

<b>Date</b>	<b>Version</b>	<b>Description</b>	<b>Author</b>
10/03/2017	1.0	SRS	N.M.S.Nadeeshan

## **Billboard Advertiser**

# **Billboard Advertiser Software Requirements Specification For Billboard Advertising system**

**Version 1.0**

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### Software Requirements Specification

#### 1. Introduction

##### 1.1 Purpose

The purpose of this document is to provide the software requirement specification report for the billboard advertising system.

##### 1.2 Scope

The purpose of this project is to build an online system to network the sellers and the buyers who wants to sell and buy advertising spaces around the island . Mainly the sellers put their advertising basic details such as location, space, price, renting period etc. The buyers can search using the system for the best matching advertising space for them. The system also sends the traffic data of the location to the buyers to select the optimal advertising spaces. Most important information will be sent as SMS notifications.

##### 1.3 Definitions, Acronyms, and Abbreviations

Term	Definition
Advertising Space (advertisement type)	billboard advertising space/ Vehicle surface
Customer	buyers, sellers of the system
System	The billboard system
Availability type	Some advertisements can be already in a contract and some advertisements can be freely available.
Location	The location of the billboard

Table 1

##### 1.4 References

[1] IEEE Software Engineering Standards Committee, "IEEE Std 830-1998, IEEE

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Recommended Practice for Software Requirements Specifications”, October 20, 1998.

### 1.5 Overview

This document has three main parts. The first part provides an introduction about the document. It also define the basic terms that have been used throughout the document. The next part describes the system in an abstract way. It shows what are the subsystems used and how they interact. Also it provides the assumptions that are made while developing SRS and the dependencies. The requirements are well define and explain in the last part of the SRS.

