

**TRAIN UTILITY
(Android Mobile App)**

A Project Report

Submitted by:

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in partial fulfillment for the award of the degree

of

BACHELOR OF COMPUTER APPLICATION

at



Department of Computer Science

INDUS UNIVERSITY

MAY 2019



CERTIFICATE

This is to certify that the project titled "**TRAIN UTILITY (A mobile application)**" is the bona fide work carried out by **Simran Macwan, Pujitha Gaddam**, a student of Dual Degree (BCA + MCA) semester - VI during the academic year 2018-19, in partial fulfillment of the requirements for the award of the degree of Bachelor's in Computer Science.

Internal Guide Signature :

Head of Dept. Signature :

Date :

Date :

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Introduction

Definition:

- This project is basically for passengers travelling in train.
- This will help the users to locate the lost luggage, set the alarm as per the stations, also to avoid theft by buzzing off the connecting devices and to enquire for any complaint/feedback/suggestions.

Purpose:

- This application will help public in automating the whole process at the fingertips in order to overcome all the limitations of the existing system and to develop an application of improved facility.
- This project explores how the computer system technology can ease the whole process and make it easier, faster and reliable for the users.

Objective:

- To protect the users baggage/luggage from getting lost using the Luggage Finder service.
- To notify the passengers based on stations so that they don't miss upon any of their stations with the help of notified Station Alarm service.
- To avoid or prevent any theft, Theft Protection Service via Bluetooth service.
- To submit complain or feedback to various divisional officers under varied respective railway zones.

Scope:

- The user must be able to:
 - Find the lost luggage through the application and the person who finds shall also be able to fill up the details regarding the anonymous bag found.
 - Notify himself/herself through alarm system based on the station arrival.
 - Protect his/her baggage or luggage from any theft via Bluetooth connection with various other devices.
 - Inquire a complaint or provide any suggestion or feedback directly to the appropriate authority.

Organization Profile

Pragma Infotech is a global IT solutions provider based in India. At Pragma, we believe in delivering Extensive and Integrated solutions to our valued clients which best suit their requirements. The company focuses majorly into providing Customized Software Solutions, Web Solutions, Offshore Development Solutions and Training.

The venture was started by Jay Shenmare. The sole mission and vision of starting this venture was to apply their knowledge and ideas into real time issues and to develop solutions for different businesses to increase their productivity and profitability.

The company started by providing solutions in the local market. Within a short span of time, we provided Customized Solutions to a number of companies and now have also started catering overseas clients.

Synopsis

Existing system:

1. For the Luggage Finder module:

- No such app is yet created for finding and locating the lost luggage.
- And the IRCTC are yet in process of actually providing baggage insurance where they will be allowed to offer additional services like insurance coverage for the baggage while booking through e-ticketing via IRCTC website. The passengers can claim the insurance based on the distance travelled and also the class of travel for those who have done e-ticketing. In that case, the passenger can claim for lost luggage or theft for insurance of their baggage/luggage.

2. For the Notified Station Alarm module:

- The system for the railway station alarm does exist based on the stations arriving where we can set the alarm depending on the stations.
- There is another service based on notifying through the time for the train passengers and so they can now sleep soundly without worrying about missing their station as the railways have launched a new service which will ensure that they get a "wake-up call" on their mobile phones half-an-hour before the scheduled arrival at their destination.
- Similarly, another feature—train destination alarm call—has also been introduced through which passengers will get an alert call 30 minutes before the train reaches their destination station.
- The service, a joint initiative of the Indian Railway Catering and Tourism Corporation and Bharat BPO, is available through voice call on railways enquiry number 139.

- The user needs to enter the required data such as PNR number, station name, STD code of station while calling up 139 for getting the wake-up alarm. The wake-up alarm shall be made to the passenger 30 minutes before the train reaches the station. Similarly, the train destination alert call shall also be available 30 minutes before the train reaches the destination station.
- According to the official, after getting all the inputs like PNR and station name on 139, the system will check the current position of the train before sending the alert call.

3. For the Theft Protection module:

- There is no such existing application yet.

4. For the complaint /feedback/suggestion section:

- There is a feature as such already existing regarding the submission of any complaint or feedback or any suggestion in the form of mobile application.

Problem Areas

- Currently used software lacks a friendly interface.
- All the modules are separately implemented rather than integrating into one single application.
- In one app-station alarm app, the functioning is a bit complex.
- Luggage/baggage insurance facility is not yet implemented by the IRCTC (still under process).

Need for the New System

- Easy to use GUI.
- The application can be accessed by travelers anytime, anywhere.
- New features are added as per the requirements.
- Will be helpful for the users during the journey as well as after they alight.

- There would be various facilities provided:
 - To protect their baggage/luggage to get lost using the Luggage finder module.
 - To notify the passengers based on stations so that they don't miss upon any of their stations using the Notified station alarm module.
 - To avoid or prevent any theft by the theft prevention Bluetooth module.
 - To submit or inquire any complain or suggestion or any feedback to the various divisional officers under varied separate respective zones.

Proposed System

The system proposed would be helpful in the following ways:

1. In case of loss of luggage, if a person comes across the anonymous bag in the train while travelling, that person would be able to notice the unattended bag and this information will be given to the station master of approaching the station. other users using the application will be able to get notification of this lost bag and claim for the marked station.
2. The app can be very useful for keeping a location wise alarm, so it will ring only on the arrival of a particular station and not as per time.
3. If travelling with a greater number of people this app can come handy in security, one person can keep the mobile as a master app and other would be inside the baggage (as slave apps), connected via Bluetooth , if some thief tries to snatch and run away all the connected devices will buzz and this way stealing of goods/ luggage can be prevented.
4. One can directly launch a complaint from the app be it regarding the service or food or behavior of passenger etc.

Preamble

Project description:

This project has various functionalities:

- The user can find the luggage lost.
- The user can notify himself/herself by setting the alarm before the destination arrives.
- The user can also protect his/her belongings through the Bluetooth connection with the master app.
- The user can also file a complaint or provide any suggestion or feedback directly to the appropriate authority of a particular station.

Modules and Description

1. Luggage finder module:

- The person who finds the luggage will have one module(i.e., finder).
- there would be a description form regarding the details of the anonymous luggage submitted by the finder who notices the lost luggage:
 - Color
 - Size
 - Brand
 - Weight
 - Any other info
- After the finder gets down at a station, he/she will submit the luggage to the station master and where the station masters contact number and the name of the station will also be specified.
- Until then a notification will be sent to all the users of the app regarding the lost anonymous luggage.
- When the person who lost the luggage checks the notification he/she can collect the luggage from the particular station master.
- These are the following fields included in this particular section:

a. For Display Section:

FIELDS	ABOUT
Station Where Lost	It depicts the station where the lost has lost his/her luggage. It is a drop down list consisting of names of stations of India.
View	To view the entries of the particular item based on station selected by user.

b. For Details Post Section:

FIELDS	ABOUT
Item Name	The name of item which is found by the user.
Item Found On Station	Item found at station indicates on which station item was found. It's a drop down list indicating names of stations of India.
Time	The time at which the particular item was found to the user. (The time at which the item was found by the user shall be given).
Date	The date on which the particular item was found to the user. (The date on which the item was found by the user shall be given).
Color	The color of the item found by the user should be given. It's a drop down list indicating primary colors an item can possess which are filled by user.
Size	The size of the item found by the user should be given. It's a drop down list indicating primary sizes an item can possess which are filled by user.
Brand	The Brand or Company name of the item should be mentioned here.
Other Specific Indication	It indicates any additional identity mark given on the item can be mentioned.
Item Dropped On Station	Item dropped at station indicates on which station item was dropped. It's a drop down list indicating names of stations of India.

Authority	It depicts to which respective authority the user has submitted the item.
Post	The form filled is then posted to the display page of application
Notify	After the form is submitted a notification is fired to all users who have installed application
Clear	This will clear all the previously filled data in the form

2. Notified station alarm:

- A route will be shown for which will give the provision for selecting the arrival and the departure stations.
- The user will be given the provision to select the arrival station and the destination station.
- After selection, a route map amongst those 2 points will be specified along with the various stations in between it.
- In a further process, the person can set any number of alarms on the arrival of a particular station(as per the route) before the actual destination. And can also disable the enabled alarm as per the wish.
- These are the following fields included in this particular section:

FIELDS	ABOUT
Departure Station	It depicts the station from where user has departed. It is a drop down list consisting of names of stations of India.
Arrival Station	It depicts the station from where user will arrive It is a drop down list consisting of names of stations of India.
Submit	Button to submit the given stations
Alarm	User would be able to set alarm as per station & user time.

3. Theft prevention Bluetooth module:

- In this module, then there would one master app and various slave apps kept in the bag.
- All these slave apps would be connected to the master app via the Bluetooth connection.
- When a thief tries to snatch or take away the baggage/luggage, one of the slave app connected to the master app via the Bluetooth would be disconnected at that time if its outside the range of the Bluetooth of at least 15 ft. and when any such disconnection occurs, a buzzer or a vibration will occur on the phone in order that the owner of the master app gets notified on time.
- These are the following fields included in this section:

FIELDS	ABOUT
Check Bluetooth connectivity	It will check and show a pop up that whether the phone supports Bluetooth or not. (on the master app)
Turn on Bluetooth	It will turn on the Bluetooth(for master app).
Make Discoverable	It will make the device(master app) discoverable.
Show Paired and Online BT devices	It will show all the devices that are paired with the master app through a pop-up.
Cancel Discovery	It will disable the device (master app) from being discoverable.
Disconnect	It will disconnect the connection with the slave apps that are paired with the master app.
Turn Off Bluetooth	It will turn off the Bluetooth on the master app.

4. Complain section:

- The users can send the complaint/feedback/suggestion by submitting it to the authority of various divisions under various zones, which would be submitted to the respective divisional officer.
- These are the following fields included in this particular section:

FIELDS	ABOUT
Complaint/Feedback/Suggestion	<p>It's a drop down field consisting of the various reasons for complaint/feedback/suggestion that is to be selected for.</p> <p>Upon selection of a particular item from drop down list, following radio buttons are further displayed for the reason to be more specific.</p>
Date	The date on which the particular Complaint/Feedback/Suggestion is to be submitted to the respective authority (The date on which the incident took place or the date on which a complaint is to be filed or feedback shall be given).
Name Of Staff	The name of staff to which it shall be given to can be mentioned as well.
Place Of Occurrence	The place of occurrence indicates the place where the incident was actually witnessed. It's a drop down list indicating two options- In train, On station.
Platform No.	Upon selecting 'on station' option from the place of occurrence, this field is mentioned where the user has to enter the platform number of a particular station where the actual incident took place or happened.

Station Name	Upon selecting ‘on station’ option from the place off occurrence, this field is mentioned where the user needs to enter the Station Name of a particular station where the actual incident took place or happened.
PNR no.	Upon selecting ‘In Train’ option from the place off occurrence, this field is mentioned where the user needs to enter the PNR no.
Train no.	Upon selecting ‘In Train’ option from the place off occurrence, this field is mentioned where the user needs to enter the Train no.
Coach No.	Upon selecting ‘In Train’ option from the place off occurrence, this field is mentioned where the user has to enter the Coach no. of a particular train.
Berth/Seat No.	Upon selecting ‘In Train’ option from the place off occurrence, this field is mentioned where the user has to enter the Berth/Seat No. of a particular train where the incident got witnessed.
Name	The name of the user inquiring a complaint/feedback/suggestion is to be mentioned here.
Contact Number	The Contact Number of the user inquiring shall be mentioned here.
Email id	The Email Id of the user inquiring shall be mentioned here.
Complaint Description	The complaint Description (reason with full description) is to be mentioned by the user inquiring for a complaint/feedback/suggestion.
Submit	The form filled is then submitted to the respective divisional head.
Clear	This will clear all the previously filled data.

Technical description

a. Software Requirements:

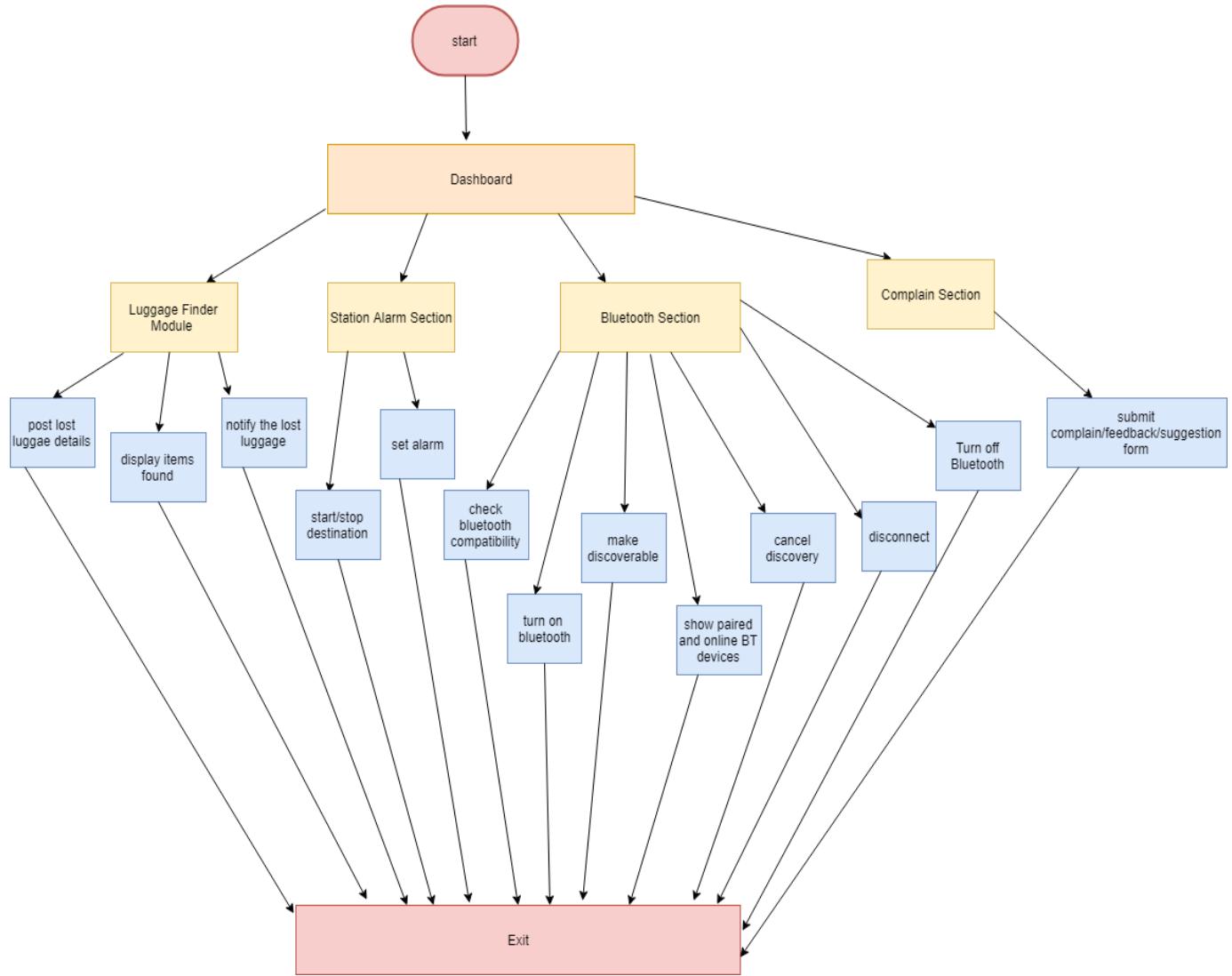
AREAS	REQUIREMENTS
Tools	Android Studio.
Language	Java, XML.
Database	Firebase Database.
Operating System	Android.
Additional Tools	Gmap3 via GCM (Google cloud messaging) for API of train route.

b. Hardware Requirements:

Requirements (Developer Side)	
<u>Processor</u>	<u>Intel 1.2 GHz or faster processor</u>
<u>RAM</u>	<u>1.5 GB minimum</u>
Requirements (User Side)	Android 5.0 version or more

