Software Design Document

Alt-F4

BUSTALK

Software Requirements Specification

1.0 Overview

Referring to the specifications listed in the Alt-F4 Software specification documents, This technical design document includes diagrams and design blocks to aid the implementation of the system. The designs are done according to the Universal Modeling Language (UML) including use-case diagrams, component diagrams and other relevant drawings or write-ups to satisfy the design requirement on the specification stated in the aforementioned document.

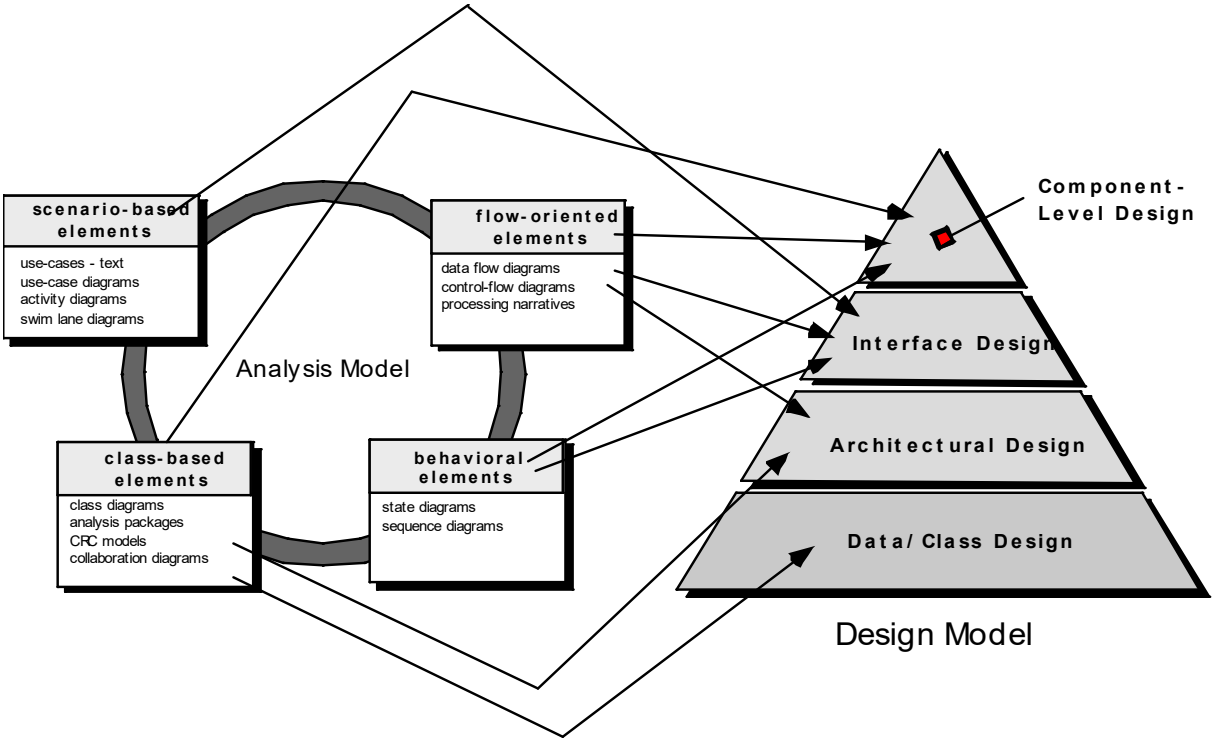
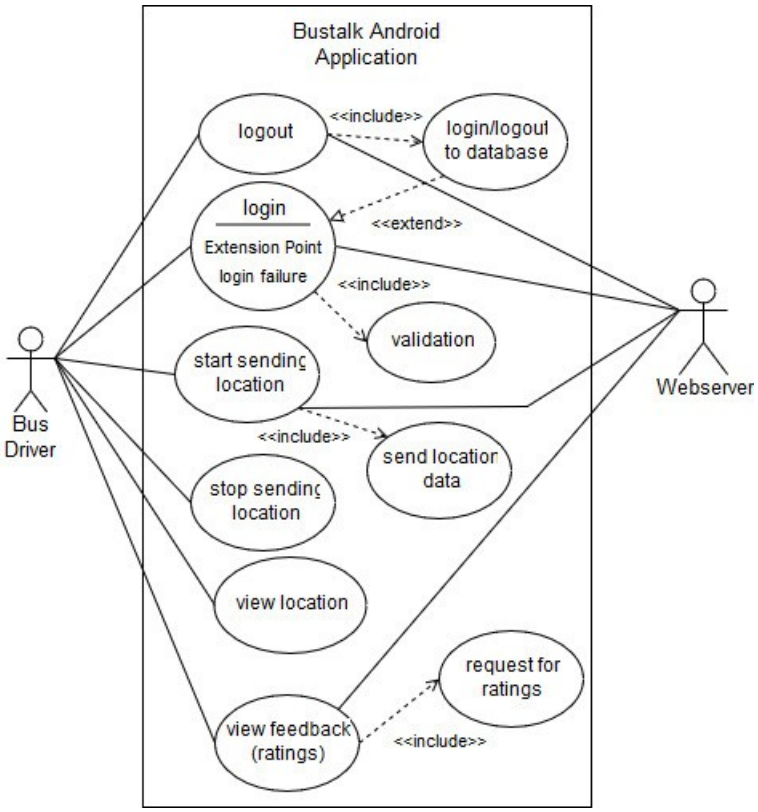