## 2. Overall Description

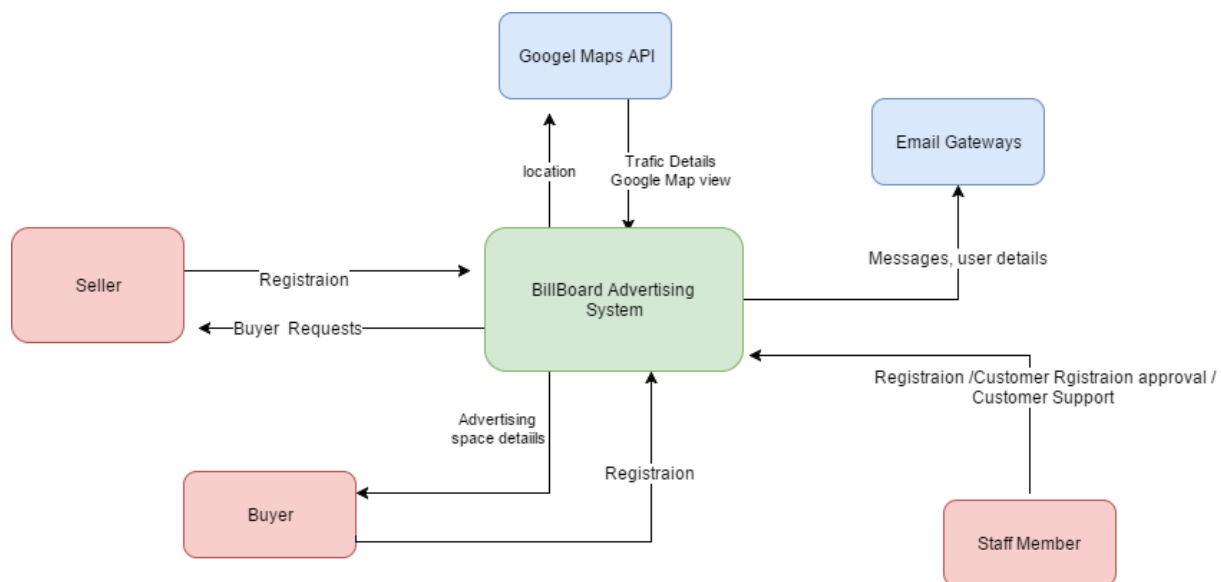


Figure 1

- **Product perspective**

The following are the main functions in the Billboard Advertiser system

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- User account: The system allows the user to create their accounts in the system and provide features of updating and viewing profiles.
  - Number of users being supported by the system: Though the number is precisely not mentioned but the system is able to support a large number of online users at a time.
  - Search: search is simply search engine based on keywords.
  - Booking system: Receiving the advertising spaces
  - Reviewing the users : users are reviewed by the other users
  - Ad posting and required advertising space details posting.
- **Product functions**
    - A user can register to the Billboard system by themselves.
    - .If a required type of advertisement is available the user can request it or if it is unavailable he can post his requirements on the system.
    - users can post any problem that they have to the Staff member.
    - Admin add staff members to the system
    - Staff member responds to the problems of the users
    - All information relevant to the advertisement is stored in the system including whether it is available, reserved or requested and any user in the system can check out those details.
  - **User characteristic**
    - There are three main user types in the system. They are admin, user(buyer/seller) and staff member.
    - Admin has the ability to add or remove a staff member and he has the ability to look into any other user details.
    - users, staff members will interact with the system through the web interface. User can register himself in the system using his email address.
    - User can select to surf either as buyer or seller.
    - Buyer can search for an advertisement according to his requirements. After checking if an advertisement is available and open for sell he can book it. If it is already in a contract with another customer he can check the ending date of the advertisement and then reserve it.
    - Seller can post advertisements with the location information, size of the

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advertising space, pricing, contract period, pictures of the advertising space.

- Staff member has the access to the backend application. He has the ability to manage user account and help to customers to use the system.
- Staff member will be registered on the system by the admin.

- **Constraints**

- Only the registered users have the authority to access the system .

- **assumptions and dependencies**

- Administrator is already created
- The system will depends on Google API
- The notification subsystem depends on email gateways

### 3. Specific Requirements

#### 3.1 Functionality

##### 3.1.1 User registers with the system

###### Introduction

Staff registration. Each staff member will be registered with the system by the admin. They will be given a unique Employee Id and generated password

###### Inputs

full name, email, Password

###### Processing

- The user enter the basic required information. They are the first name, second name, Email address, password
- System validate the password and check the matching of the passwords
- After successfully creating the account the user will be redirected to the profile page where he can edit his details.

###### Output

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Sign up confirmation

### 3.1.2 Staff registers with the system

#### Introduction

Staff registration. Each staff member will be registered with the system by the admin. They will be given a unique Employee Id and generated password

#### Inputs

full name, email

#### Processing

- The user input the basic required information. They are the first name, second name, Email address, password
- System validate the password and check the matching of the passwords
- After successfully creating the account the user will be redirected to the profile page where he can edit his details.

#### Output

password  
Sign up confirmation

### 3.1.3 Seller posts a new advertisement.

#### Introduction

Customer posts a new advertisement about an advertisement space including the advertising space details.

#### Inputs

Advertisement location.

Seller adds the details of the advertising space (e.g. space size, location, contract period).

#### Processing

- Customer logs into the system.
- Add the inputs and post the advertisement



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### Output

Confirmation about the advertisement posting.

### 3.1.4 Buyer request for an advertising space.

#### Introduction

Buyer(customer) posts a new advertisement request with the details of the advertising space that he hopes to buy

#### Inputs

Required location of the advertisement

Seller adds the details of the advertising space (e.g. space size, location, contract period)

#### Processing

Buyer logs and input the data

The system will find the matching sellers with for the given details

#### Output

Best matching sellers will receive the contact number of the buyer and the advertising space information.

### 3.1.5 Buyer request for an available advertising space

#### Introduction

When buyer finds a matching advertisement he can send his price and the contact information to the seller. Seller will decide the best matching buyers and he will contact them.

#### Inputs

Price range that the buyer is willing to pay for the advertising space, location, advertising space size

#### Processing

- The buyer search for an advertising space
- When he finds a matching one, he sets his price and request it from the seller. The system will send the contact details of the buyer also to the seller.

#### Output

Seller will receive the contact details of the buyers.