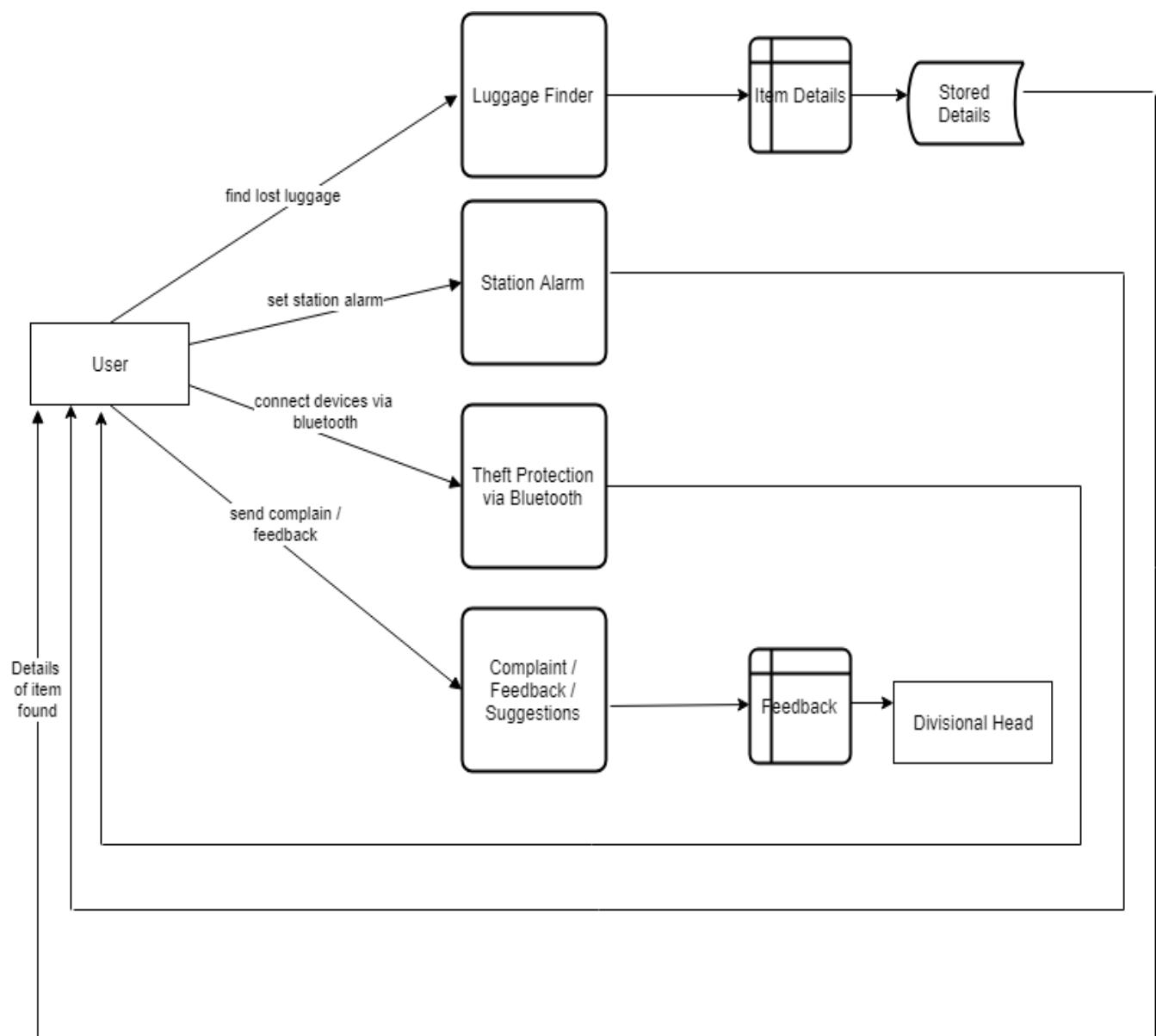
System Design & Development

System Flow Diagrams

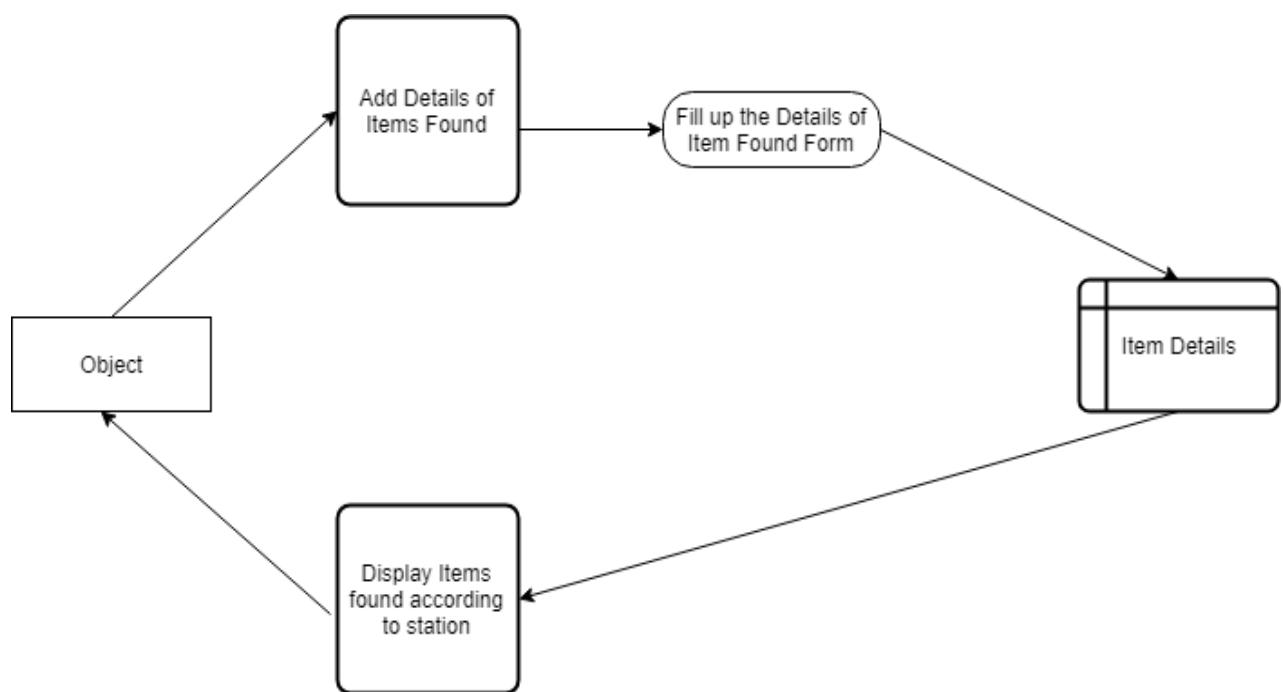


1.1 Data Flow Diagrams:

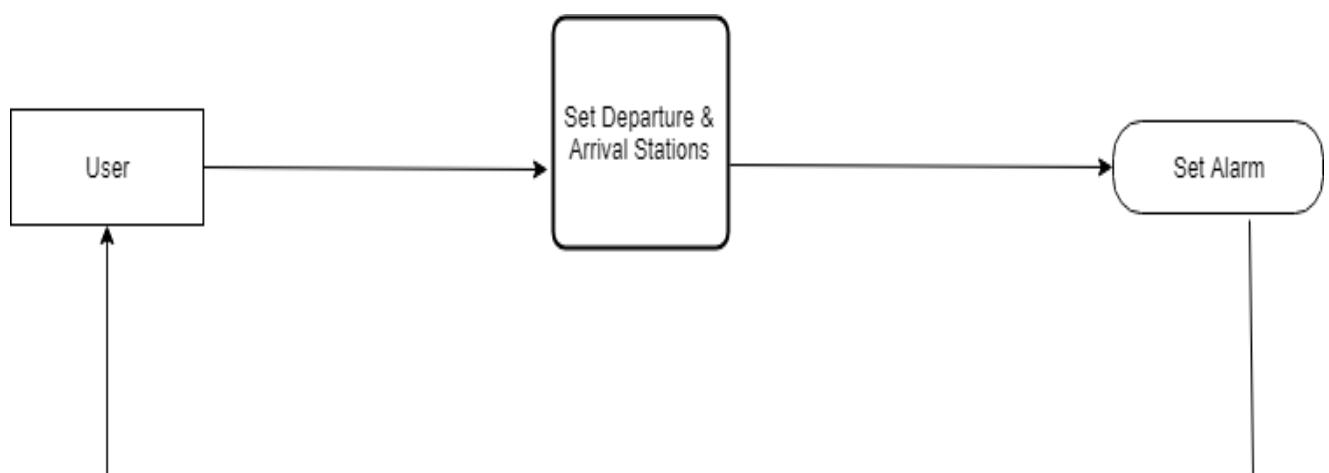
a. Context Level Diagram:



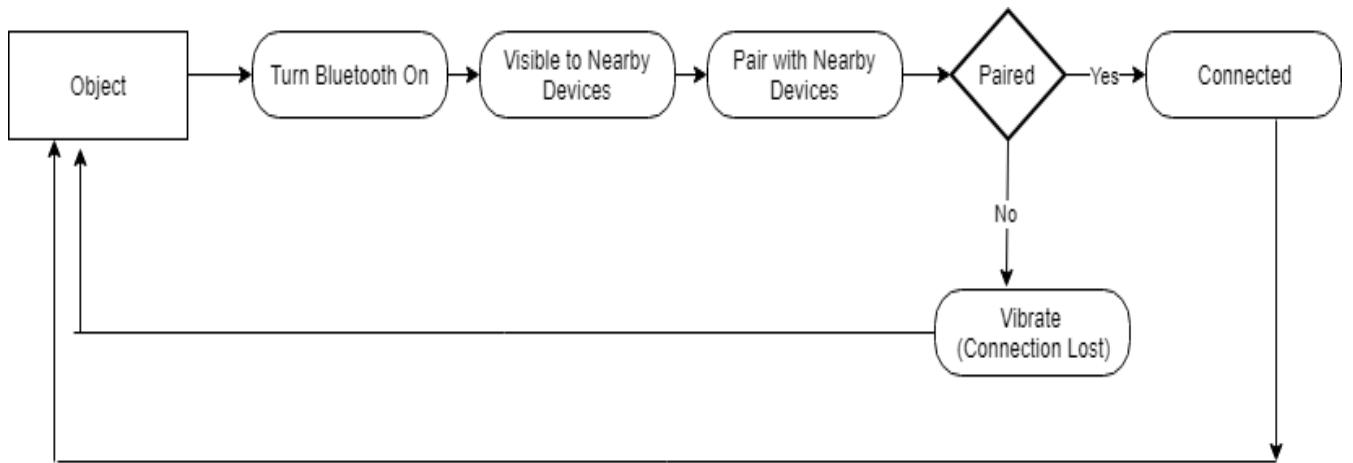
b. 1st Level DFD (Luggage Finder):



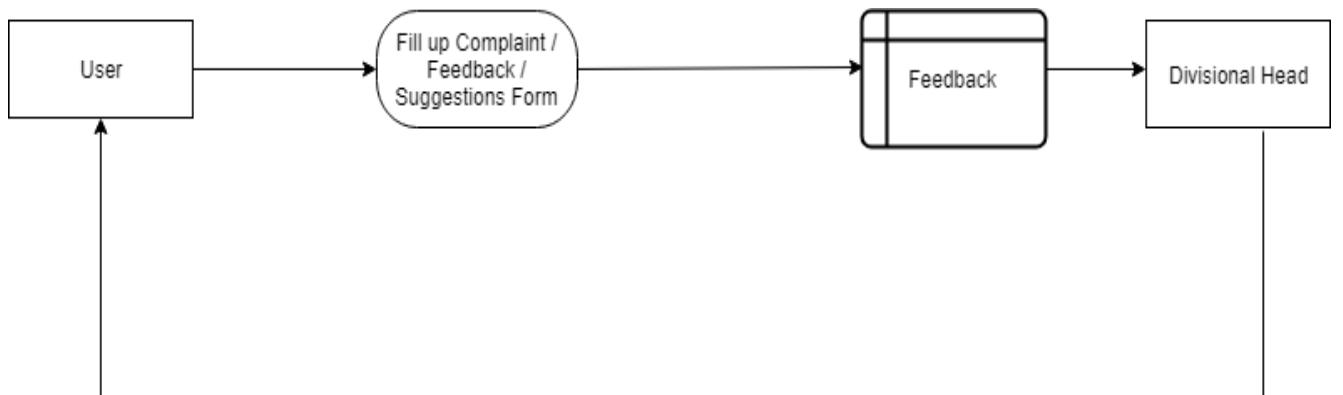
c. 1st Level DFD (Station Alarm):



d. 1st Level DFD (Theft Protection via Bluetooth):



e. 1st Level DFD (Complaint / Feedback):



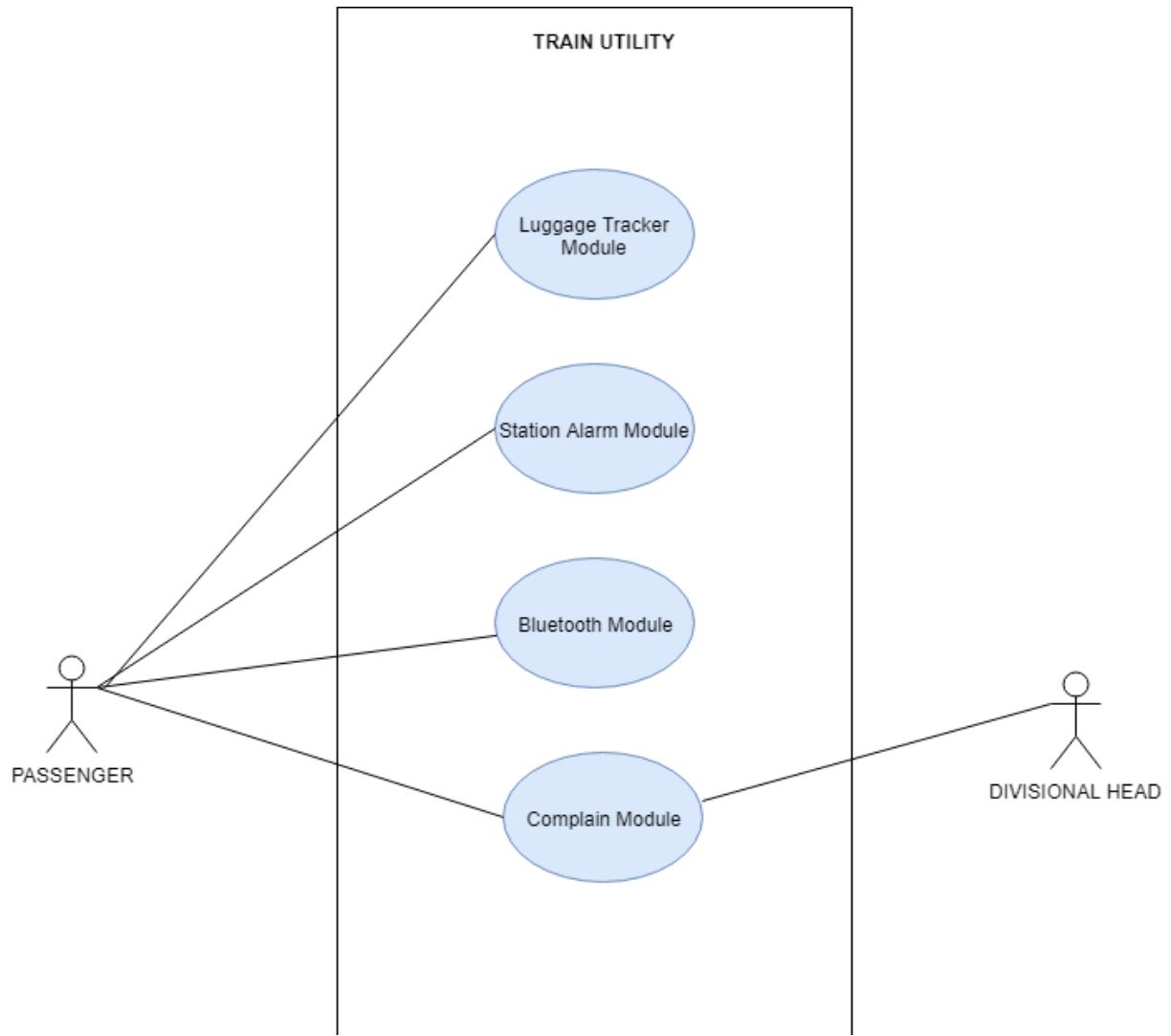
Structural Diagrams

a. Class diagram:

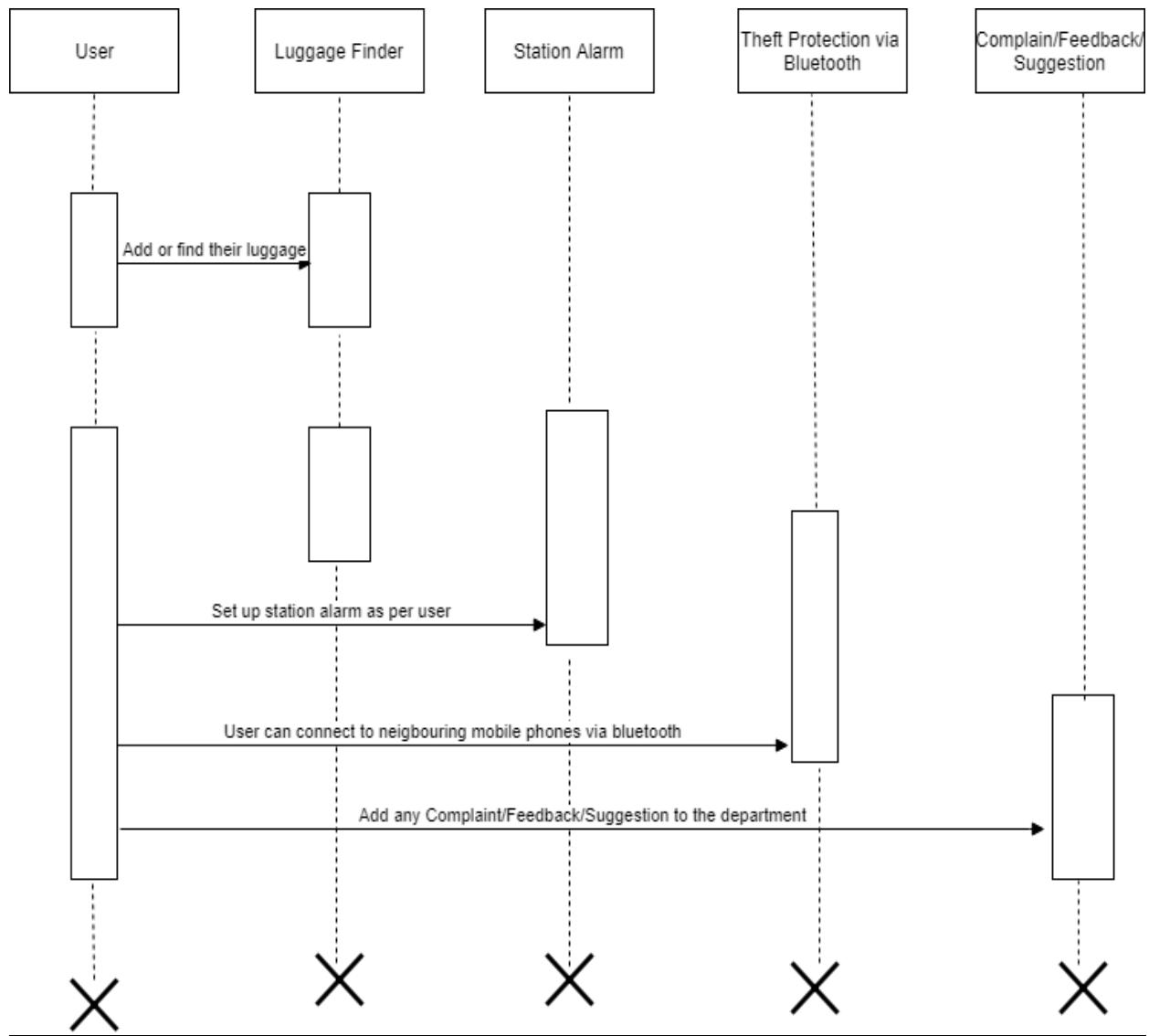
ITEM DETAILS	COMPLAIN/FEEDBACK
-itemname: varchar -stationfound : varchar -time : datetime -date : date -color : varchar -size : varchar -brand : varchar -identity: varchar -stationdrop: varchar -authority: varchar +additem() : varchar	-complaint : varchar -date : date -place: varchar -platform : varchar -station: varchar -pnr: varchar -trainno : int -coachno: varchar -seatno: varchar -staffname: varchar -contact: int -email: varchar -desp: varchar
	+addfeed() : varchar

Behavioral Diagrams

a. Use case Diagram:

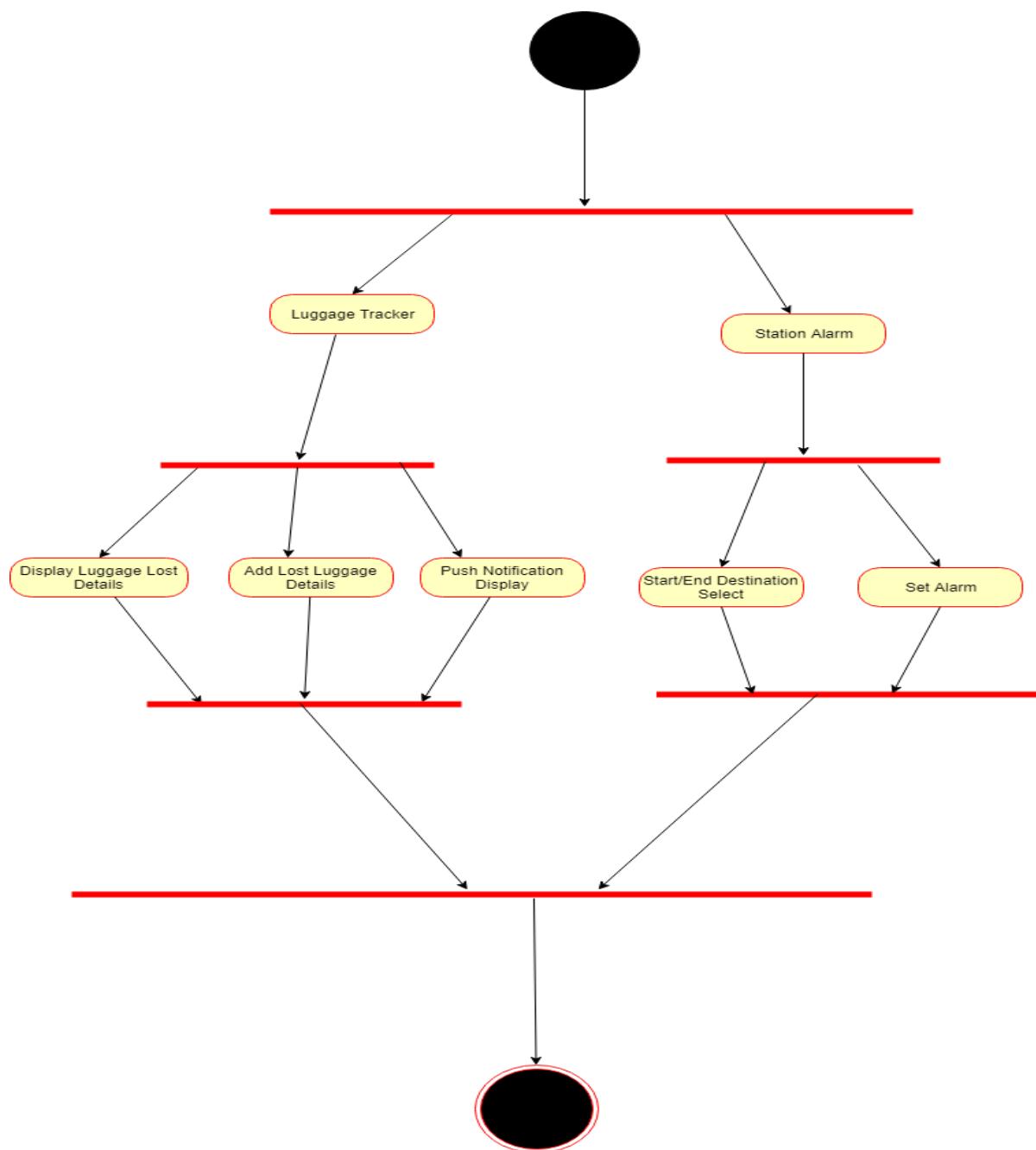


b. Sequence Diagram:

