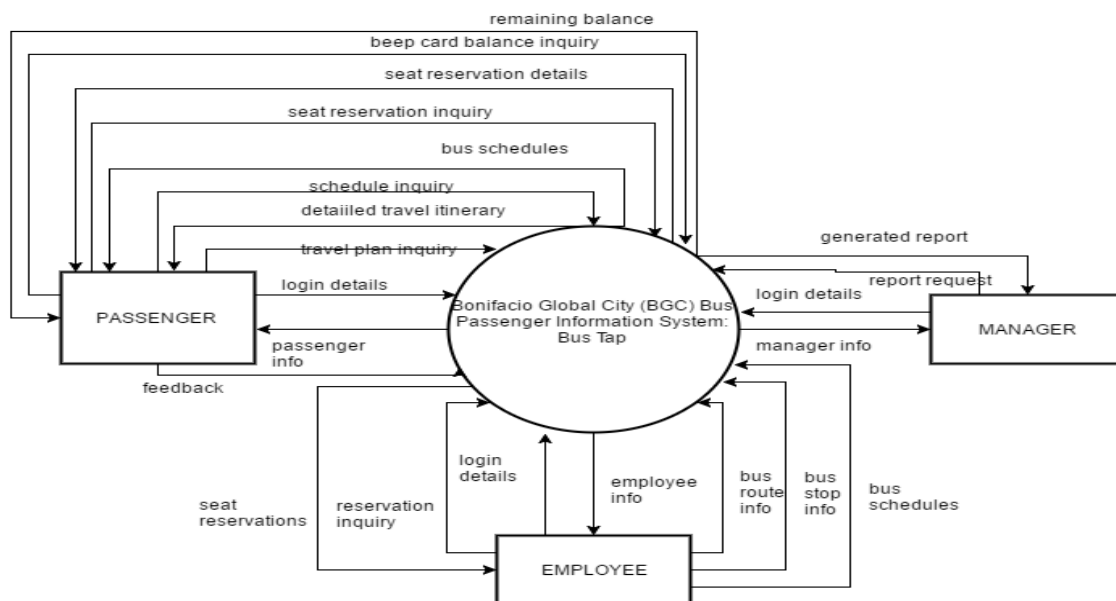
GPS -GLOBAL POSITIONING SYSTEM

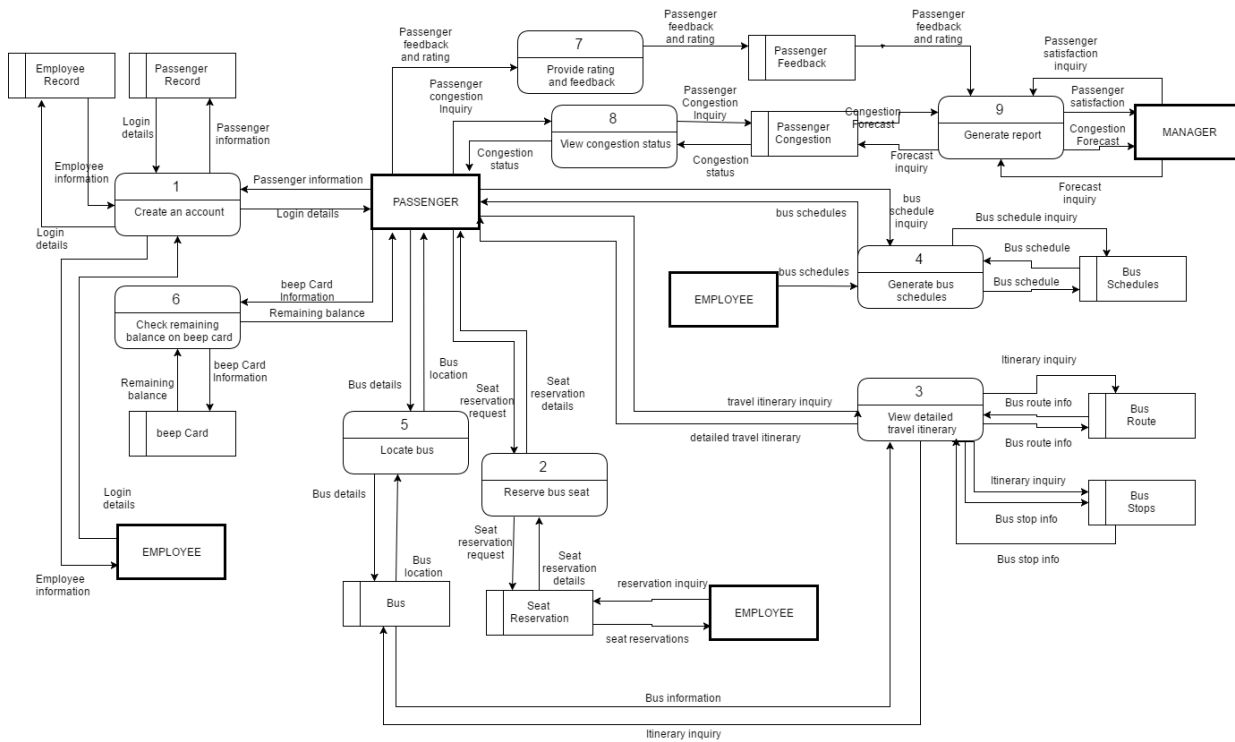
NFC – NEAR FIELD COMMUNICATION

DATABASE – USE FOR STORING DATA

ANDROID – MOBILE PHONE PROCESSOR

Appendix B: Analysis Models





Appendix C: To Be Determined List

<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>