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### 3.1.6 Buyer request for a advertising space which is already in a contract with another customer.

#### Introduction

When a buyer finds a new advertisement and if the advertisement is already in a contract with someone else and the buyer is willing to accept contract requests before ending the current contract, the buyer will be shown the ending date of the current contract.

#### Inputs

Advertisement location  
Buyer contact information

#### Processing

- The buyer search for an advertising space
- When he finds a matching one (which is in a contract), he will be shown the ending date if the ending date is available. Then will set his price and request it from the seller. The system will send the contact details of the buyer also to the seller.

#### Output

Seller will be notified

### 3.1.7 Seller responds for a buyer request

#### Introduction

When a seller selects any of his available advertisements he will be shown the responses of the buyer and he can respond each request separately. Each buyers will be notified with an email when the seller responds his advertisement.

#### Inputs

non

#### Processing

- Seller logs into the system
- When a seller selects an advertisement he will be shown the responses for his advertisement and he can respond each request separately. Each buyers will be notified with an email when the seller responds his advertisement.

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### Output

sellers response

#### 3.1.7.1 Buyer checks the advertising location.

##### Introduction

The buyer can check the given location of the advertisement using Google map API. The location will be shown in the map and if he want to see the real view of the location it's also possible.

##### Inputs

Advertisement location

##### Processing

- Buyer select the location from the advertisement.
- The location details will be sent to Google API and fetch the details.
- The location detail will be shown to the Buyer.

##### Output

Location in the map or location view as an image

#### 3.1.8 Buyer checks the traffic data around the location

##### Introduction

The buyer can check the traffic details of the given location of the advertisement using Google map API..

##### Inputs

Advertisement location

##### Processing

- Buyer selects the location from the advertisement.
- The location details will be sent to Google API and fetch the details.
- The traffic details with will be shown to the Buyer.

##### Output

Traffic details of the location.

#### 3.1.9 System notifies a buyer about a new selling space which matches to the buyer request.

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### Introduction

When a buyer has added a advertisement space requirement of him on the billboard advertiser system and a seller posts a new advertisement which matches to the buyers requirements the buyer should be notified.

### Inputs

New advertisement space is posted on the system.

### Processing

- Seller adds a new advertisement
- System checks whether the advertisement matches to any of the requested advertisements of the buyers

### Output

Buyer will be notified

### 3.1.10 Buyer search for a matching advertising space

#### Introduction

The buyer can search adverting spaces using the location( district , town) , the space size, availability type.

#### Inputs

Advertisement location, Availability type, advertisement type , advertisement space size

#### Processing

- Customer inputs the data
- System will select the best matching advertising space for the given inputs

#### Output

Matching advertising spaces

### 3.1.11 Customer ask for the support from a staff member.

#### Introduction

The customer can submit problems that he faces when using the system, to the staff members.

#### Inputs

Customer Inquiry

#### Processing

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Customer logs into the system.

Customer posts the inquiry.

### Output

Email notification confirming the receiving of the inquiry

Email response regarding the inquiry.

### 3.2 Usability

#### 3.2.1 Understandability

The user interfaces should be easy to understand in order to increase the usability of the software.

#### 3.2.2 Learnability

A normal user should be able user use any functionality of the system without spending maximum of two minutes

#### 3.2.3 Operability

- Actions which cannot be undone should ask for confirmation
- Undo should be available for most actions
- Error messages should explain how to recover from the error

#### 3.2.4 Attractiveness

The screen layouts and colors should be attractive for the users.

### 3.3 Reliability

#### 3.3.1 Availability

The system should be available at any time of the day.

#### 3.3.2 Accuracy

The advertisement details should be very accurate

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### 3.4 Performance and Security

#### 3.4.1 Minimum Response Time

Response time for any action must be less than 2 seconds.

#### 3.4.2 Minimum Bandwidth Usage

The network bandwidth usage for the application should be minimum.

#### 3.4.3 Communication Security between System and Server

The communication messages in the log-in session should be encrypted so others cannot get username, password from those messages.