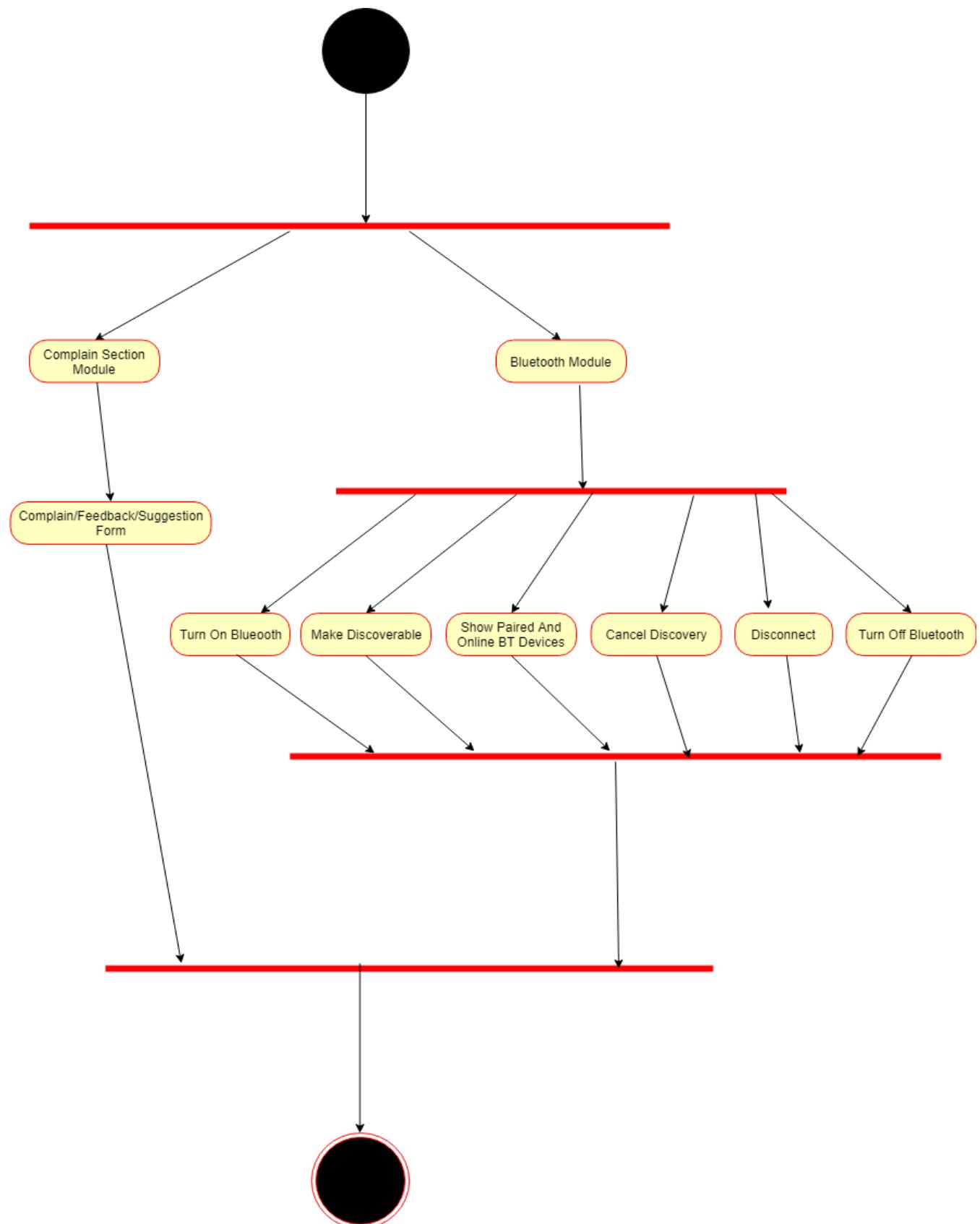


c. Activity Diagram:

Part 1:



Part 2:



Data Dictionary

1. Luggage Finder Module:

LUGGAGE FINDER	DATA TYPE	KEYS	NOT NULL
Itemname	varchar(20)	PK	yes
itemFoundOnStation	varchar(20)	--	yes
Time	Datetime	--	yes
Date	Date	--	yes
Color	varchar(20)	--	yes
Size	varchar(20)	--	yes
Brand	varchar(30)	--	yes
Identity	varchar(30)	--	--
itemDroppedOnStation	varchar(30)	--	yes
Authority	varchar(30)	--	yes

2. Station Alarm:

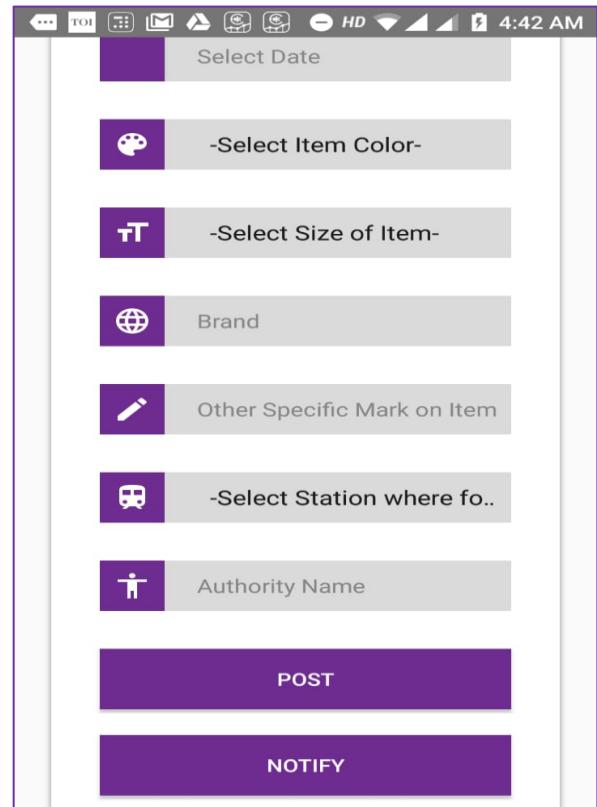
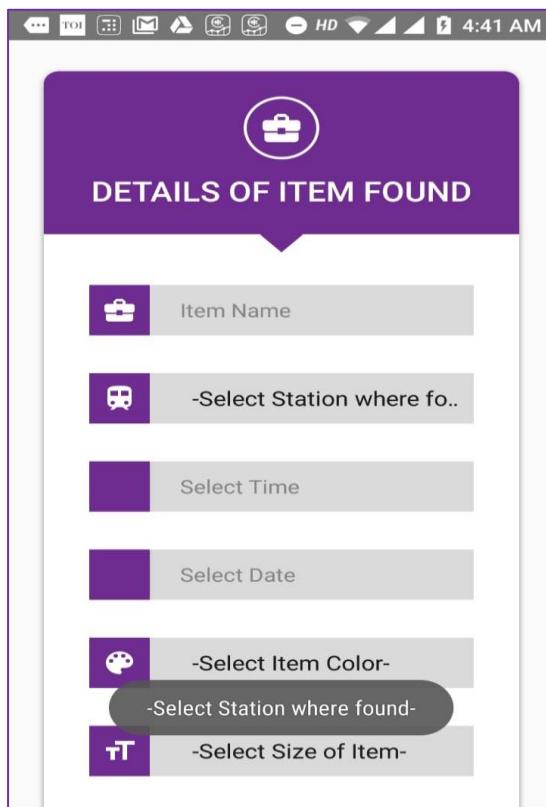
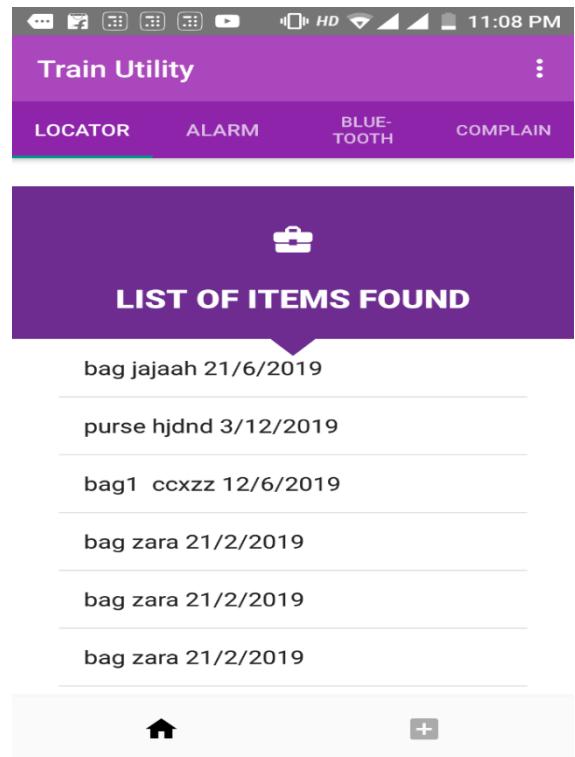
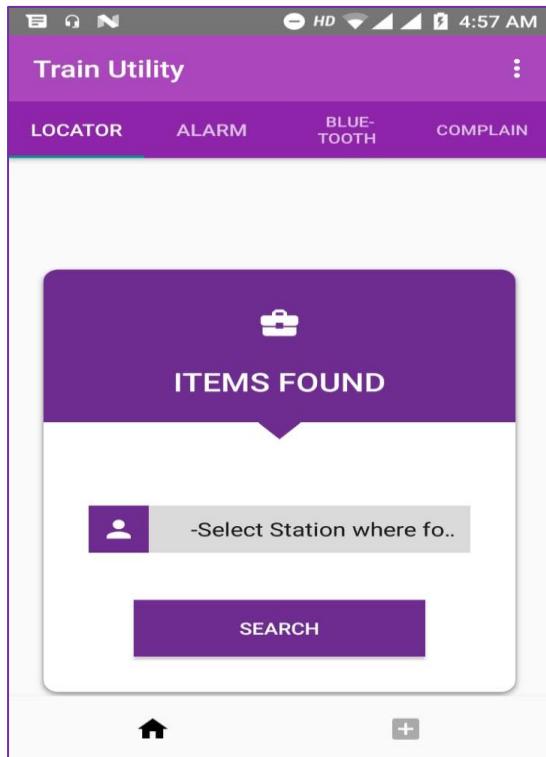
STATION ALARM	DATA TYPE	KEYS	NOT NULL
departstation	varchar(25)	PK	yes
arrivestation	varchar(25)	--	yes

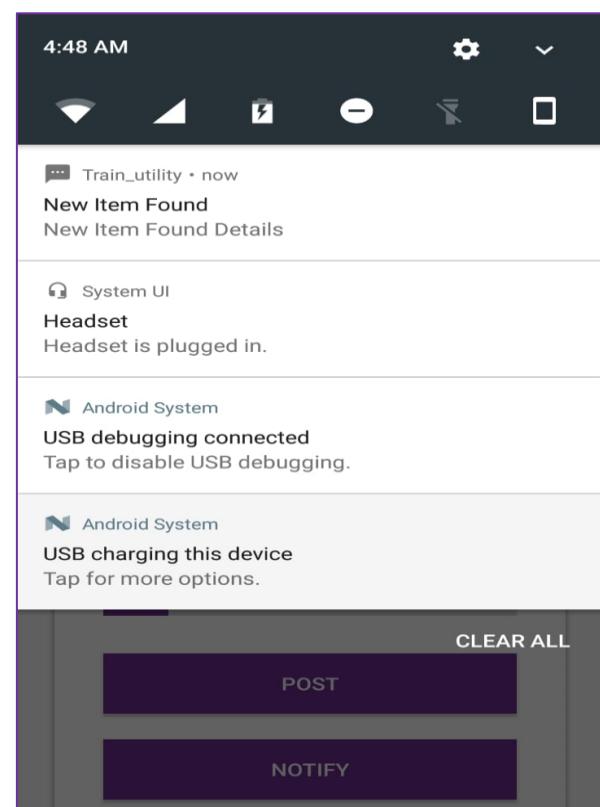
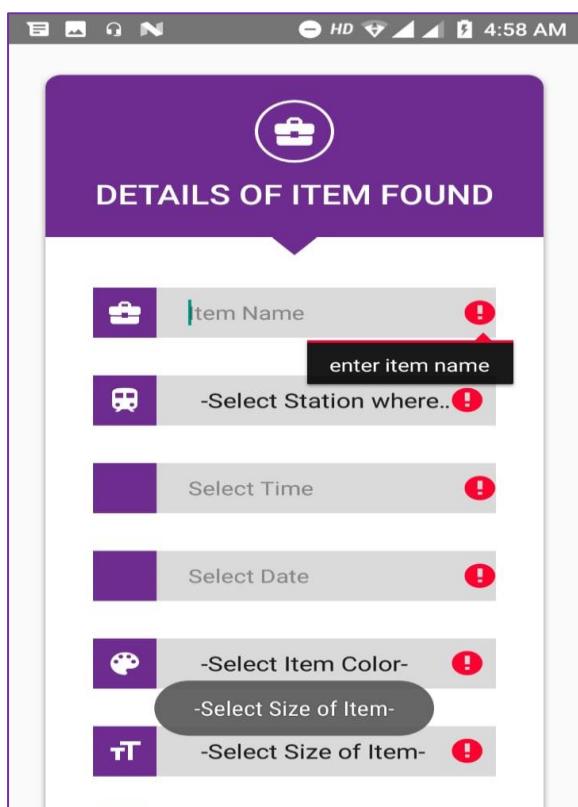
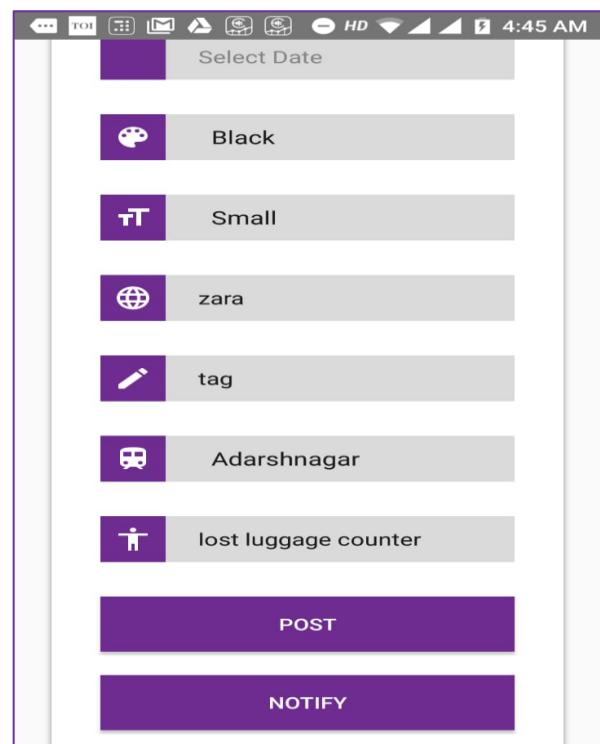
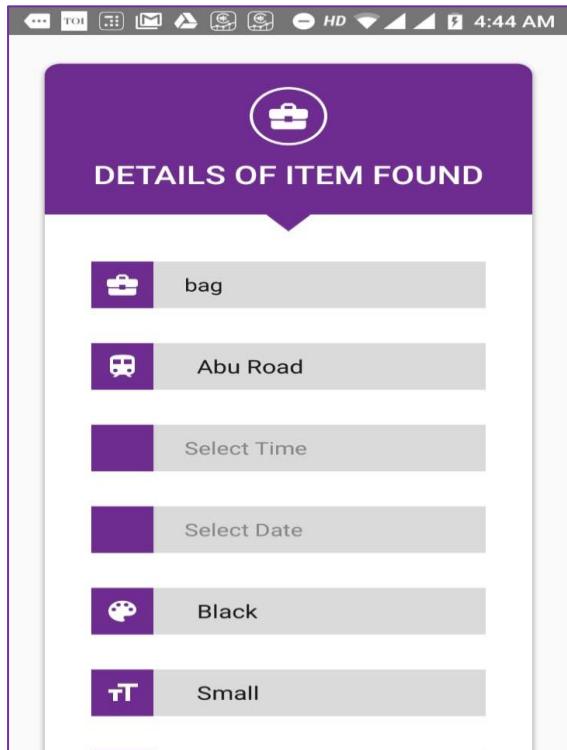
3. Complaint/Feedback/Suggestion Section:

COMPLAIN SECTION	DATA TYPE	KEYS	NOT NULL
PNR no.	varchar(20)	PK	Yes
Complaint	varchar(20)	--	Yes
date	date	--	Yes
NameofStaff	varchar(20)	--	Yes
PlaceofOccurrence	varchar(20)	--	Yes
Platformno	Int(10)	--	Yes
Stationname	varchar(20)	--	Yes
Trainno.	Int(10)	--	Yes
Coachno.	Int(10)	--	Yes
BerthSeatno.	Int(10)	--	Yes
Name	varchar(30)	--	Yes
Contact No.	Int(10)	--	--
Emailid	varchar(30)	--	Yes
Complainreason	varchar(30)	--	Yes

User Interface Screens

1. Luggage finder module:





Luggage Finder section Specification:

(i) For Display Section:

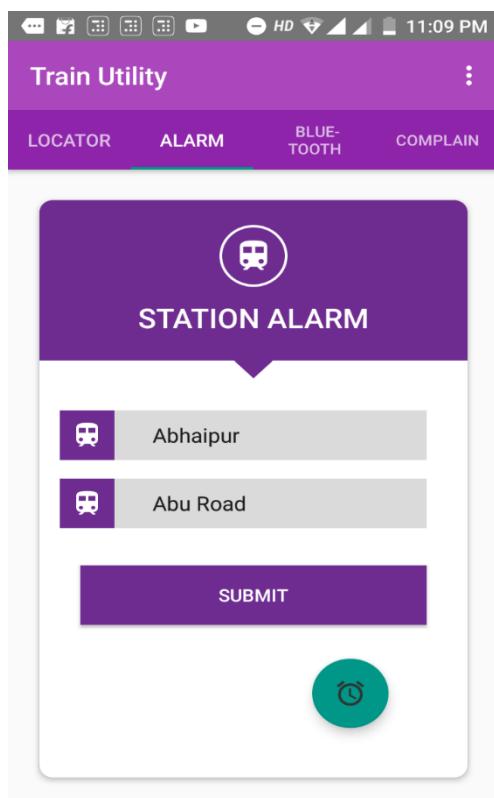
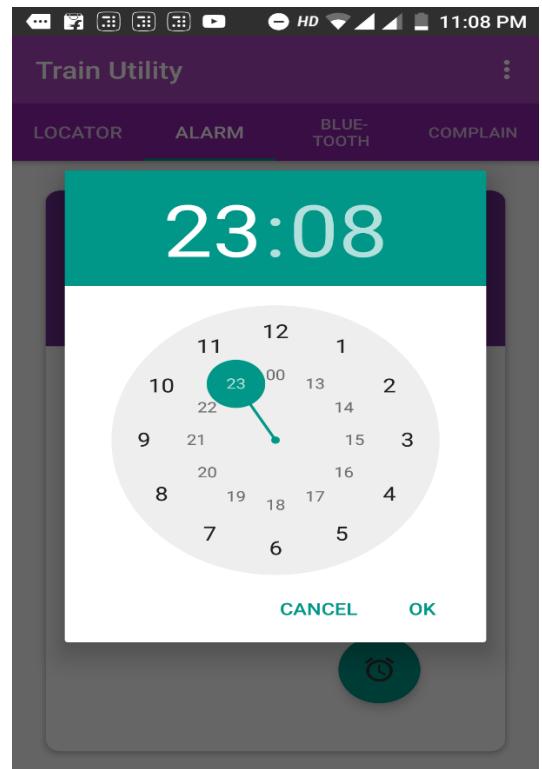
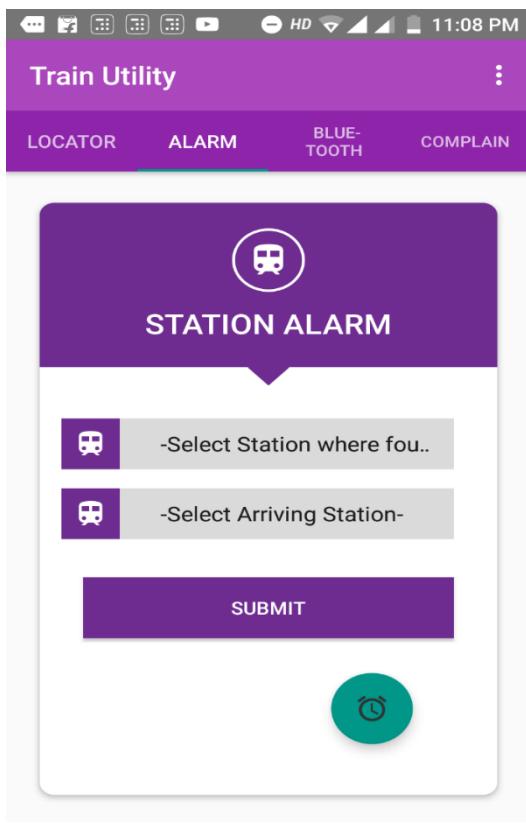
Date/UI element	Data Considerations	Behavior Considerations
Item Lost On Station	Drop Down Menu	Mandatory field. On clicking, this menu it displays a list of stations of India in which the user needs to choose one station where item has been lost.
View	Button	on users click, view the posts in accordance to city entered.

(ii) For Item Details Section:

Date/UI element	Data Considerations	Behavior Considerations
Item Name	Edit Text Field	Mandatory field. on users click, displays the name of item as entered.
Item Found On Station	Drop Down Menu	Mandatory field. On clicking, this menu it displays a list of stations of India in which the user needs to choose one station where item has been found.
Time	Time picker dialogue field	Mandatory field. On clicking, a time picker pop -up opens that resembles a clock. Two options are provided either to select 'ok' or to select 'cancel' buttons. On selecting 'ok' the time selected gets populated on the Time field. On selecting the 'cancel' button , the pop up gets closed.
Date	Date picker dialogue field	Mandatory field.

		On clicking, a date picker pop -up opens that resembles a calendar. Two options are provided either to select ‘ok’ or to select ‘cancel’ buttons. On selecting ‘ok’ the date selected gets populated on the Date field. On selecting the ‘cancel’ button , the pop up gets closed.
Color	Drop Down Menu field	Mandatory field. On clicking, this menu it displays a list of primary colors which the user needs to choose the color of the item found.
Size	Drop Down Menu field	Mandatory field. On clicking, this menu it displays a list of primary size list which the user needs to choose the size of the item found.
Brand	Edit Text Field	Mandatory field. on users click, displays the name of brand name as entered.
Other Specific Indication	Edit Text Field	on users click, displays any additional identity mark on item as entered by user.
Item Dropped on Station	Drop Down Menu field	Mandatory field. On clicking, this menu it displays a list of stations of India in which the user needs to choose one station where item has been found.
Authority	Edit Text Field	Mandatory field. on users click, displays the name of authority to whom the item is submitted.
Post	Button	on users click, posts the form in the display area of the application.
Notify	Button	on users click, notifies all users who have installed the application.
Clear	Button	On users click, clears all the previously filled details in the form.

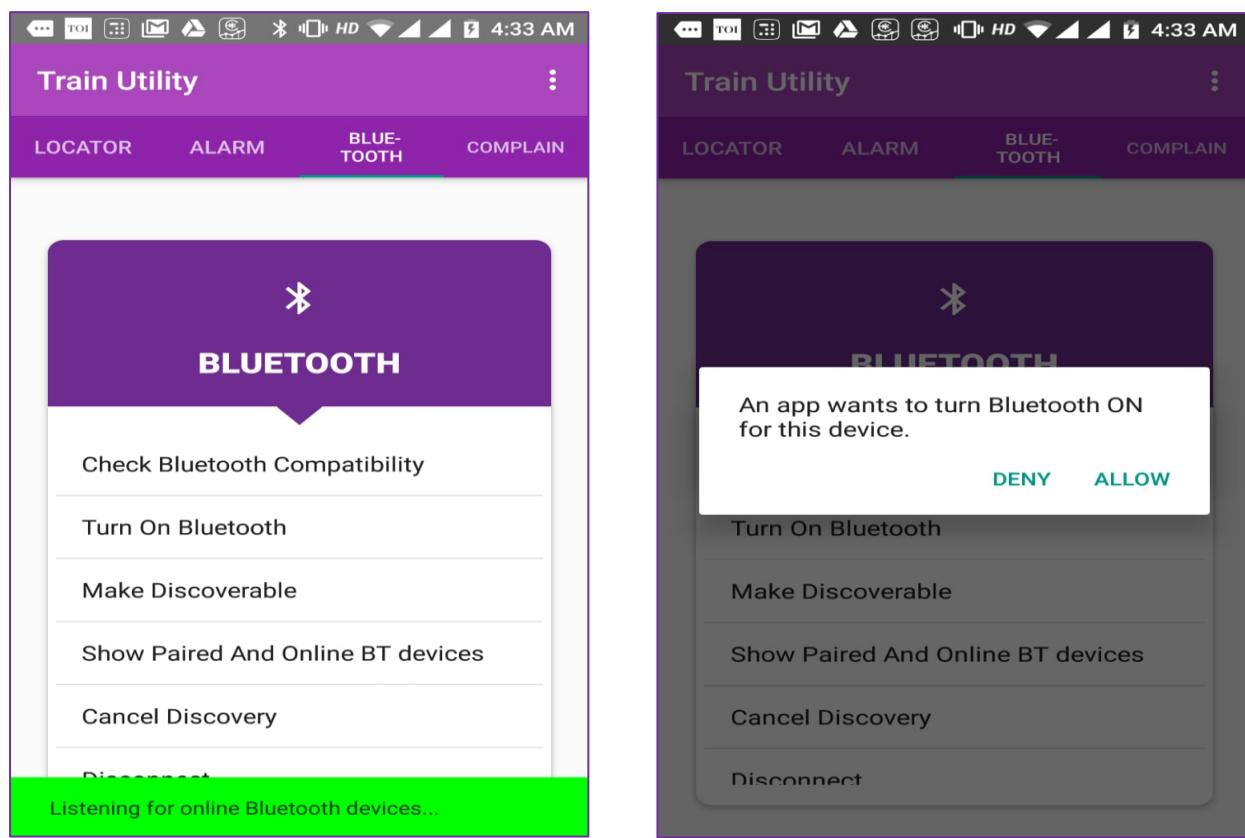
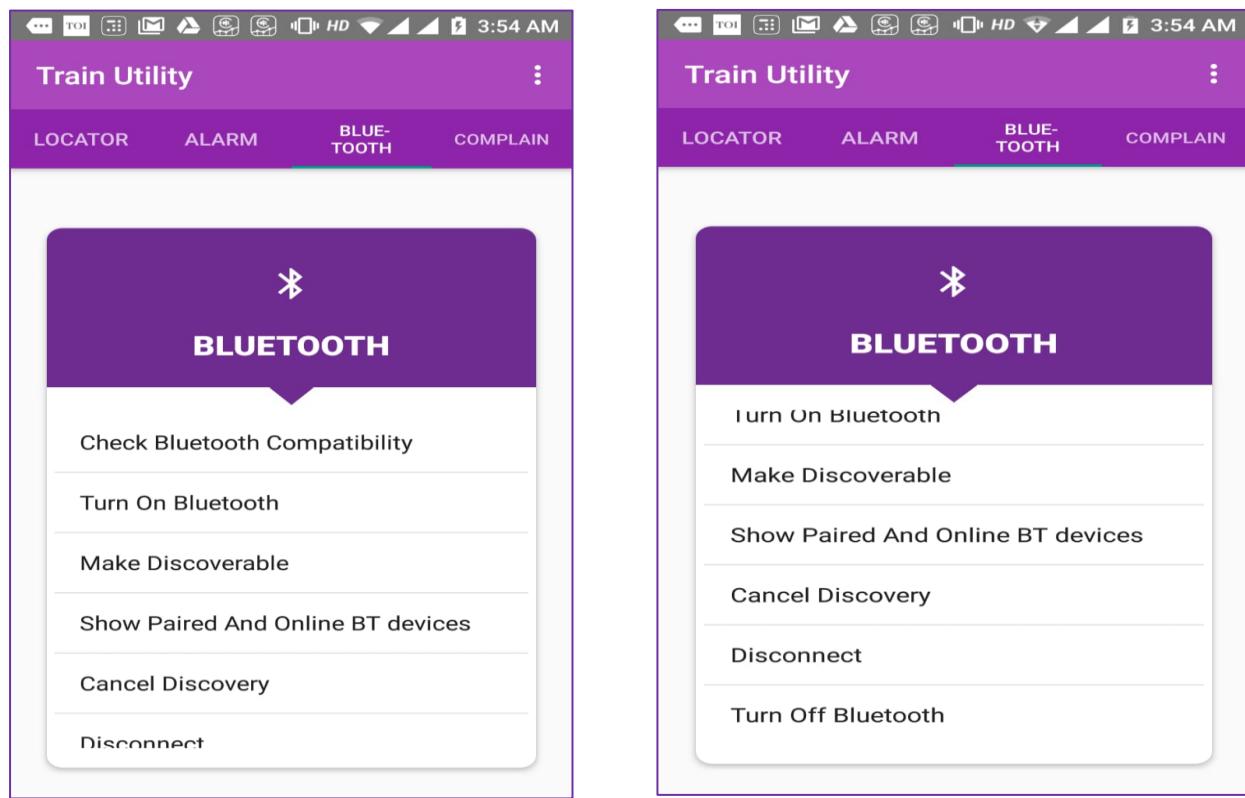
2. Station Alarm module:

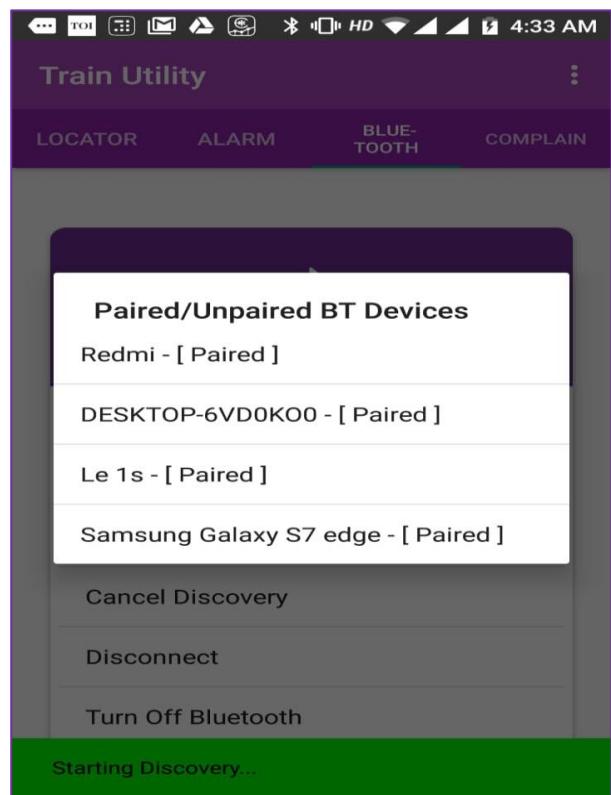
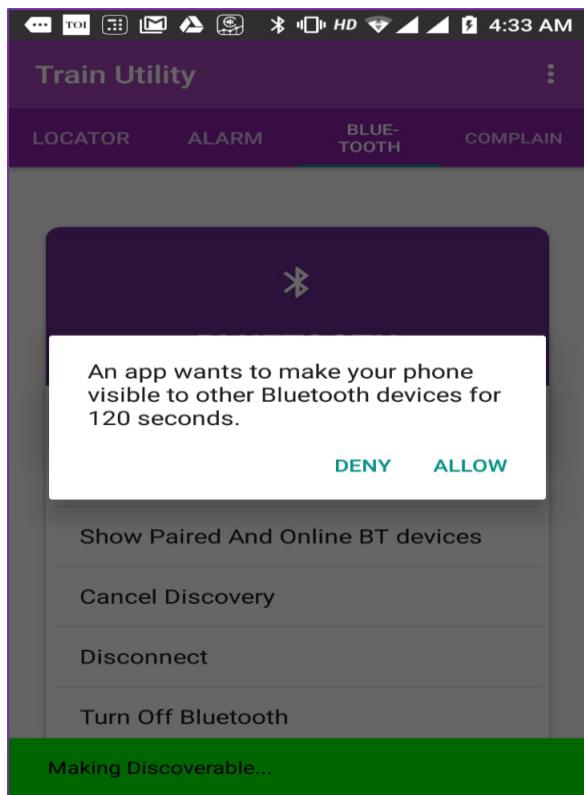


Station alarm specifications:

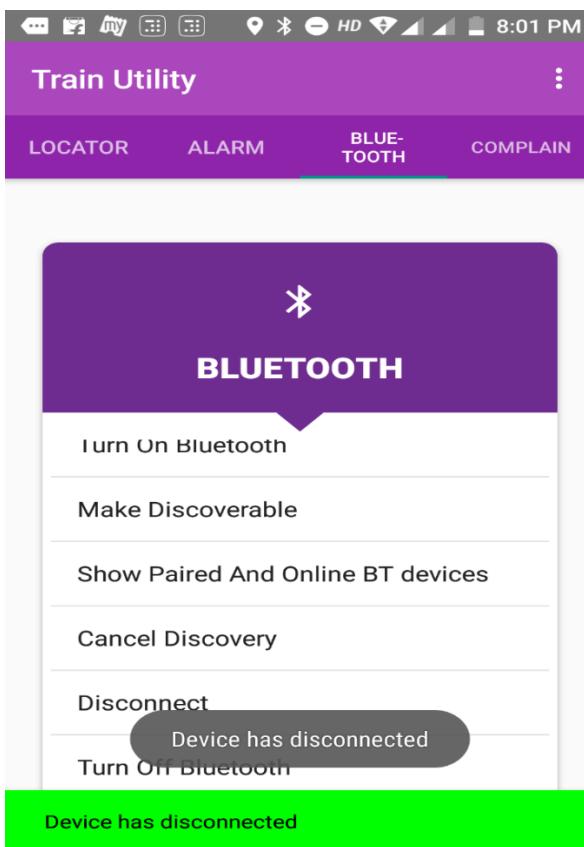
Date/UI element	Data Considerations	Behavior Considerations
Departing Station	Drop Down Menu	Mandatory field. On clicking, this menu it displays a list of stations of India in which the user needs to choose one station where item has been lost.
Arriving Station	Drop Down Menu	Mandatory field. On clicking, this menu it displays a list of stations of India in which the user needs to choose one station where item has been lost.
Submit	Button	on users click, submits the station.
Alarm	Floating Button	on users click, sets alarm.

3. Theft Protection via Bluetooth:





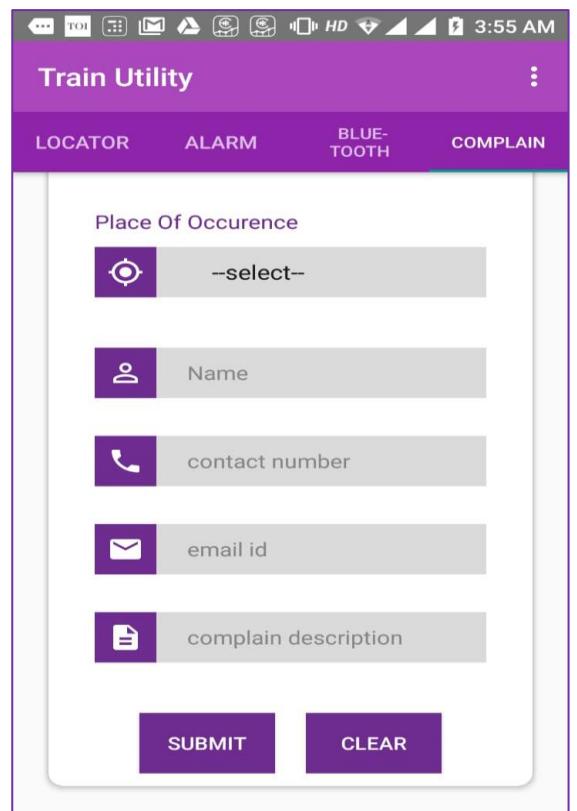
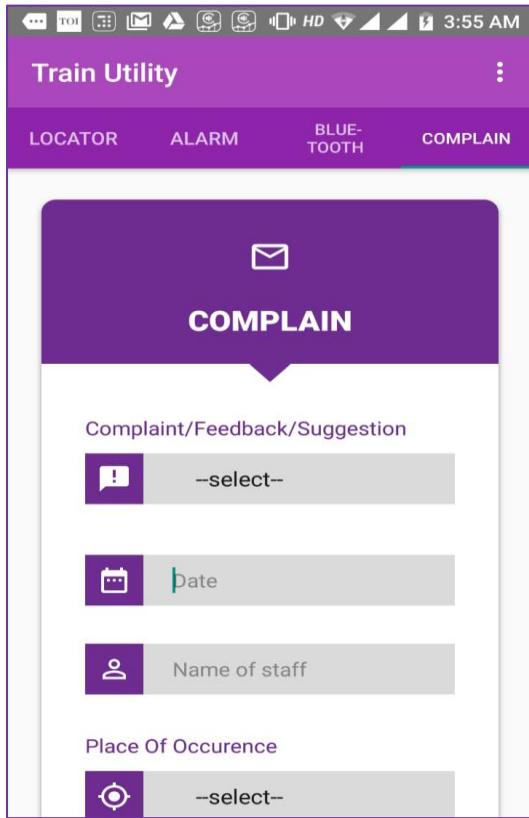
The phone will vibrate at the same time when the connection is lost.