Figure 1.0 Software Design Model

We start from the Interface Design level as our model is based on the scenarios specified by the customer. Using scenario-based elements, the project shall employ use-case diagrams to illustrate the interface that will be on both of our components (Android Application and Webserver). Then, the use-case will be supported by component diagrams, deployment diagrams and activity diagrams to further illustrate the functionality and the relationship between the components as well as the expected flow of a use on the system. All of this shall be shown in the document.

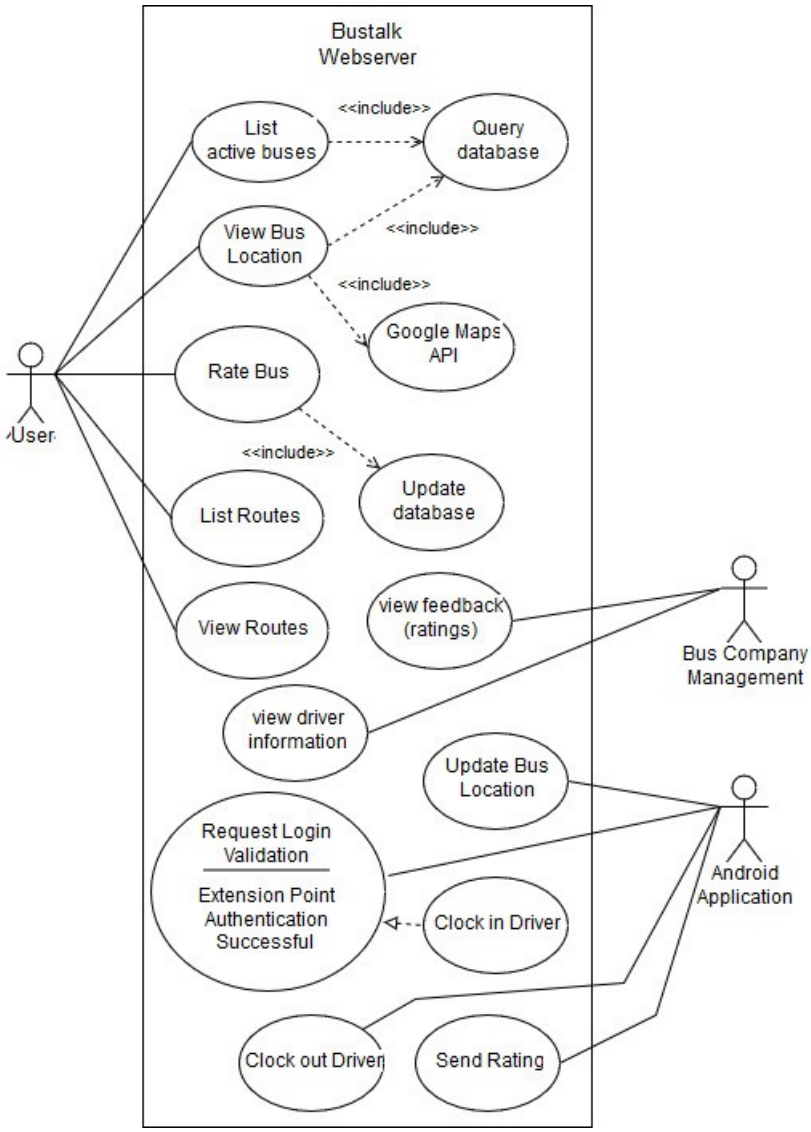
Use case diagram 1 (Android Application)