### 3.5 Supportability

#### 3.5.1 Maintainability

The development process should follow common stands.

#### 3.5.2 Testability

application components should support testing

#### 3.5.3 Extendibility

The application should be easy to extend. Following coding stands is very essential in this case.

### 3.6 Design Constraints

- GUI language will only be English

### 3.7 On-line User Documentation and Help System Requirements

The first page which is displayed to the customer is the login page. He can easily login or sign up there. Also the other functions are also embedded into an attractive/ understandable interface so the user is easily learn the system. If the user gets any problems they can directly contact staff member through email.

### 3.8 Purchased Components

Not applicable

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### 3.9 Interfaces

#### 3.9.1 User Interfaces

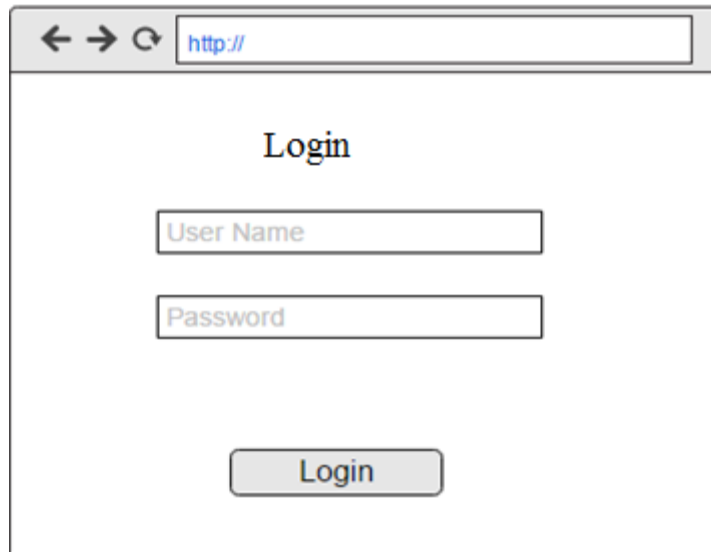
This is a web based application where all the users use web browsers connect with the system. Interfaces of the most fundamental function are shown below. When a users first goes to the site they have to the sign up page as shown in figure 2. Then they will be redirected to the login page as shown in figure 3. A Seller can add a new advertisement as show in figure 4 . A buyer can search an advertisement by inputting the relevant details as shown in the figure 5 . Figure 6 shows how a new staff member can be added on to the system.

The image shows a web browser window with the title 'Registration'. The address bar contains the URL 'http://SLBillboard.com/Registration'. The main content area of the browser displays a registration form. The form consists of five text input fields arranged vertically: 'First Name', 'Sir Name', 'Email Address', 'Password', and 'Re Enter Password'. Below these fields is a 'Sign Up' button. The browser's navigation bar shows back, forward, and refresh icons.