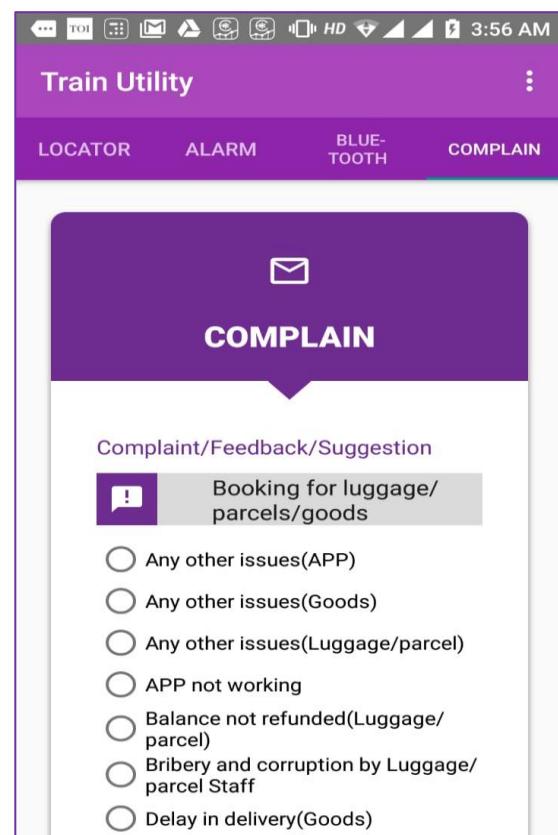
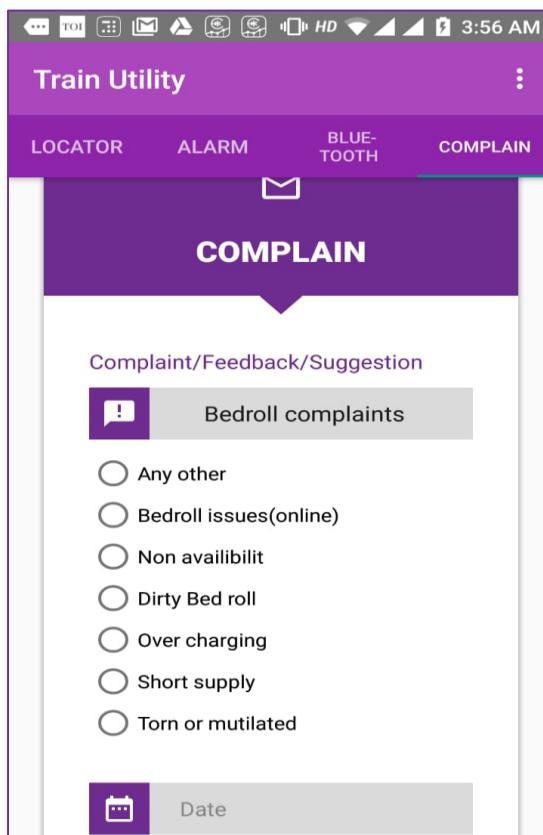
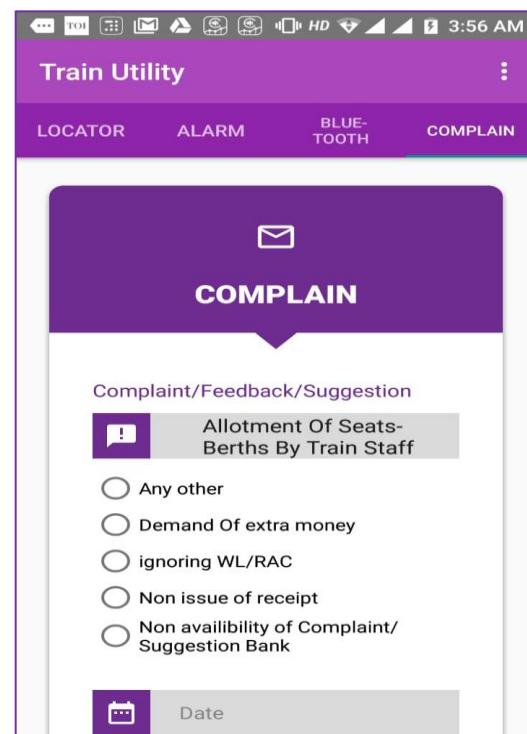
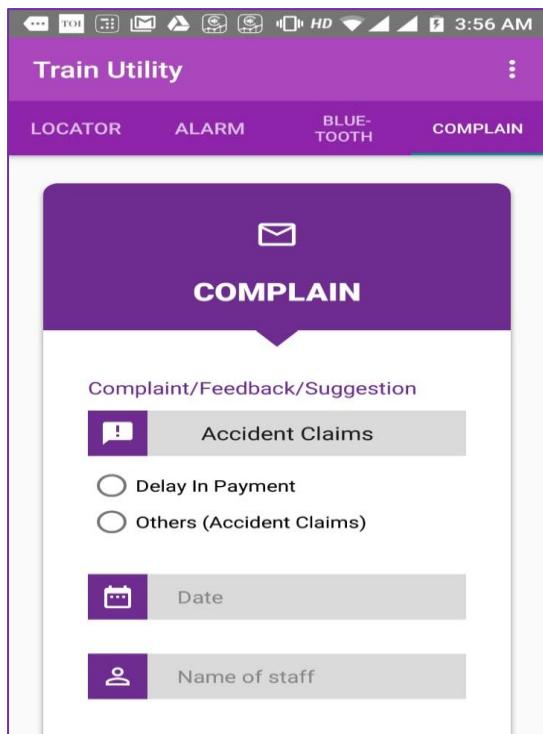


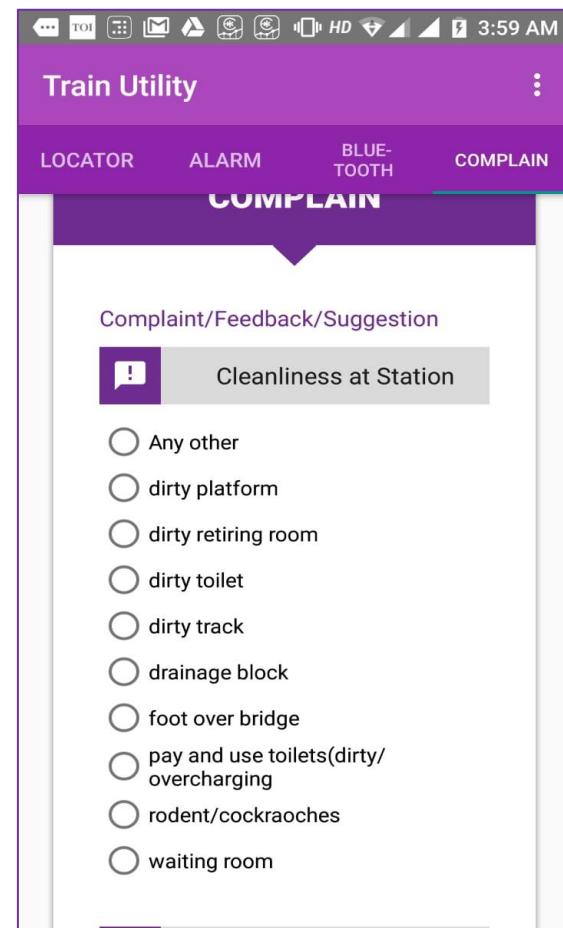
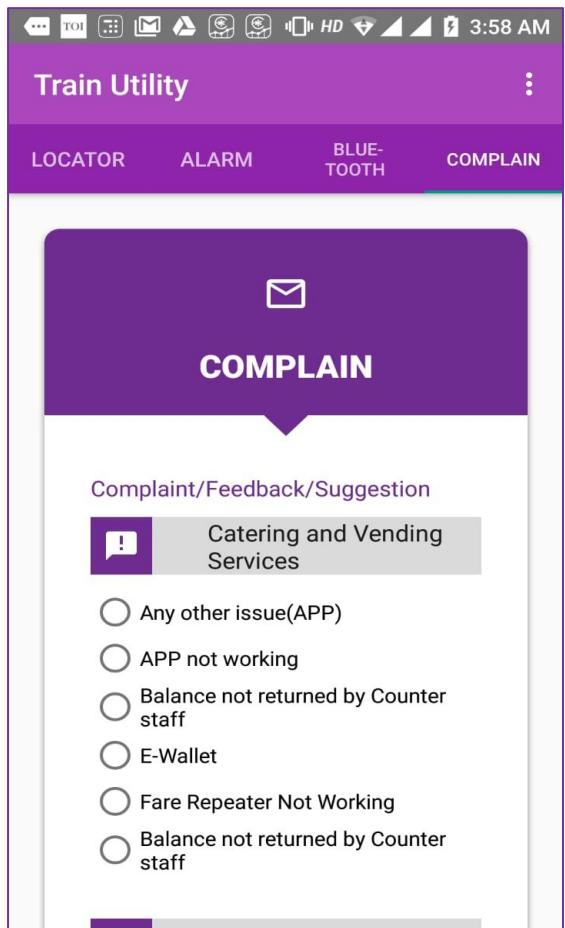
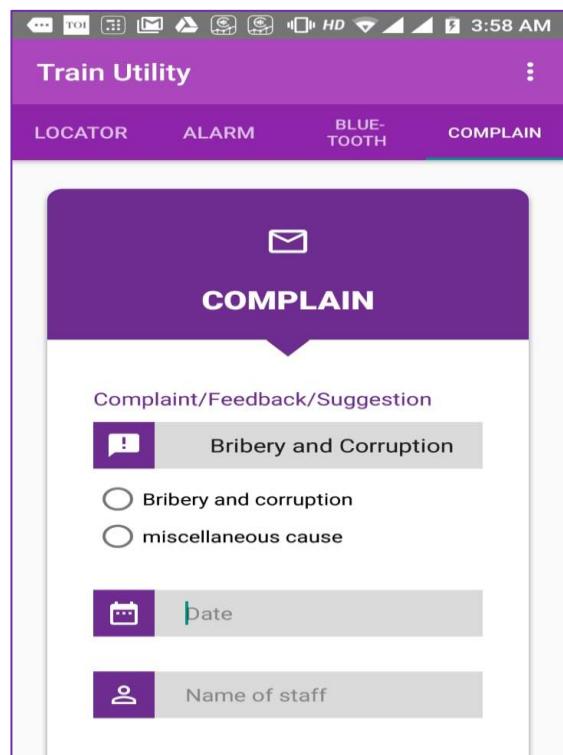
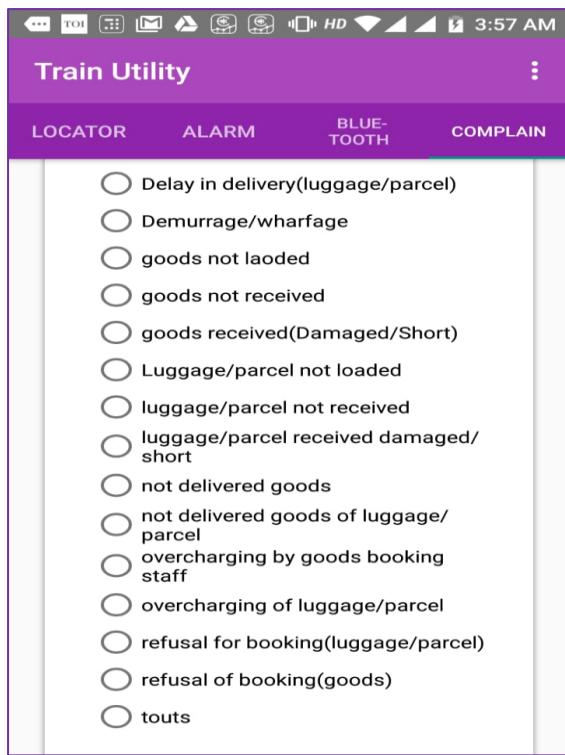
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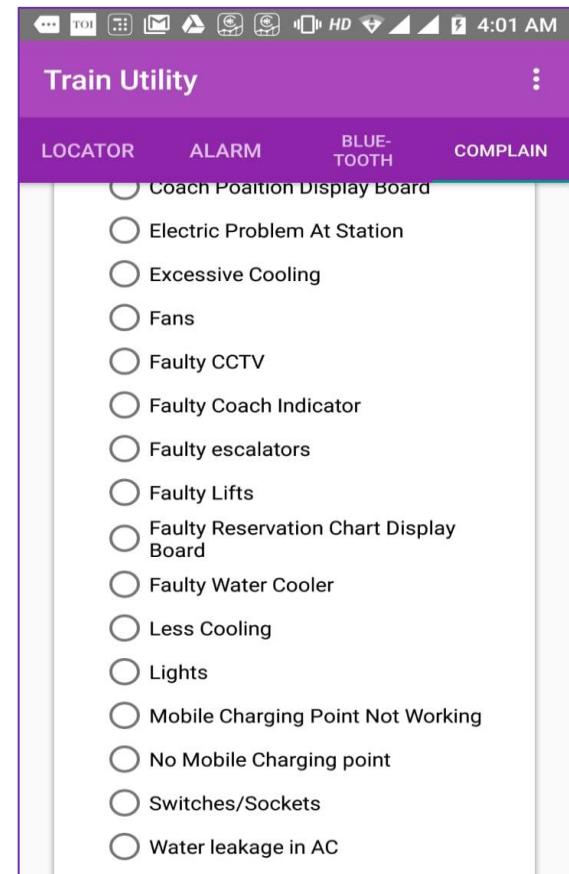
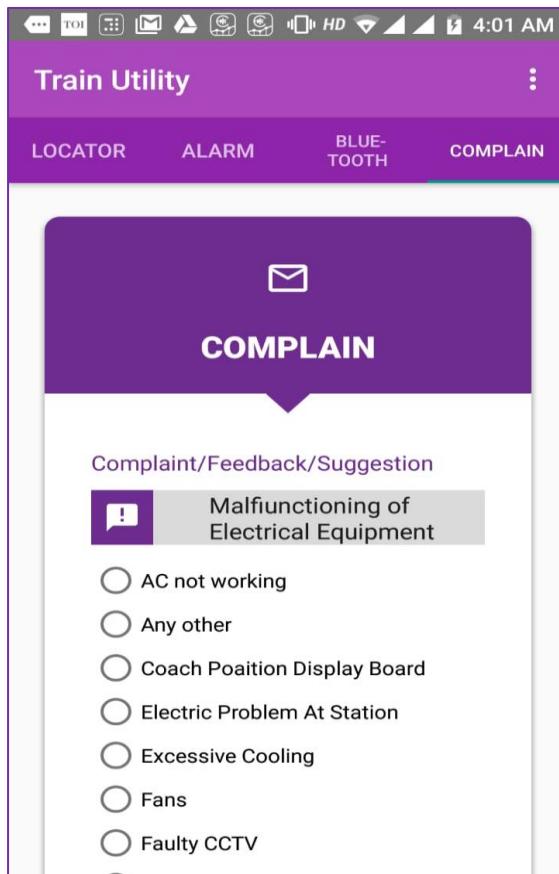
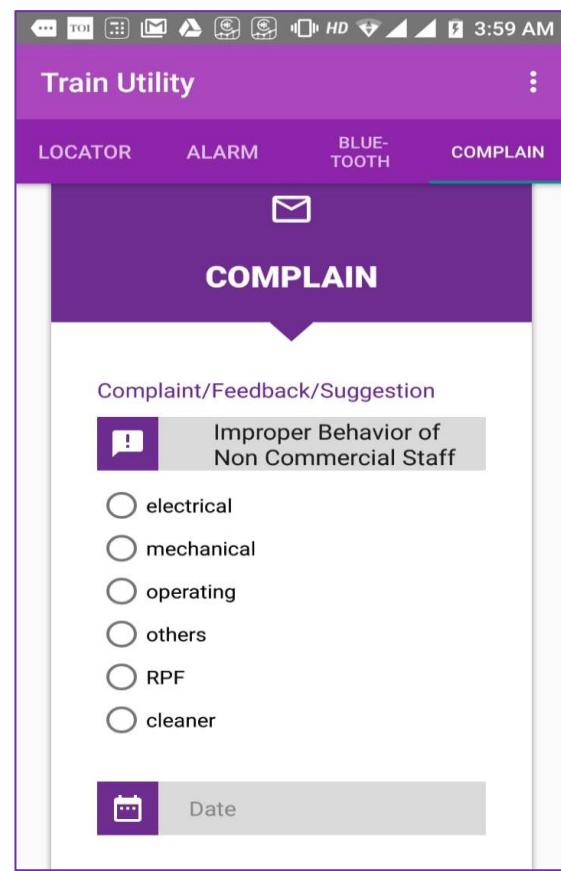
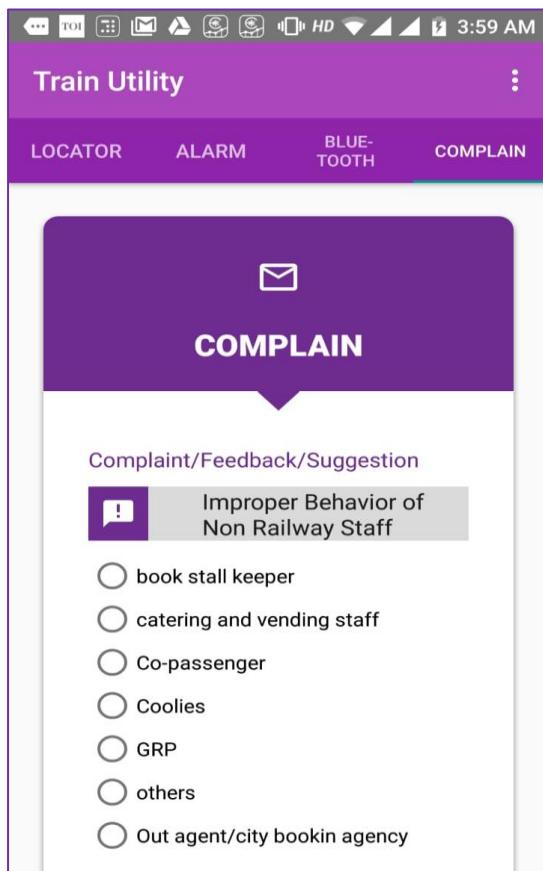
Date/UI element	Data Considerations	Behavior Considerations
Check Bluetooth connectivity	List View	On selecting, displays the following message as 'your phone supports Bluetooth'.
Turn on Bluetooth	List View	On selecting, it displays the pop up addressing that an App wants to turn the Bluetooth ON for this device with 'deny' and 'Allow' options.
Make Discoverable	List View	On selecting, it displays the pop up addressing that an App wants to turn on the Bluetooth and make your phone visible to other devices for 120 seconds with options as 'Deny' and 'Allow'.
Show Paired And Online BT devices	List View	On selecting, it will display the following devices that are paired by displaying a message as starting discovery.
Cancel Discovery	List View	On selecting, it will display the following message as cancelling discovery.
Disconnect	List View	On selecting, it will disconnect.
Turn Off Bluetooth	List View	On selecting, it will turn off the Bluetooth directly.