The diagram illustrate the interaction on the use cases of the android application to the users of the application (bus drivers). The bus driver may login/logout to and from the system fulfilling the 5th requirement stated in the section 3.0 on the software requirement document.

The application can also send location data of the bus driver, ultimately providing the tracking function for the bus as the bus driver will carry his phone with him. This location is sent to the HTTP web server, with the interface provided by the web server. The bus driver can also view his/her own rating retrieved from the web server.

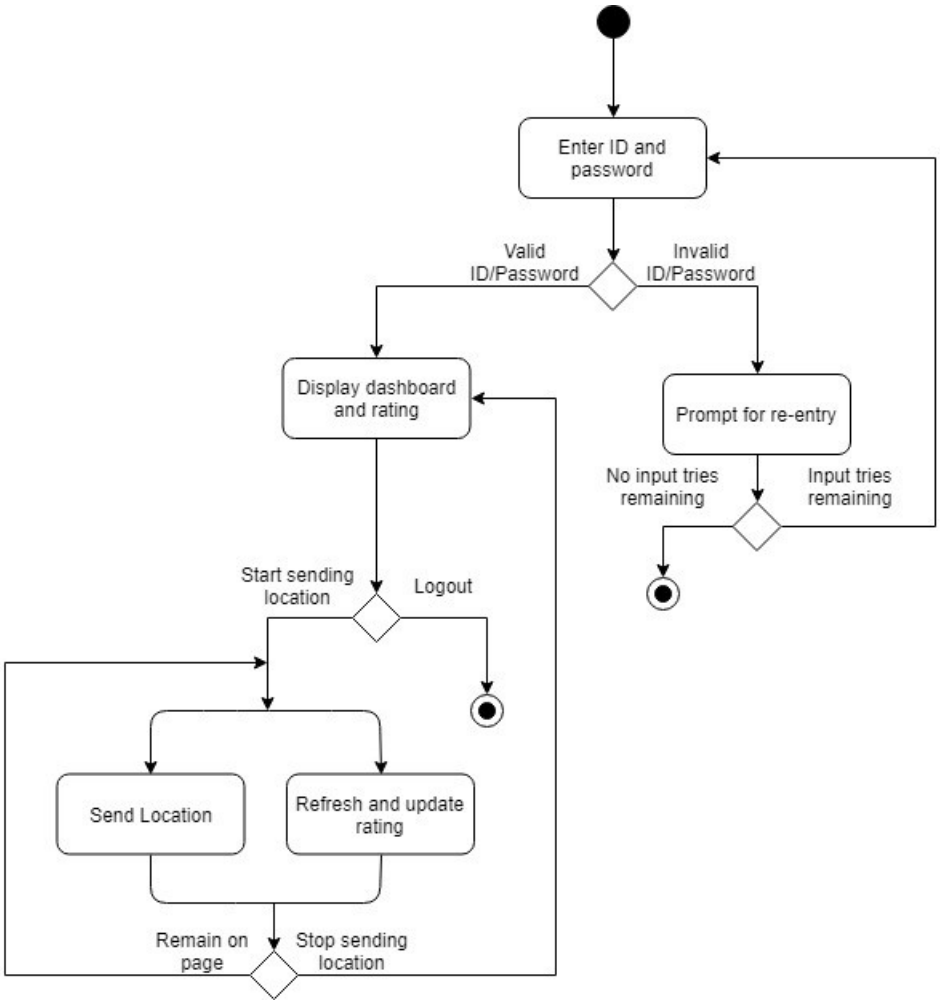
Use case diagram 2 (Web server Application)



