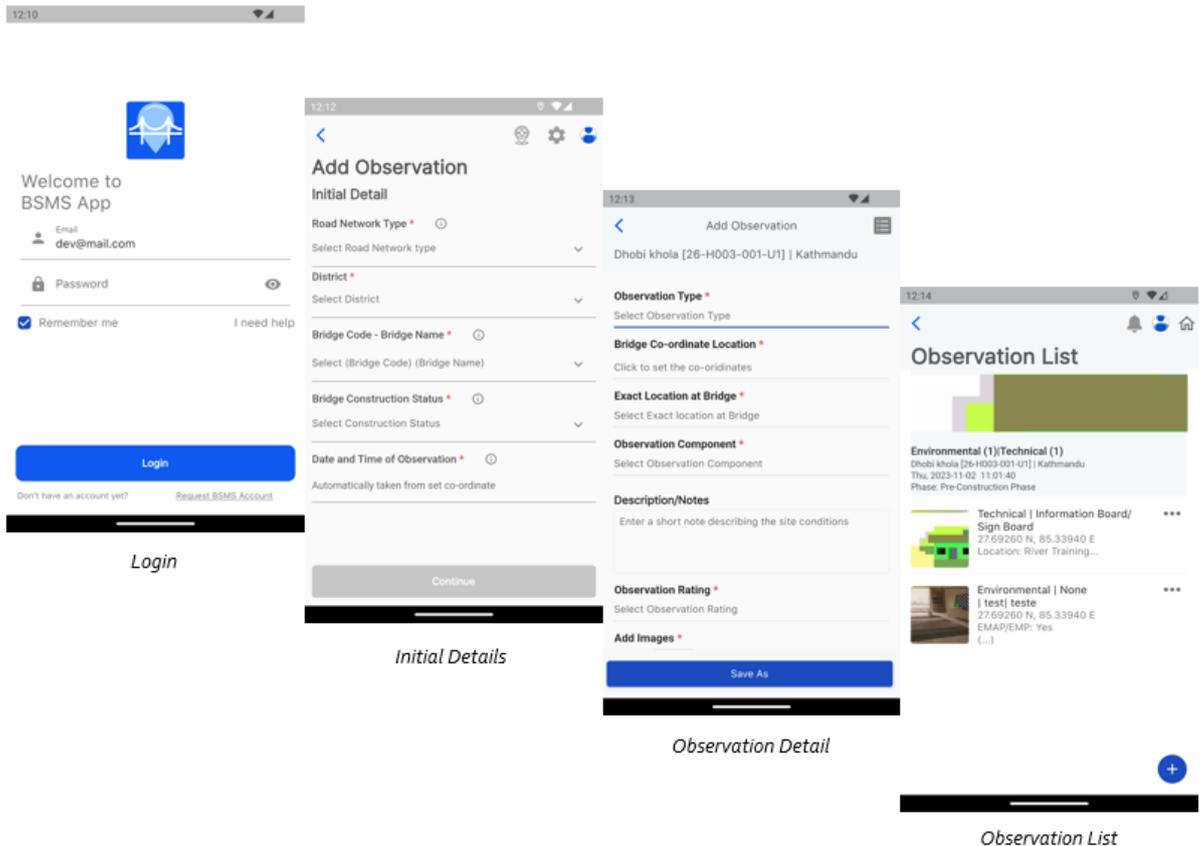


Bridge Site Monitoring System (BSMS)



Mobile Application User Manual



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1 Introduction

BSMS is an app for collecting observations regarding the technical/environmental/ohs/events related data on site bridges of Nepal and uploading it to the BSMS system.

BSMS is currently available for devices running Android 5 and above and it iOS version 15 or above. The device must have a camera and must be able to connect to the internet. A screen size of 5 inches or more is recommended.

2 Installation

BSMS should be installed from the google play store for android and from app store for the iOS system.

3 Getting Started

3.1 Intro Slider Screen

BSMS introduction sliding page looks like below, before the user has logged in. In this page, short introduction to app slide over automatically. At the end of the slide to when 'Get Started' button is pressed, it navigates to next page.