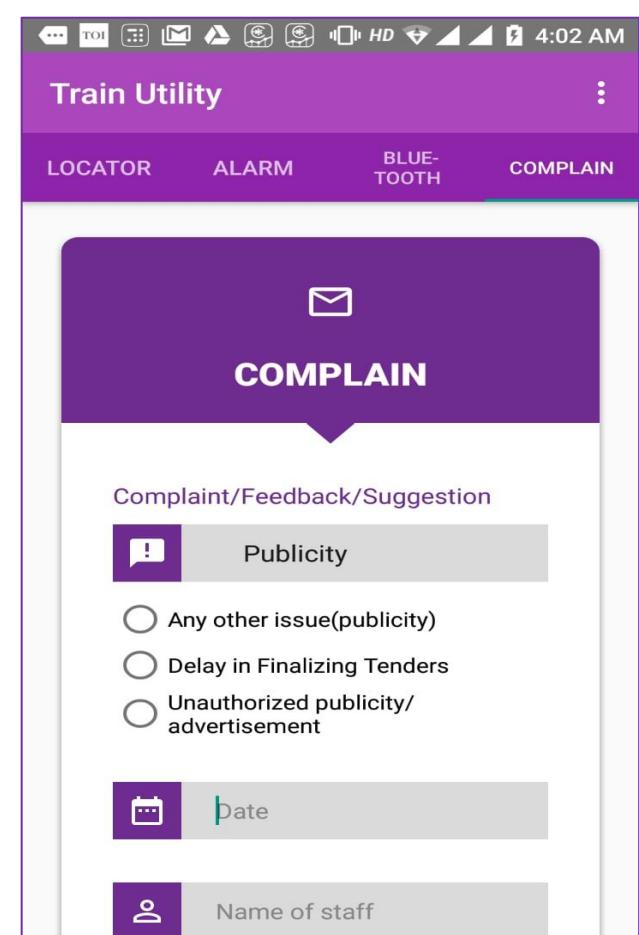
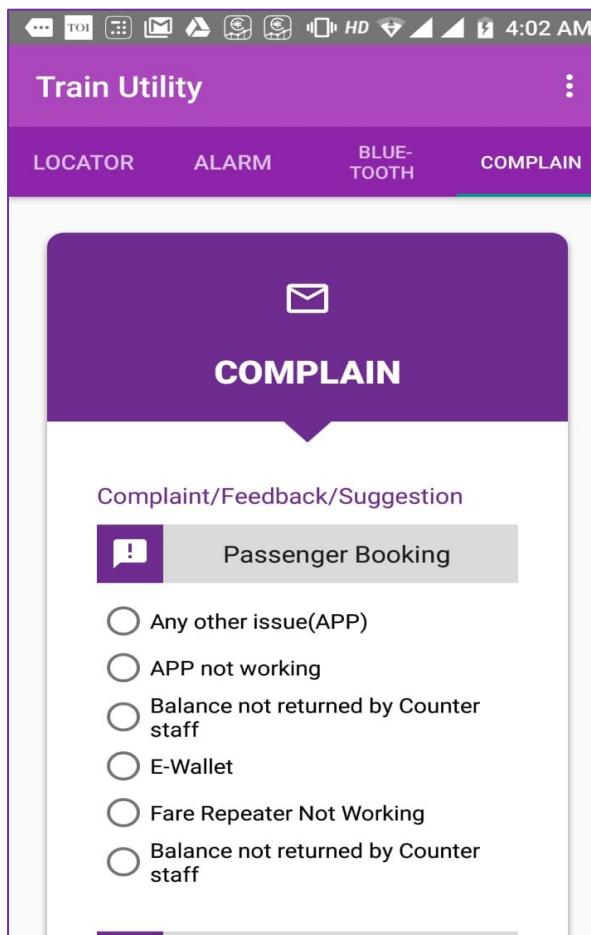
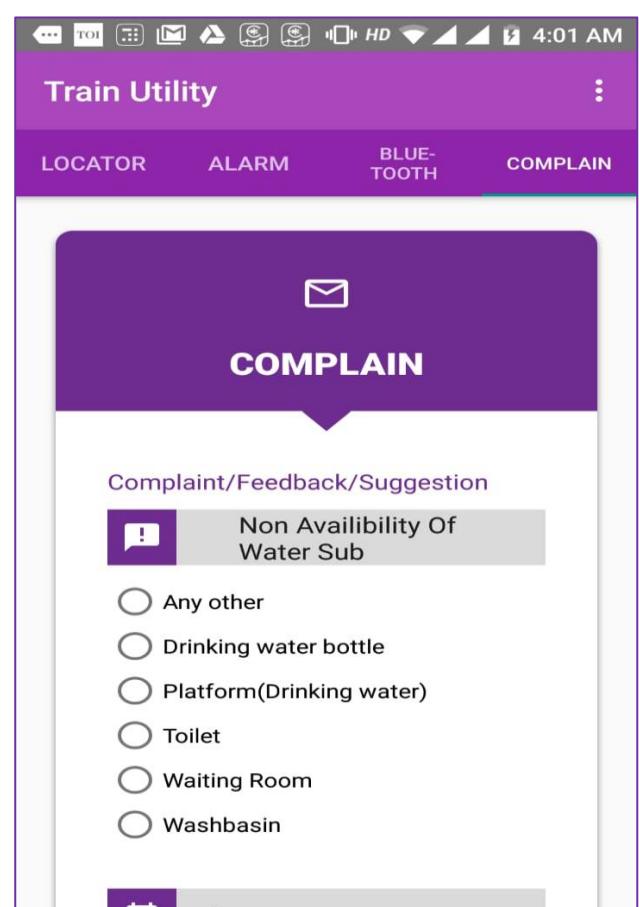
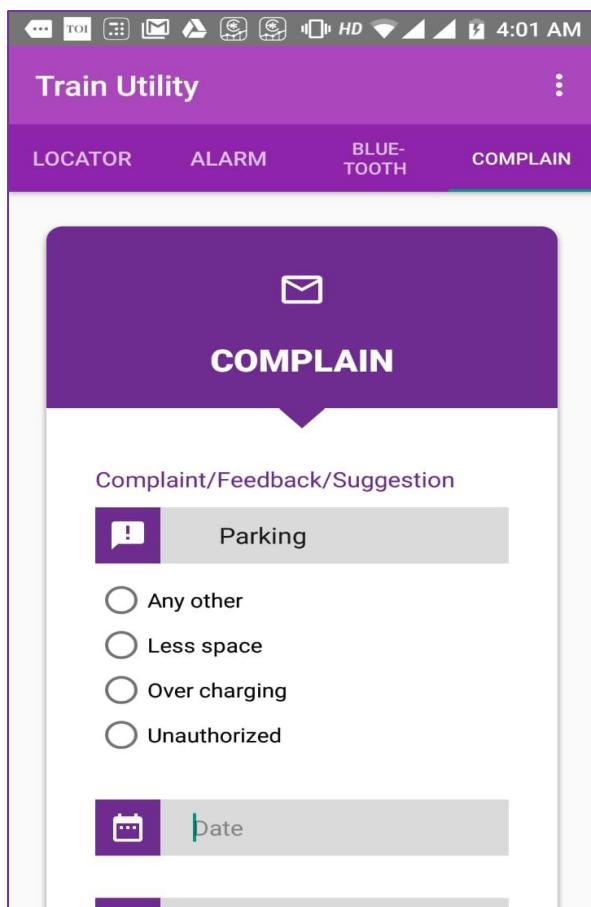
4. Complaint/Feedback/Suggestion module:

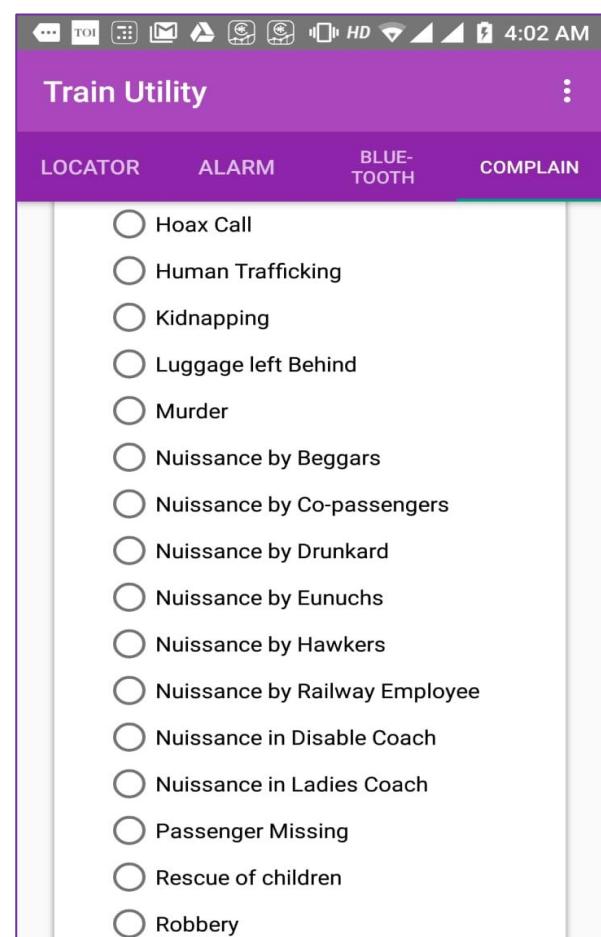
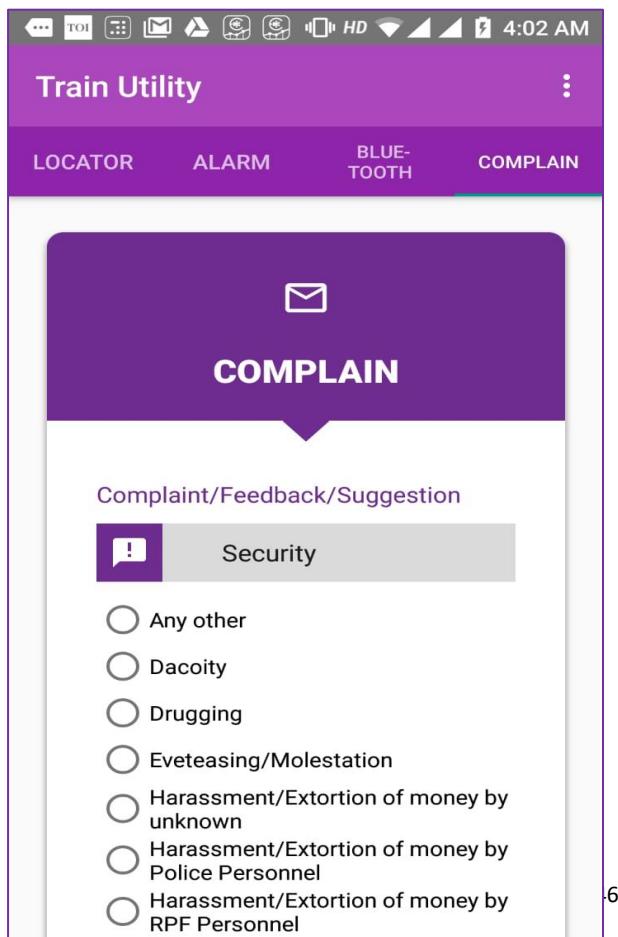
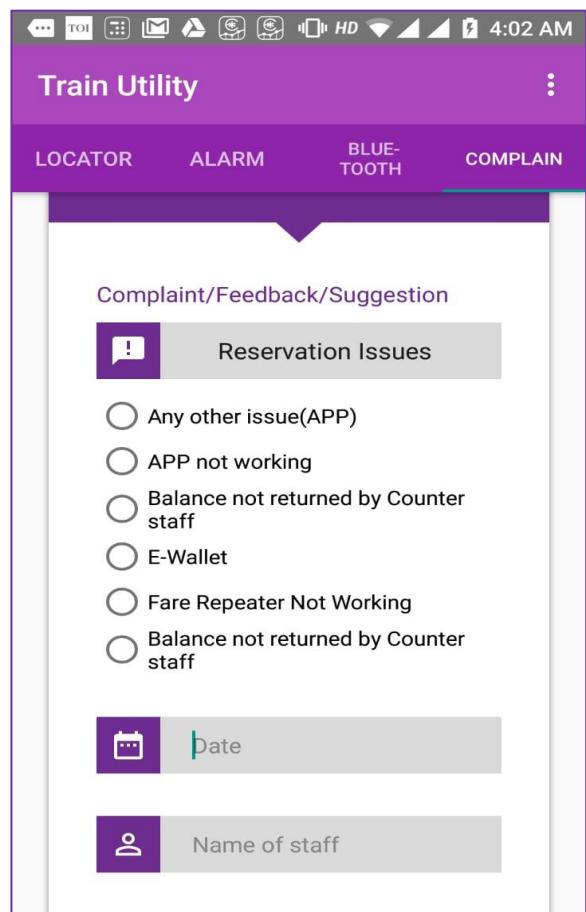
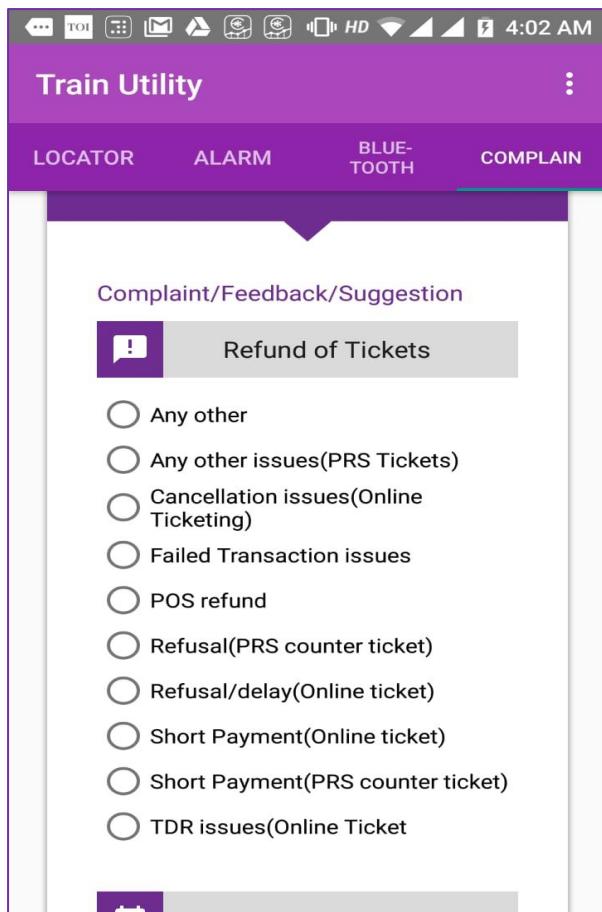


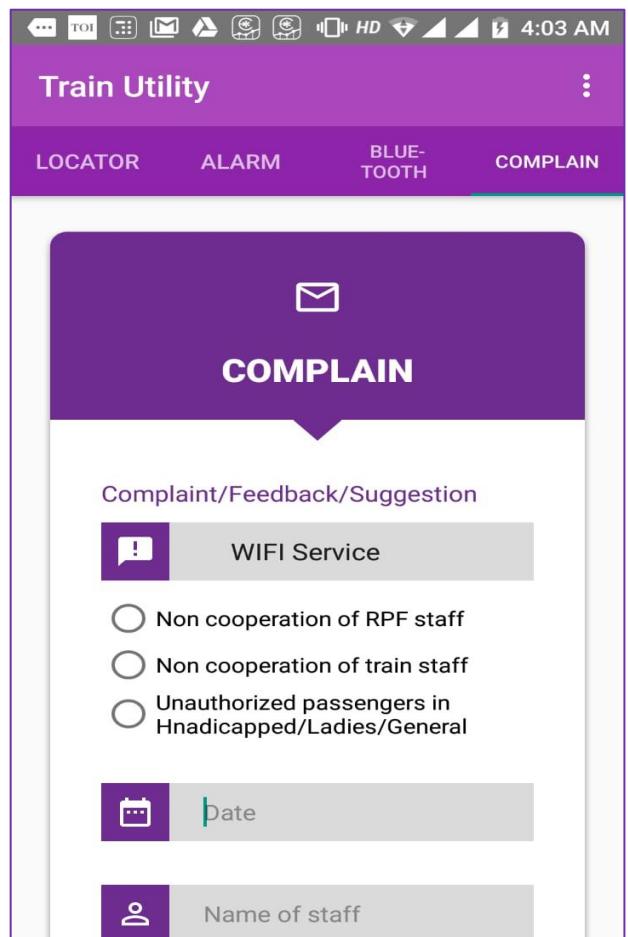
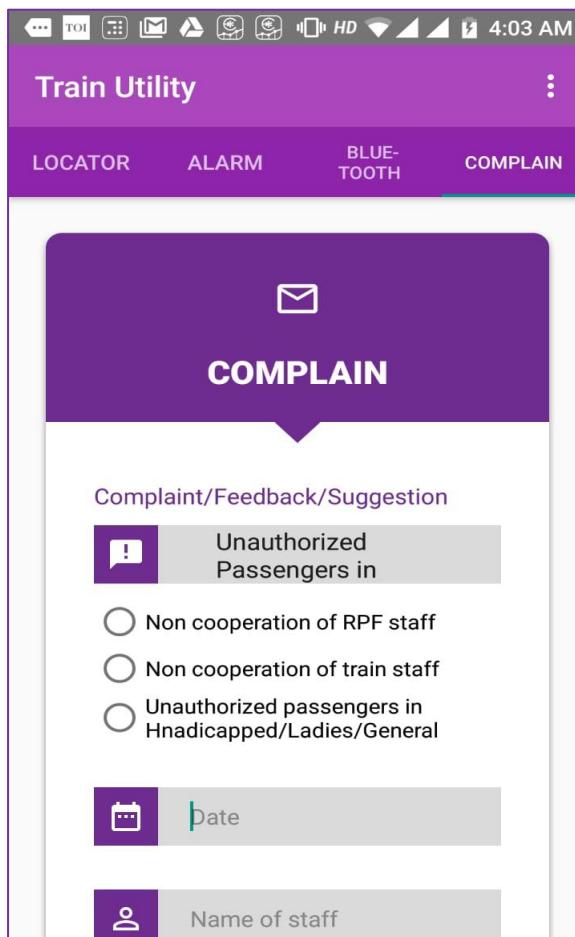
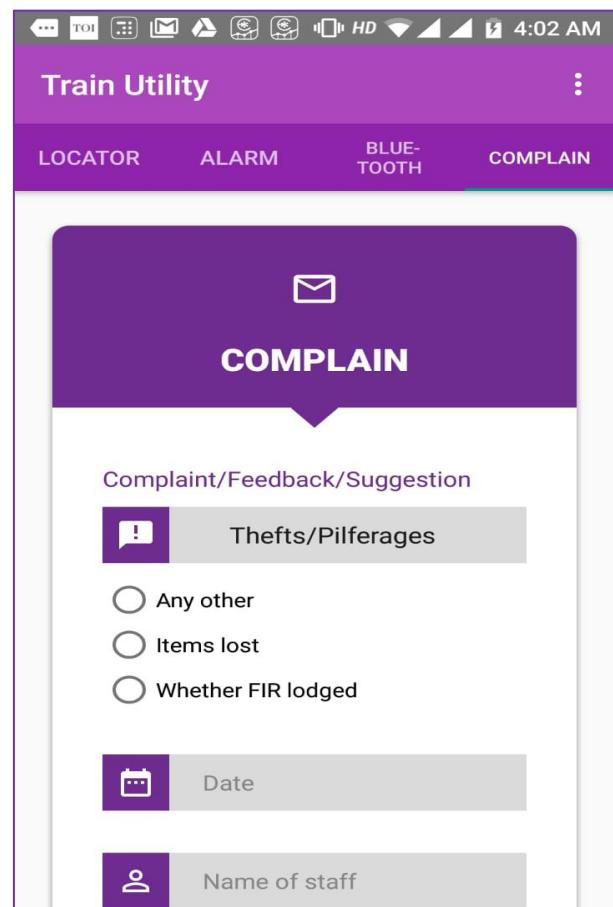
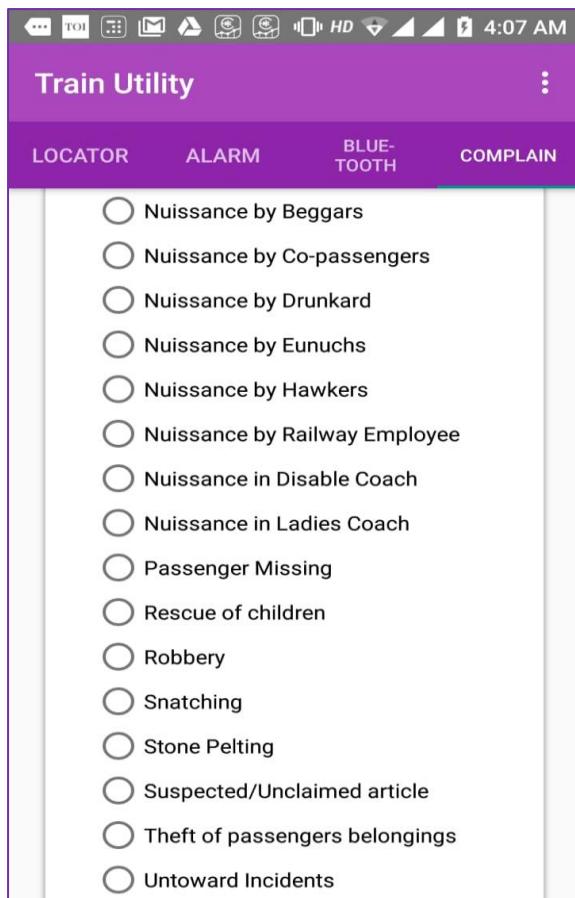