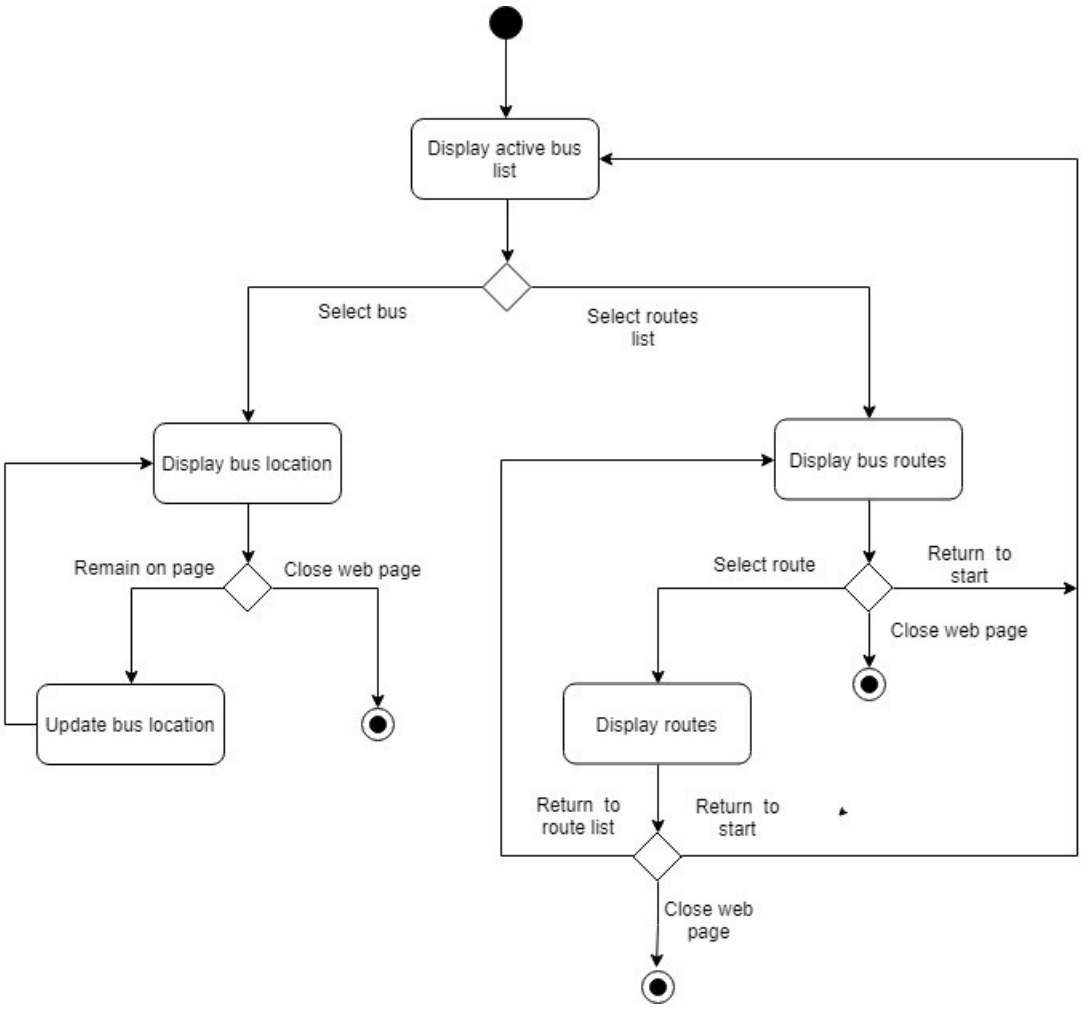
The web server packs more function in it as it will deal with the user and the management of the company that is purchasing the service from ALTF4 to use Bustalk. To achieve requirement 1-5 in section 3.0 and also requirement 7 in the software requirement document. The web server provides a means for the riders to list and track the buses, rate the buses to show their satisfaction with the services that the bus company is providing. The management can then assess the user satisfaction and is able to make appropriate changes to the company based on the ratings such as reprimanding drivers or changing the routes based on user statistics.