Figure 2

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← → ↻ http://

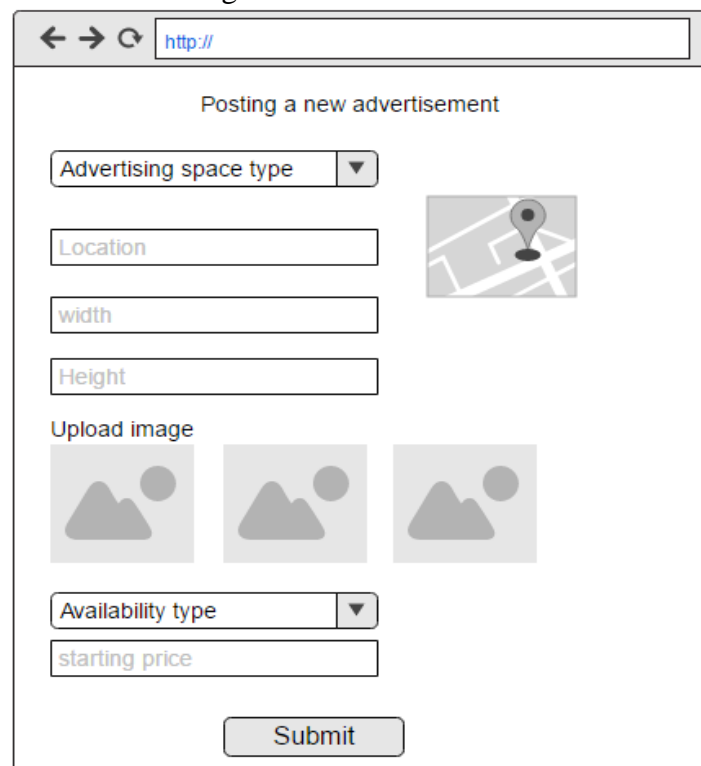
### Login

User Name

Password

Login

Figure 3



← → ↻ http://

### Posting a new advertisement

Advertising space type ▼

Location

width

Height

Upload image

Availability type ▼

starting price

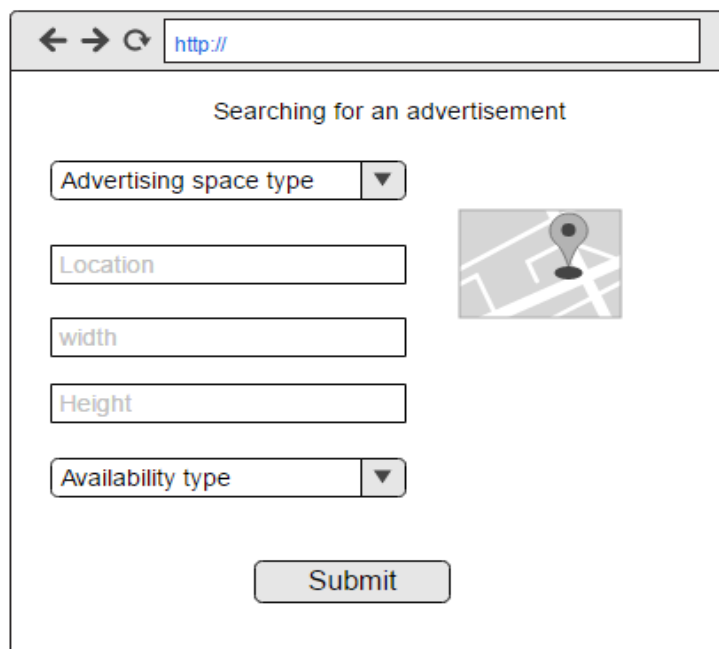
Submit



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Figure 4



The image shows a web browser window with a search form for advertisements. The browser's address bar contains 'http://'. The form is titled 'Searching for an advertisement' and includes the following fields and controls:

- A dropdown menu labeled 'Advertising space type'.
- A text input field labeled 'Location'.
- A text input field labeled 'width'.
- A text input field labeled 'Height'.
- A dropdown menu labeled 'Availability type'.
- A 'Submit' button at the bottom center.
- A map icon with a location pin is positioned to the right of the 'Location' field.


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Staff Signup

← → ↻ <http://SLBillboard.com/staffSignUp>



ID

First Name

Sir Name

Email Address

Address

Figure 6

### 3.9.2 Hardware Interfaces

This application doesn't require any specific kind of hardware.

### 3.9.3 Software Interfaces

- Customer/Staff member  
Web browser , Operating system
- Web server  
Web Server interface, Operating system
- Database server  
Database server interface ,Operating System

### 3.9.4 Communications Interfaces

Both the customer and the staff member will be connected through the internet using HTTP/HTTPS protocol.

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### 3.10 Database Requirements

User details, advertising details are frequently accessed by the system. So the database design requires to ensure the performance of the system. Also integrity constraints should be ensured. An adaptable, scalable and manageable are the key requirements for a database. Following requirements are important when selecting a database.

- Number of visitors per month/year
- Maximum number of simultaneous visitors
- Number of simultaneous searches.
- Complexity of the database schema
- Traffic of the web server

### 3.11 Licensing, Legal, Copyright, and Other Notices

None

### 3.12 Applicable Standards

None

## 4. Supporting Information

Please refer the following document:

- Software architecture document
- Software feasibility document
- Software proposal document