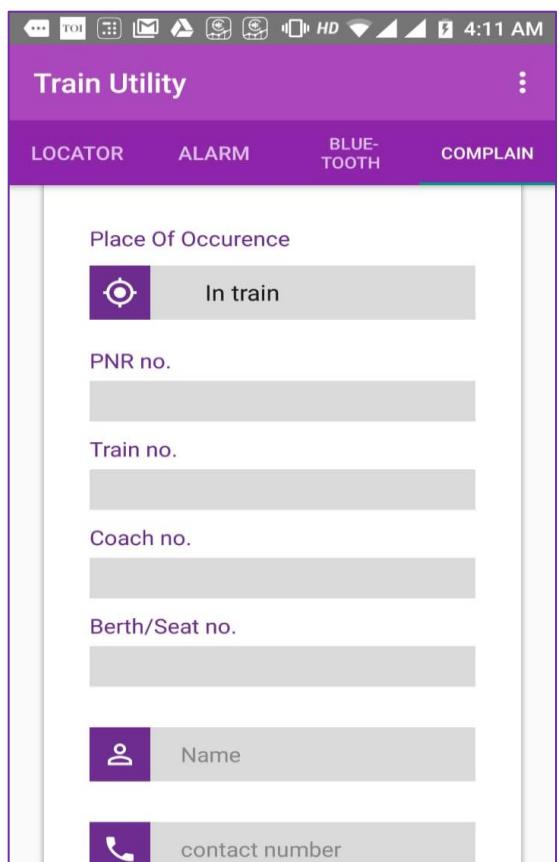
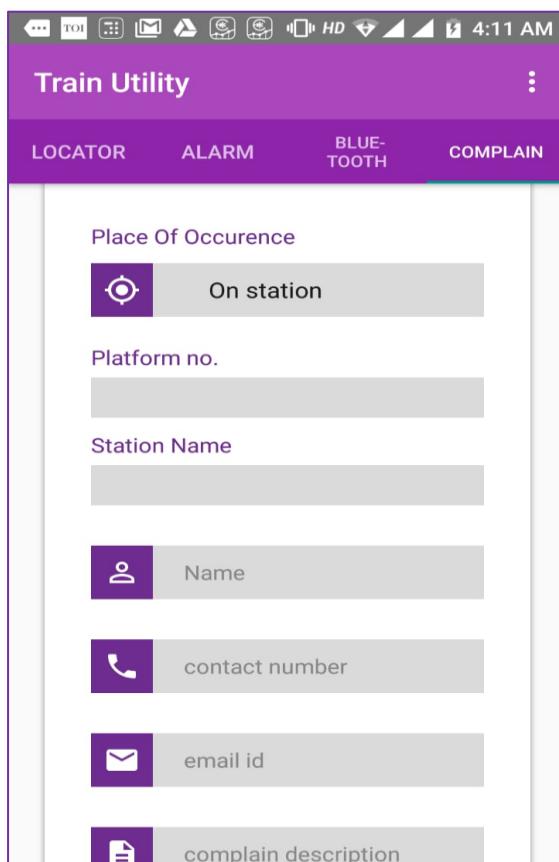
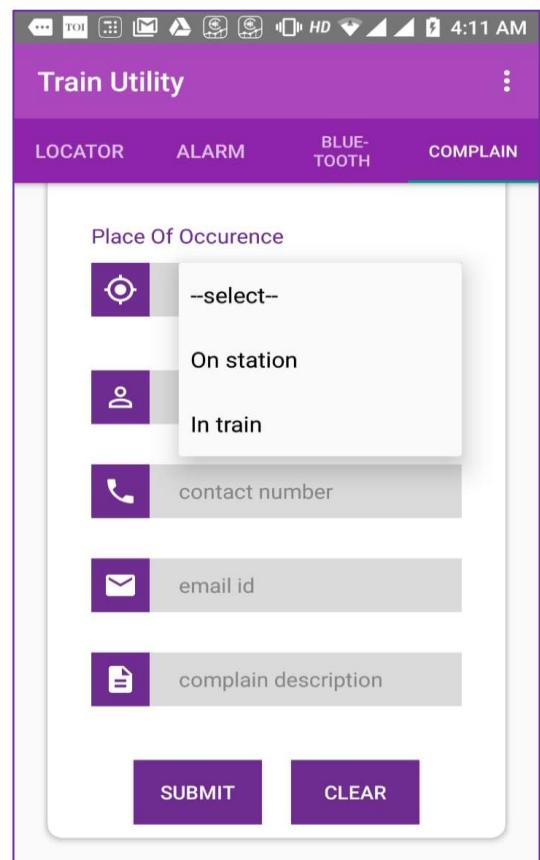
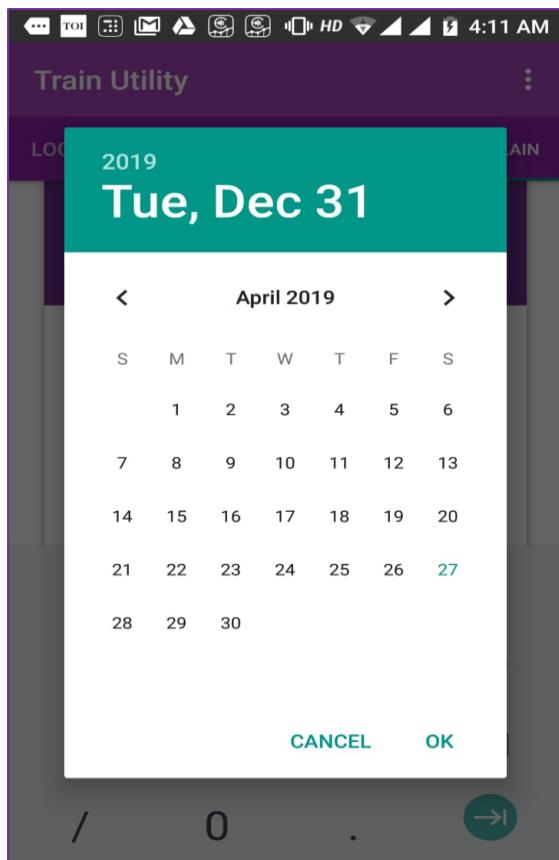


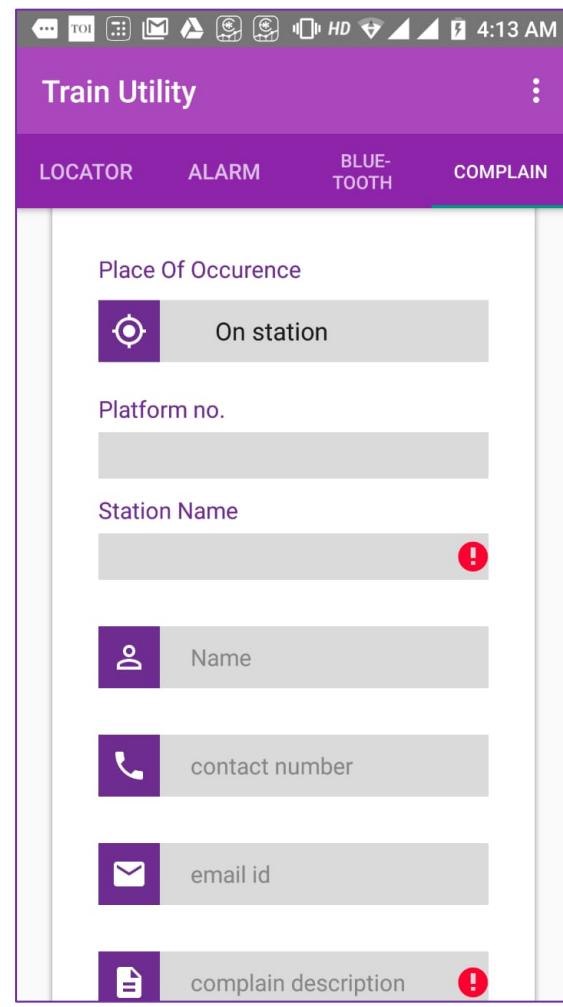
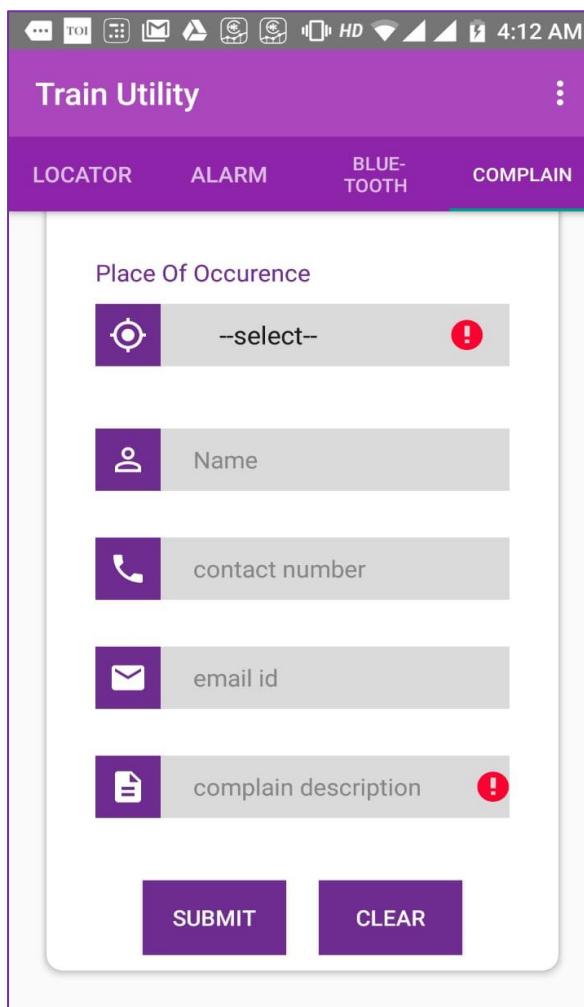
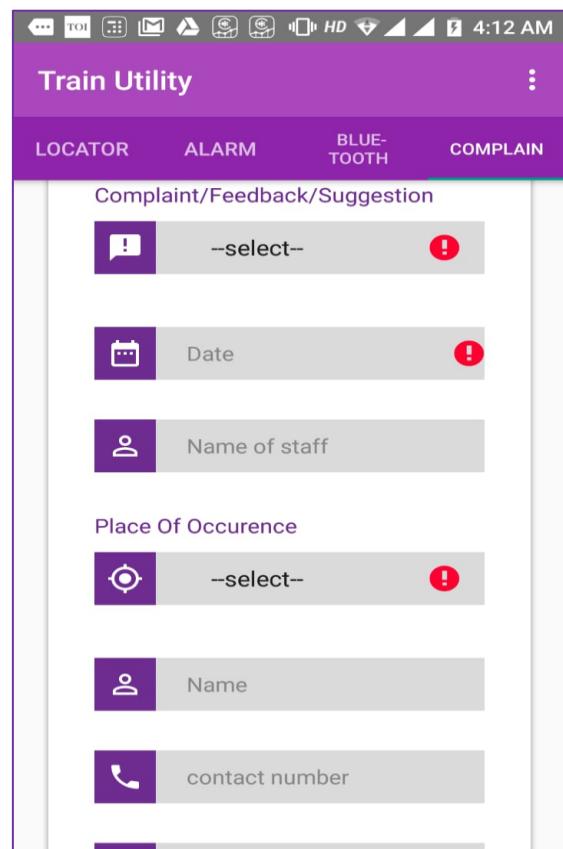
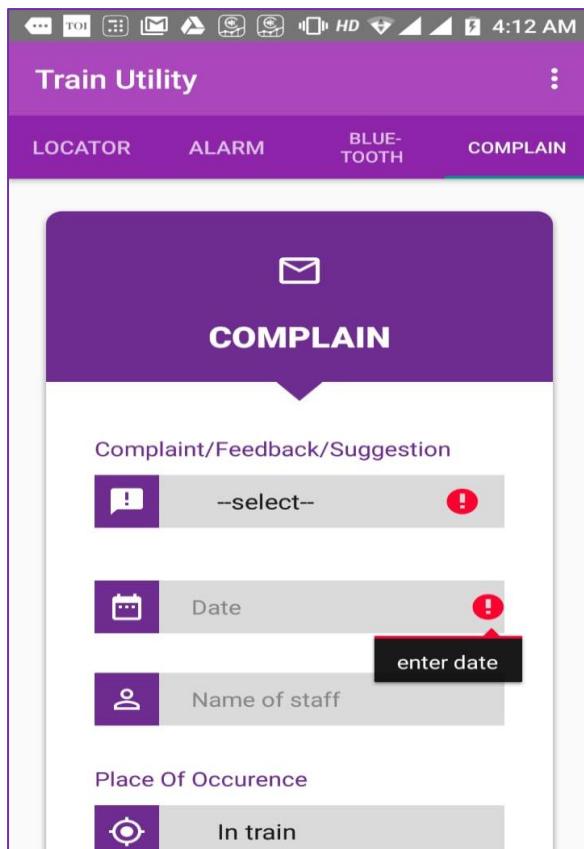












Train Utility

LOCATOR ALARM BLUE-TOOTH COMPLAIN

Place Of Occurrence

PNR no.

Train no.
 !

Coach no.

Berth/Seat no.

Name

Contact number

Train Utility

LOCATOR ALARM BLUE-TOOTH COMPLAIN

COMPLAIN

Complaint/Feedback/Suggestion

Any other
 dirty platform
 dirty retiring room
 dirty toilet
 dirty track
 drainage block
 foot over bridge
 pay and use toilets(dirty/overcharging)
 rodent/cockraoches
 waiting room

Train Utility

LOCATOR ALARM BLUE-TOOTH COMPLAIN

foot over bridge
 pay and use toilets(dirty/overcharging)
 rodent/cockraoches
 waiting room

Place Of Occurrence

Platform no.

Station Name

Train Utility

LOCATOR ALARM BLUE-TOOTH COMPLAIN

Place Of Occurrence
 !

!

TOI HD 4:25 AM

Train Utility

LOCATOR ALARM BLUE-TOOTH COMPLAIN

Platform No.:
123

Station Name:
Ahmedabad

Person Name:
Riya

Contact Number:
1234567890

Email ID:
abcd@gmail.com

Complaint Description:
dirty platform , toilets

Complaint/Suggestion details added

SUBMIT CLEAR

TOI HD 4:30 AM

Train Utility

LOCATOR ALARM BLUE-TOOTH COMPLAIN

COMPLAIN

Complaint/Feedback/Suggestion
--select-- !

Date
! enter date

Name of staff
Name of staff

Place Of Occurrence
--select-- !

Name
Name

TOI HD 4:30 AM

Train Utility

LOCATOR ALARM BLUE-TOOTH COMPLAIN

Place Of Occurrence
--select-- !

Name
Name

Contact Number:
contact number

Email ID:
ghJkk !

Complain Description:
complain description !

please mention the description

SUBMIT CLEAR

TOI HD 4:30 AM

Train Utility

LOCATOR ALARM BLUE-TOOTH COMPLAIN

Place Of Occurrence
--select-- !

Name
Name

Contact Number:
contact number

Email ID:
ghJkk !

Complain Description:
complain description !

enter valid email id

SUBMIT CLEAR

Complain section Specifications:

Date/UI element	Data Considerations	Behavior Considerations
Complain/Feedback/suggestion	Drop down field	Mandatory field. On clicking, displays the following items. On further clicking on any of these items from the drop down list, various respective radio buttons are displayed based on the item selected.
Date	Date picker dialogue field	Mandatory field. On clicking, a date picker pops - up opens that resembles a calendar. Two options are provided either to select 'ok' or to select 'cancel' buttons. On selecting 'ok' the date selected gets populated on the Date field. On selecting the 'cancel' button, the pop up gets closed.
Place Of Occurrence	Drop down field	Mandatory field. On clicking, displays the two items/Options i.e. On Station, In Train On further clicking on any of these items from the drop down list, various respective Edit text boxes are displayed based on the item selected.
Platform no.	Edit text field	On selecting the 'On Station' option, displays the Platform no. as entered.

Station Name	Edit text field	On selecting the ‘On Station’ option, displays the Station Name as entered.
PNR no.	Edit text field	On selecting the ‘In Train’ option, displays the PNR no. as entered.
Train no.	Edit text field	On selecting the ‘In Train’ option, displays the Train no. as entered.
Coach no.	Edit text field	On selecting the ‘In Train’ option, displays the Coach no. as entered.
Berth/Seat no.	Edit text field	On selecting the ‘In Train’ option, displays the Berth/Seat no. as entered.
Name of Staff	Edit text field	on users click, displays the name of staff as entered.
Contact Number	Edit text field	on users click, displays the contact number as entered.
Email id	Edit text field	on users click, displays the Email id as entered.
Complain Description	Edit text field	on users click, displays the Complain Description as entered.
Submit	Button	on users click, submits the form to the respective decisional head.
Clear	Button	On users click, clears all the previously filled details in the form.