The next diagram will show the activity diagram associated with the android and web server application.

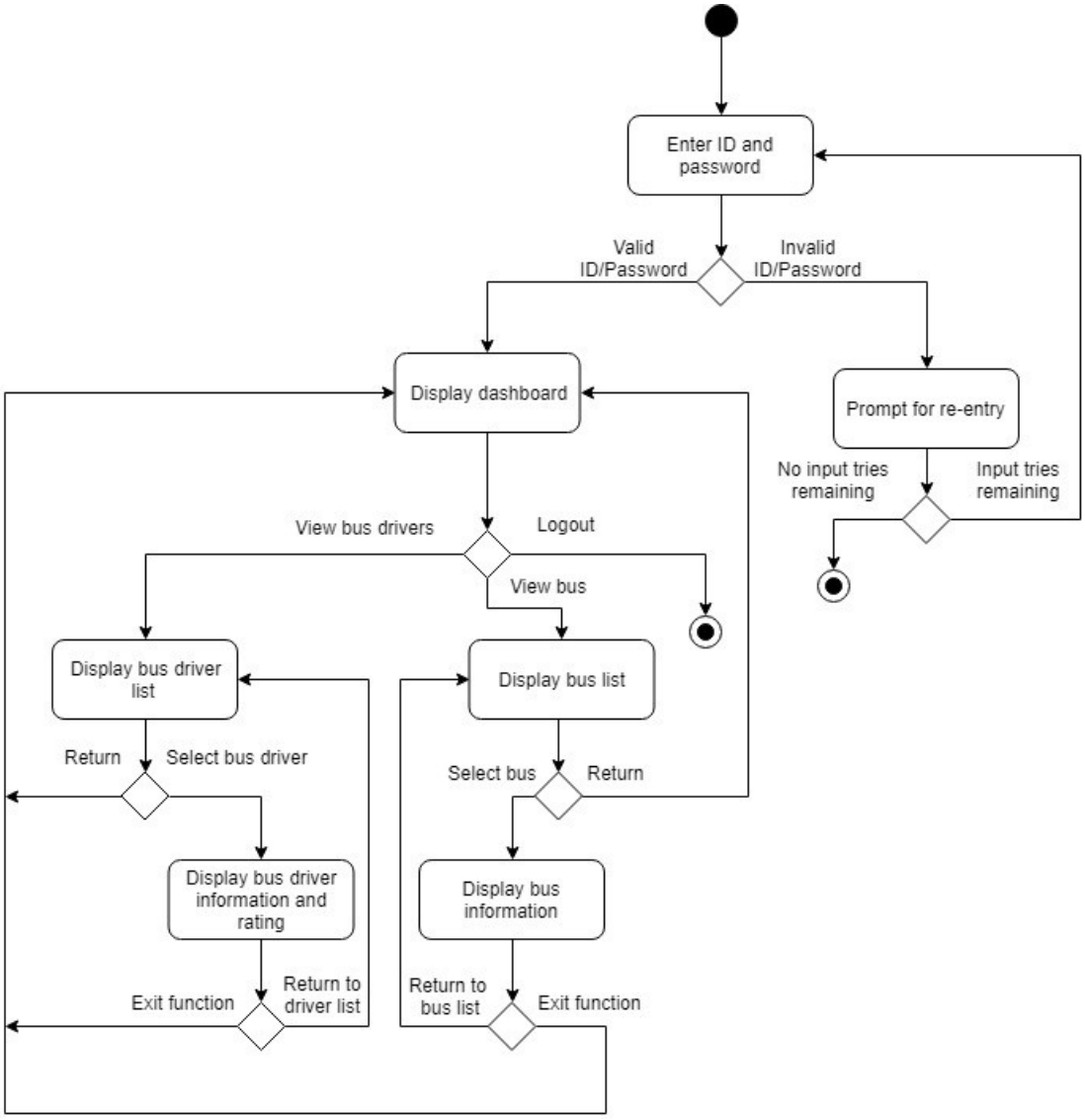
Activity Diagram 1 (Android Application)



Activity Diagram 2 (Web server application on user side)



Activity Diagram 3 (Web server application on management side)



Architecture Overview of Bustalk

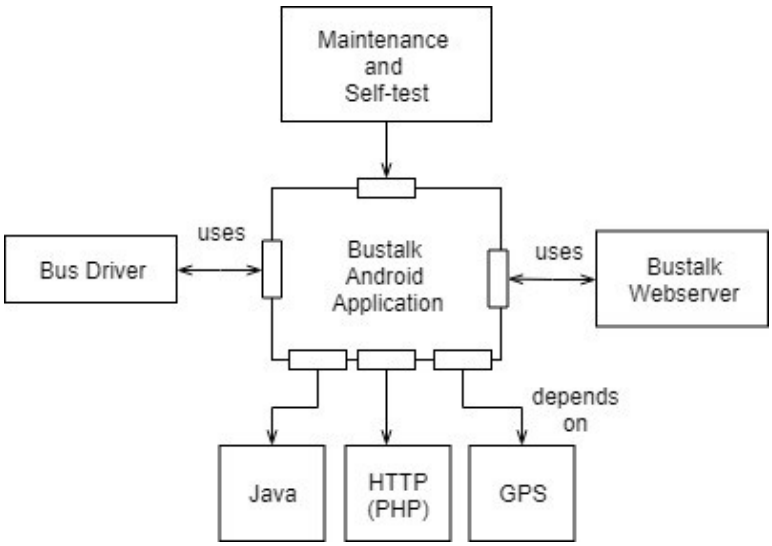


Figure 1.1 Bustalk Android Application Architecture