Test Cases

a. For Luggage Finder section:

i. For Display Section:

TEST CASE#	DESCRIPTION	PRE-CONDITIONS	STEP #	TEST SCENARIOS	EXPECTED RESULT	ACTUAL RESULT
TC1-001	Station Where Lost	Drop down list is given among which user selects one station name.	1	Drop down list is given among which user selects one station name.	Drop down list is given among which user selects one station name.	Same as expected result.
TC1.01-001.01	View	App is installed. Luggage Finder section module is clicked. View displays cities in accordance with city entered by user.	2	App is installed. Luggage Finder section module is clicked. View displays cities in accordance with city entered by user.	App is installed. Luggage Finder section module is clicked. View displays cities in accordance with city entered by user.	Same as expected result.

ii. For Post Details Section

TEST CASE#	DESCRIPTION	PRE-CONDITIONS	STEP #	TEST SCENARIOS	EXPECTED RESULT	ACTUAL RESULT
TC1.02-001.02	Luggage Finder section	App is installed	1	Launch the app	Application launch page is shown	Same as expected result.
			2	Luggage Finder section module opens.	Luggage Finder section module is opened and.	Same as expected result.
TC1.03 001.03	Luggage Finder Section	App is installed. Luggage Finder section module is clicked.	3	Item search section is displayed sliding to which add item detail post form is opened.	Item Details form is selected.	Same as expected result.
TC1.04-001.04	Item Name	App is installed. Luggage Finder module is clicked. Detail item entry form is clicked.	4	Name of Item field is displayed and editable.	Name of Item is displayed and editable as entered.	Same as expected result.
TC1.05 001.05	Item Found On Station	Drop down list is given among which user selects one station name.	5	Drop down list is given among which user selects one station name.	Drop down list is given among which user selects one station name.	Same as expected result.
TC1.06 001.06	Time	App is installed. Luggage Finder section module is clicked. Time field is displayed.	6	Time field is displayed and editable.	Time picker dialogue pops-up on selecting the field.	Same as expected result.
TC1.07 001.07	Date	App is installed.	7	Date field is displayed and editable.	Date picker dialogue pops-	Same as expected result.

		Luggage Finder section module is clicked. Date field is displayed.			up on selecting the field.	
TC1.08 001.08	Color	App is installed. Complain section module is clicked. Drop down list is given among which user selects one color.	8	Drop down list is given among which user selects one color.	Drop down list is given among which user selects one color.	Same as expected result.
TC1.09 001.09	Size	App is installed. Complain section module is clicked. Drop down list is given among which user selects one size.	9	Drop down list is given among which user selects one size.	Drop down list is given among which user selects one size.	Same as expected result.
TC1.10 001.10	Brand	App is installed. Complain section module is clicked. Brand name field is displayed.	10	Brand name field is displayed and editable.	Brand name is displayed and editable as entered..	Same as expected result.
TC1.11 001.11	Other Specific Identification	App is installed. Complain section module is clicked. Other Specific Identity field is displayed.	11	Other Specific Identification field is displayed and editable.	Other Specific Identification field is displayed and editable.	Same as expected result.
TC1.12 001.12	Item Dropped On Station	Drop down list is given among which user selects one station name.	12	Drop down list is given among which user selects one station name.	Drop down list is given among which user selects one station name.	Same as expected result.
TC1.13 001.13	Authority	App is installed. Complain section module is clicked.	13	Authority field is displayed and editable.	Authority field is displayed and editable.	Same as expected result.

		Authority field is displayed.				
TC1.14 001.14	Post	<p>App is installed.</p> <p>Luggage Finder section module is clicked.</p> <p>Post button is displayed and the details in the form on filled.</p>	14	<p>Post button is displayed and is clickable.</p>	<p>Post button is clickable.</p> <p>Upon clicking, a toast message ‘details added’ is displayed.</p>	Same as expected result.
		<p>App is installed.</p> <p>Luggage Finder section module is clicked.</p> <p>Post button is displayed and if the form is empty.</p>	15	<p>An error symbol shall get displayed on the respective field validations.</p>	<p>An error symbol shall is displayed on the respective field validations.</p>	Same as expected result.
TC1.15 001.15	Notify	<p>App is installed.</p> <p>Luggage Finder section module is clicked.</p> <p>Notify button is displayed and notification generates to all app users</p>	16	<p>Notify button is displayed and is clickable.</p>	<p>Notify button is clickable.</p> <p>Upon clicking, a notification is fired to all users using the application.</p>	Same as expected result.
TC1.16 001.16	Clear	<p>App is installed.</p> <p>Luggage Finder section module is clicked.</p> <p>Clear button is displayed and the details in the form are filled.</p>	17	<p>Clear button is displayed and is clickable.</p>	<p>Clear button is clickable.</p> <p>Upon clicking, all the details previously filled are cleared.</p>	Same as expected result.

b. Station Alarm Section:

TEST CASE#	DESCRIPTION	PRE CONDITIONS	STEP#	TEST SCENARIOS	EXPECTED RESULT	ACTUAL RESULT
TC2.02-002	Departing Station	Drop down list is given among which user selects one station name.	1	Drop down list is given among which user selects one station name.	Drop down list is given among which user selects one station name.	Same as expected result.
TC2.01-002.01	Arriving Station	Drop down list is given among which user selects one station name.	2	Drop down list is given among which user selects one station name.	Drop down list is given among which user selects one station name.	Same as expected result.
TC2.02.-002.02	Submit	App is installed. Luggage Finder section module is clicked. Submit submits the cities in accordance with city entered by user.	3	App is installed. Luggage Finder section module is clicked. Submit submits the cities in accordance with city entered by user.	App is installed. Luggage Finder section module is clicked. Submit submits the cities in accordance with city entered by user.	Same as expected result.

TC2.03-002.03	View	<p>App is installed.</p> <p>Luggage Finder section module is clicked. Alarm sets alarm as per set by user.</p>	4	<p>App is installed.</p> <p>Luggage Finder section module is clicked. Alarm sets alarm as per set by user.</p>	<p>App is installed.</p> <p>Luggage Finder section module is clicked.</p>	<p>App is installed.</p> <p>Luggage Finder section module is clicked.</p>	<p>Same as expected result.</p>
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c. Theft Protection via Bluetooth:

TEST CASE#	DESCRIPTION	PRE CONDITIONS	STEP#	TEST SCENARIOS	EXPECTED RESULT	ACTUAL RESULT
TC3.0-003	Bluetooth section	App is installed	1	Launch the app	Application launch page is shown	Same as expected result.
			2	Slide it to the last section or by selecting the option from the horizontal menu.	Menu bar is shown. Upon sliding, the Bluetooth section from the menu bar gets selected.	Same as expected result.
			3	Bluetooth section module opens.	Bluetooth section module is opened and	Same as expected result.
TC3.01-003.01	Check Bluetooth Compatibility	App is installed. Bluetooth section module is clicked.	4	Check Bluetooth Compatibility list view is displayed.	Check Bluetooth Compatibility is selected.	Same as expected result.
		App is installed. Bluetooth section module is clicked. Check Bluetooth Compatibility is selected.	5	A message shall be displayed addressing ‘your phone supports Bluetooth’.	A message is displayed addressing ‘your phone supports Bluetooth’.	Same as expected result.
TC3.02-003.02	Turn On Bluetooth	App is installed. Bluetooth section module is clicked.	6	Turn On Bluetooth list view is displayed.	Turn On Bluetooth is selected.	Same as expected result.

		App is installed. Bluetooth section module is clicked. Turn On Bluetooth is selected.	7	A pop-up shall be shown addressing that ‘An app wants to turn Bluetooth on for the device’ with ‘deny’ and ‘Allow’ options.	A pop-up is shown addressing that ‘An app wants to turn Bluetooth on for the device’ with ‘deny’ and ‘Allow’ options.	Same as expected result.
			8	On clicking on the ‘Deny’ option the pop-up shall get closed.	On clicking on the ‘Deny’ option the pop-up gets closed.	Same as expected result.
			9	On clicking on the ‘Allow’ option ,Bluetooth shall get turned on along with ‘turning Bluetooth on’ pop-up.	On clicking on the ‘Allow’ option ,Bluetooth gets turned on along with a ‘turning Bluetooth on’ pop-up.	Same as expected result.
TC3.03 -003.03	Make Discoverable	App is installed. Bluetooth section module is clicked.	10	Make Discoverable list view is displayed.	Make Discoverable is selected.	Same as expected result.
		App is installed. Bluetooth section module is clicked. Make Discoverable is selected.	11	A pop-up shall be shown addressing that ‘an App wants to turn on the Bluetooth and make your phone visible to other devices for 120 seconds’ with options as	A pop-up IS shown addressing that ‘an App wants to turn on the Bluetooth and make your phone visible to other devices for 120 seconds’ with	Same as expected result.

				'Deny' and 'Allow'.	options as 'Deny' and 'Allow'.	
			12	On clicking on the 'Deny' option the pop-up shall get closed.	On clicking on the 'Deny' option the pop-up gets closed.	Same as expected result.
			13	On clicking on the 'Allow' option the phone shall be discoverable with a message displayed as 'Listening for Online Bluetooth Devices'	On clicking on the 'Allow' option the phone is discoverable with a message displayed as 'Listening for Online Bluetooth Devices'	Same as expected result.
TC3.04 -003.04	Show Paired And Online BT devices.	App is installed. Bluetooth section module is clicked.	14	Show Paired And Online BT devices list view is displayed.	Show Paired And Online BT devices is selected.	Same as expected result.
		App is installed. Bluetooth section module is clicked. Show Paired And Online BT devices is selected.	15	A pop-up shall be shown displaying all the paired devices with the app.	A pop-up is shown displaying all the paired devices with the app.	Same as expected result.
			14	A pop-up shall have the paired devices list that are clickable and a message as 'starting	A pop-up has the paired devices list that are clickable and a message as 'starting	Same as expected result.

				discovery' shall be displayed simultaneously.	discovery' is displayed simultaneously.	
			15	On the click of any of the paired devices a message shall be displayed as 'connecting for Online Devices'	On the click of any of the paired devices a message shall be displayed as 'connecting for Online Devices'	Same as expected result.
			16	If the connection is lost of the slave app then the master app device shall vibrate along with a notification	If the connection is lost of the slave app then the master app device vibrates along with displaying a notification	Same as expected result.
TC3.05 -003.05	Cancel Discovery	App is installed. Bluetooth section module is clicked.	17	Cancel Discovery list view is displayed.	Cancel Discovery is selected.	Same as expected result.
		App is installed. Bluetooth section module is clicked Cancel Discovery is selected.	18	On selecting, the 'cancelling discovery' message shall be displayed.	On selecting, the 'cancelling discovery' message is displayed.	Same as expected result.
TC3.06 -003.06	Disconnect	App is installed.	19	Disconnect list view is displayed.	Disconnect is selected.	Same as expected result.

		Bluetooth section module is clicked.				
		App is installed. Bluetooth section module is clicked Disconnect is selected.	20	On selecting, the connection shall go off.	On selecting, the connection goes off.	Same as expected result.
TC3.07 -003.07	Turn Off Bluetooth	App is installed. Bluetooth section module is clicked.	21	Turn Off Bluetooth list view is displayed.	Turn Off Bluetooth is selected.	Same as expected result.
		App is installed. Bluetooth section module is clicked. Turn Off Bluetooth is selected.	22	On selecting, the Bluetooth shall get turned off directly.	On selecting, the Bluetooth gets turned off directly.	Same as expected result.

d. Complaint/Feedback/Suggestion Section:

TEST CASE#	DESCRIPTION	PRE-CONDITIONS	STEP #	TEST SCENARIOS	EXPECTED RESULT	ACTUAL RESULT
TC4-004	Complain section	App is installed	1	Launch the app	Application launch page is shown	Same as expected result.
			2	Slide it to the last section or by selecting the option from the horizontal menu.	Menu bar is shown. Upon sliding, the complain section from the menu bar gets selected.	Same as expected result.
			3	Complain section module opens.	Complain section module is opened and	Same as expected result.
TC4.01-004.01	Complaint/Feedback/ Suggestion	App is installed. Complain section module is clicked.	4	Complaint/Feedback/Suggestion field is displayed.	Complaint/Feedback/Suggestion field is selected.	Same as expected result.
		App is installed. Complain section module is clicked. Complaint/Feedback/ Suggestion is selected.	5	Various radio buttons are displayed dynamically on selecting one of the items in the drop down list.	Radio buttons are displayed. Radio buttons can also be selected.	Same as expected result.
		App is installed. Complain section module is clicked. Complaint/Feedback/	6	On clicking on Submit button, an error icon should be shown indicating the field shouldn't	On clicking on Submit button, an error icon is shown indicating the field shouldn't	Same as expected result.

		Suggestion is not selected.		be empty as a validation.	be empty as a validation.	
TC4.02-004.02	Date	App is installed. Complain section module is clicked. Date field is displayed.	7	Date field is displayed and editable.	Date picker dialogue pops-up on selecting the field.	Same as expected result.
		App is installed. Complain section module is clicked. Date field is not filled.		On clicking on Submit button, an error icon should be shown indicating the field shouldn't be empty as a validation.	On clicking on Submit button, an error icon is shown indicating the field shouldn't be empty as a validation.	Same as expected result.
TC4.03-004.03	Name of Staff	App is installed. Complain section module is clicked. Name of Staff field is displayed.	8	Name of Staff field is displayed and editable.	Name of Staff is displayed and editable as entered.	Same as expected result.
TC4.04-TC004.04	Place Of Occurrence	App is installed. Complain section module is clicked. Place Of Occurrence drop down is displayed.	9	Place Of Occurrence drop down is displayed and editable.	Place Of Occurrence drop down is selected.	Same as expected result.
			10	Two options are shown upon selecting drop down list.	Drop down list displays the items and can also be selected which gets populated.	Same as expected result.

TC4.05- TC004.0 5	On station	App is installed. Complain section module is clicked. Place Of Occurrence is not selected.	12	On clicking on this option/item from the drop down field , the following fields shall be displayed: Platform no., Station Name.	On clicking on this option/item from the drop down field , the following fields are displayed: Platform no., Station Name.	Same as expected result.
TC4.06- TC004.0 6	Platform No.	App is installed. Complain section module is clicked. On Station is selected.	13	Platform No. field is displayed and editable.	Email id is displayed and editable as entered.	Same as expected result.
TC4.07- TC004.0 7	Station Name	App is installed. Complain section module is clicked. On Station is selected.	14	Station Name field is displayed and editable.	Station Name is displayed and editable as entered.	Same as expected result.
		App is installed. Complain section module is clicked. Station Name field is not filled.	15	On clicking on Submit button, an error icon should be shown indicating the field shouldn't be empty as a validation.	On clicking on Submit button, an error icon is shown indicating the field shouldn't be empty as a validation.	Same as expected result.
TC4.08- TC004.0 8	In Train	App is installed. Complain section module is clicked.	16	On clicking on this option/item from the drop down field, the following fields	On clicking on this option/item from the drop down field , the following	Same as expected result.

		Place Of Occurrence is not selected.		shall be displayed: PNR no, Train no, Coach no, Berth/Seat no.	fields are displayed: PNR no, Train no, Coach no, Berth/Seat no.	
TC4.09- TC004.09	PNR no.	App is installed. Complain section module is clicked. In Train is selected.	17	PNR no. field is displayed and editable.	PNR no. is displayed and editable as entered.	Same as expected result.
TC4.10- TC004.10	Train no.	App is installed. Complain section module is clicked. In Train is selected.	19	Train no. field is displayed and editable.	Train no. is displayed and editable as entered.	Same as expected result.
		App is installed. Complain section module is clicked. Train no. field is not filled.	20	On clicking on Submit button, an error icon should be shown indicating the field shouldn't be empty as a validation.	On clicking on Submit button, an error icon is shown indicating the field shouldn't be empty as a validation.	Same as expected result.
TC4.11- TC004.11	Coach no.	App is installed. Complain section module is clicked. In Train is selected.	21	Coach no. field is displayed and editable.	Coach no. is displayed and editable as entered.	Same as expected result.
TC4.12- TC004.12	Berth/Seat no.	App is installed. Complain section module is clicked. In Train is selected.	22	Berth/Seat no. field is displayed and editable.	Berth/Seat no. is displayed and editable as entered.	Same as expected result.

TC4.13- TC004.1 3	Name	App is installed. Complain section module is clicked. Name field is displayed.	23	Name field is displayed and editable.	Name is displayed and editable as entered.	Same as expected result.
TC4.14- 004.14	Contact Number	App is installed. Complain section module is clicked. Contact Number field is displayed.	24	Contact Number field is displayed and editable.	Contact Number is displayed and editable as entered.	Same as expected result.
TC4.15 - TC004.1 5	Email ID	App is installed. Complain section module is clicked. Email id field is displayed.	25	Email id field is displayed and editable.	Email id is displayed and editable as entered.	Same as expected result.
TC4.16- TC004.1 6	Email ID	App is installed. Complain section module is clicked. Email id is not selected.	26	When an invalid email is entered then an error icon shall be shown saying ‘enter the valid email id’.	When an invalid email is entered then an error icon is shown saying ‘enter the valid email id’.	Same as expected result.
TC4.17- TC004.1 7	Complaint Description	App is installed. Complain section module is clicked. Complaint Description field is displayed.	27	Complaint Description field is displayed and editable.	Complaint Description is displayed and editable as entered.	Same as expected result.
TC4.18- TC004.1 8		App is installed. Complain section module is clicked. Complaint	28	On clicking on Submit button, an error icon should be shown indicating the field shouldn’t	On clicking on Submit button, an error icon is shown indicating the field shouldn’t	Same as expected result.

		Description field is not filled.		be empty as a validation.	be empty as a validation.	
TC4.19- TC004.1 9	Submit	<p>App is installed.</p> <p>Complain section module is clicked.</p> <p>Submit button is displayed and the details in the form on filled.</p>	29	<p>Submit button is displayed and is clickable.</p>	<p>Submit button is clickable.</p> <p>Upon clicking, a toast message ‘complaint/suggestion details added’ is displayed.</p>	Same as expected result.
		<p>App is installed.</p> <p>Complain section module is clicked.</p> <p>Submit button is displayed and if the form is empty.</p>	30	<p>An error symbol shall get displayed on the respective field validations.</p>	<p>An error symbol shall be displayed on the respective field validations.</p>	Same as expected result.
TC4.20- 004.20	Clear	<p>App is installed.</p> <p>Complain section module is clicked.</p> <p>Clear button is displayed and the details in the form are filled.</p>	30	<p>Clear button is displayed and is clickable and clears all the details filled.</p>	<p>Clear button is clickable.</p> <p>Upon clicking, all the details previously filled are cleared.</p>	Same as expected result.

Conclusion

Thus, this project would in fact help the travelers not only during the journey but also when the passenger gets down from the train.

This project will help the passengers to find the lost luggage, which happens most frequently in the Indian railways and hence, it would help the passengers from preventing the loss of luggage. It would also help the passengers to set alarm as per the station and not as per the time. This application would be useful for protecting the luggage from any theft. Last but not the least, this would also allow the passengers to file or inquire any complain/feedback/suggestion regarding any of the particular incident/situation or amenity.

Future Enhancement

There can be one more module included wherein one can book coolie from the app and also can get all the information about the rates and if the luggage gets stolen or misplaced then it can be easily traced back as all the coolies would be registered at station and will have their simple app to accept or reject any work.

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