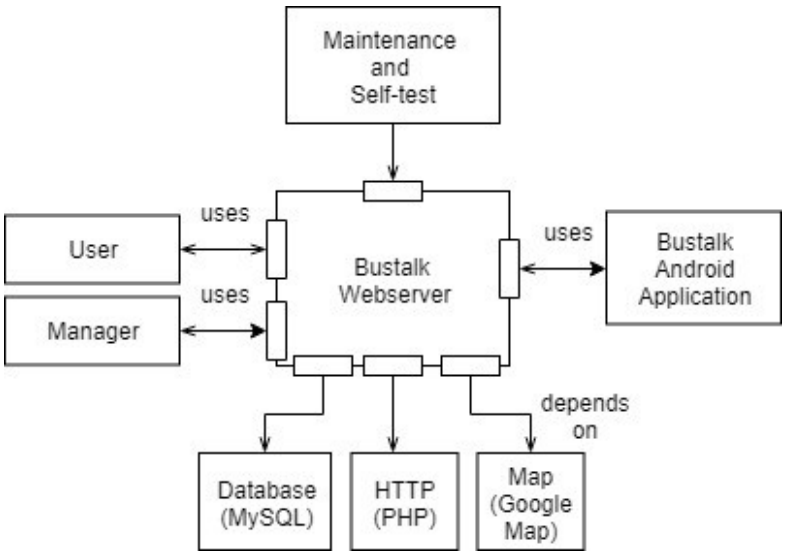
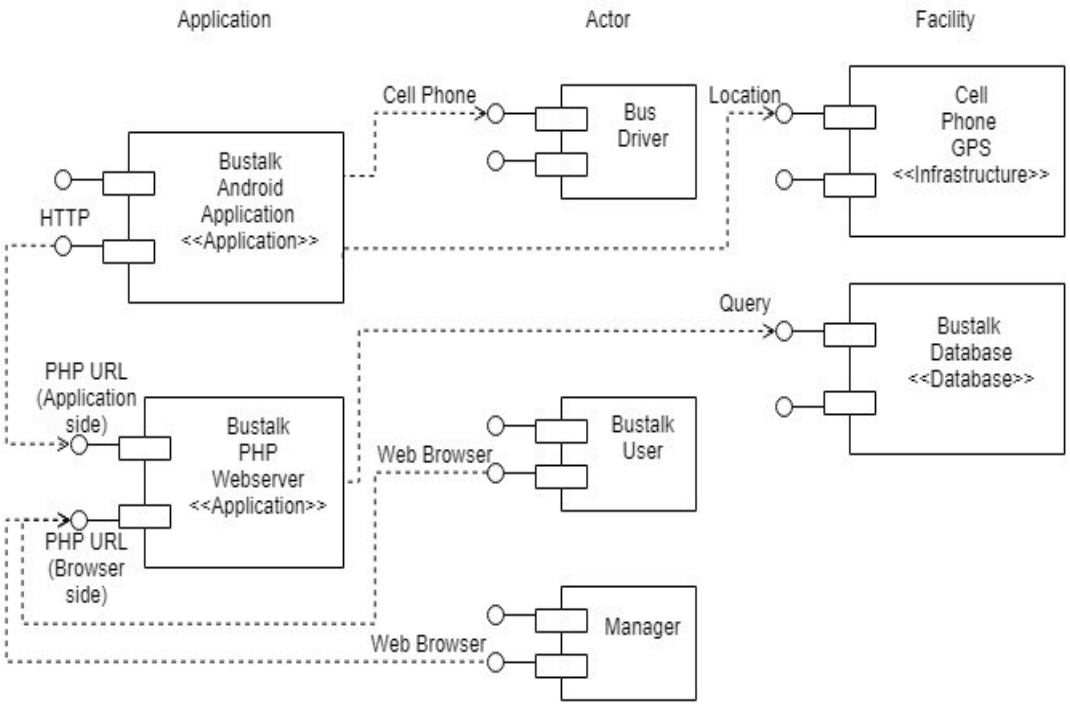
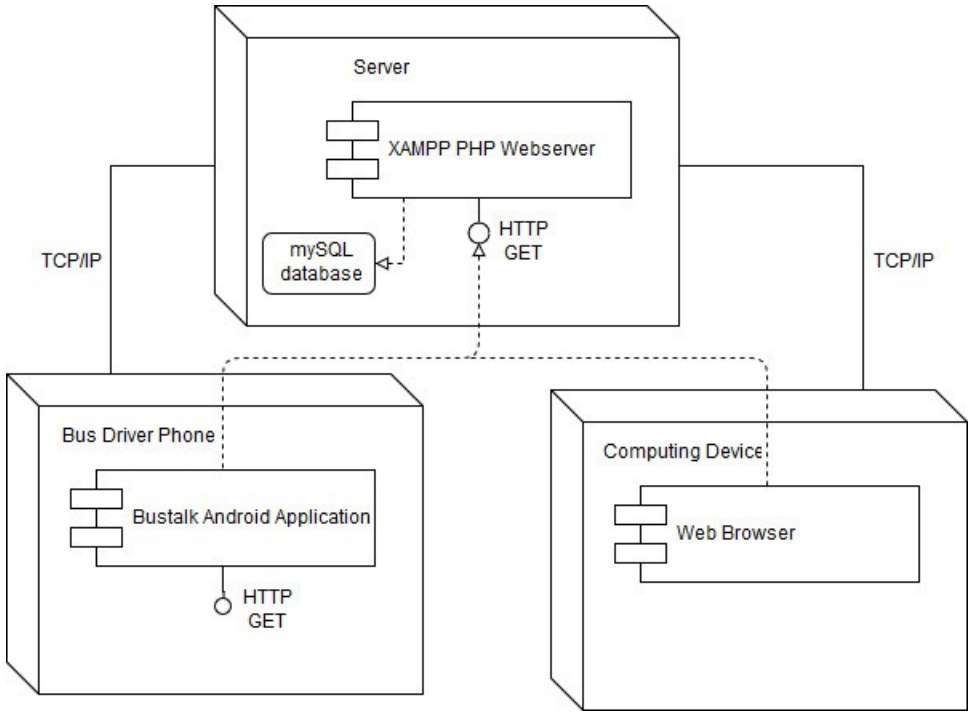


Figure 1.2 Bustalk Web-server Architecture

UML Component Diagram



UML Deployment Diagram



Database Entity-Relationship Diagram (ERD)