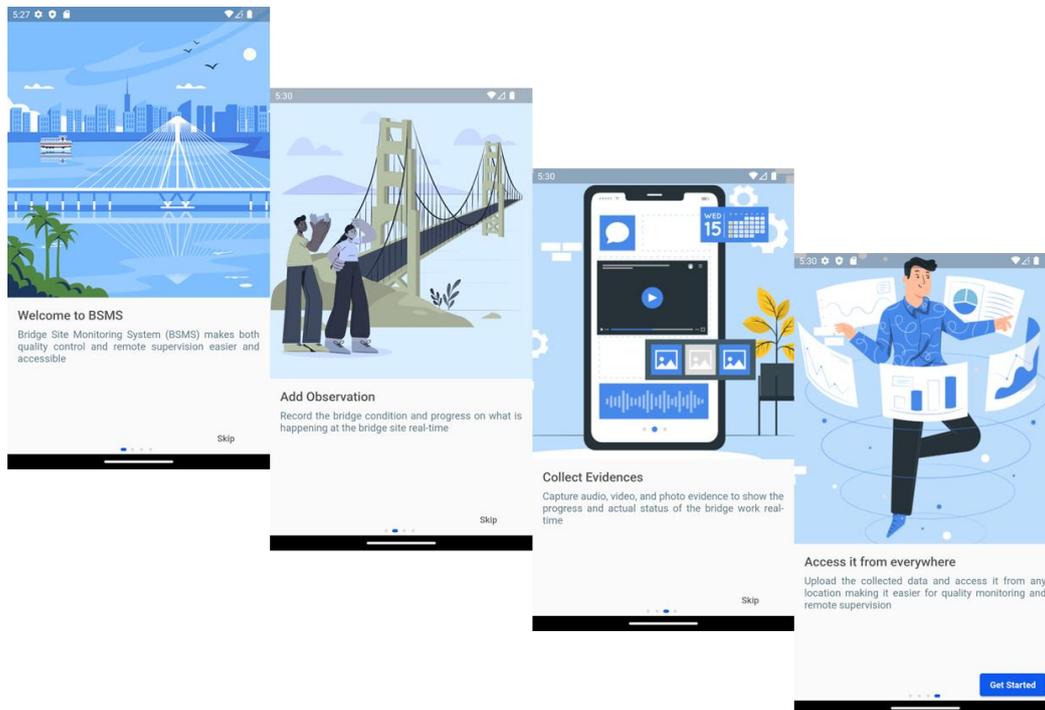


Figure 3-1 Intro Slider Page

3.2 Login

In this page, type the given username (email) and password and press Login button to enter the app. Once the login is successful the user details and required data are fetched and user is navigated to next page. User have to log only once until the app is reset/reinstalled. The user has to be registered in the BSMS web portal to log into the app.

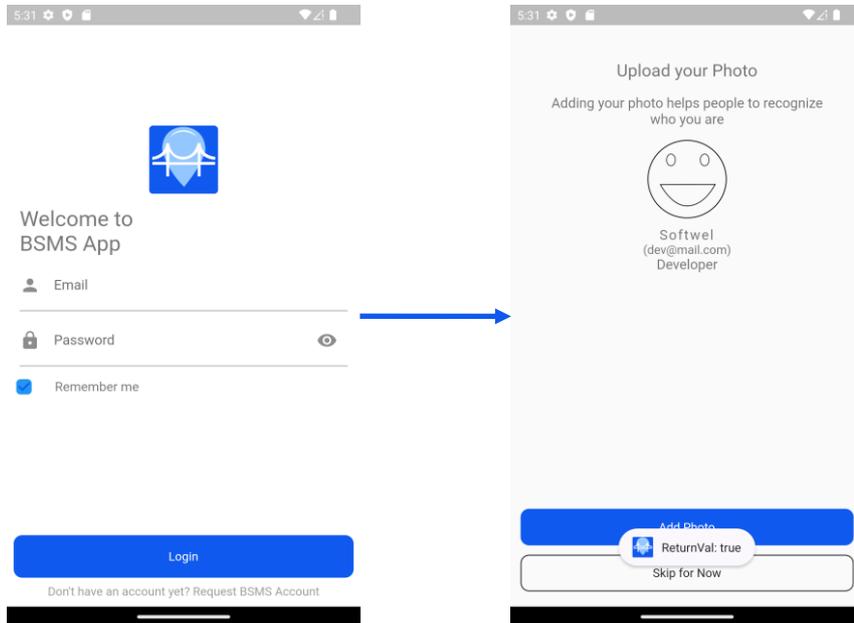


Figure 3-2: Login Page

In this page, the fetched detail of user when user logged in can be seen. The profile photo can be selected either from the Gallery or taken from Camera when 'Add Photo' button is pressed. After photo selection, on 'Continue' button press it navigates to next page. The selected photo is shown throughout the app.

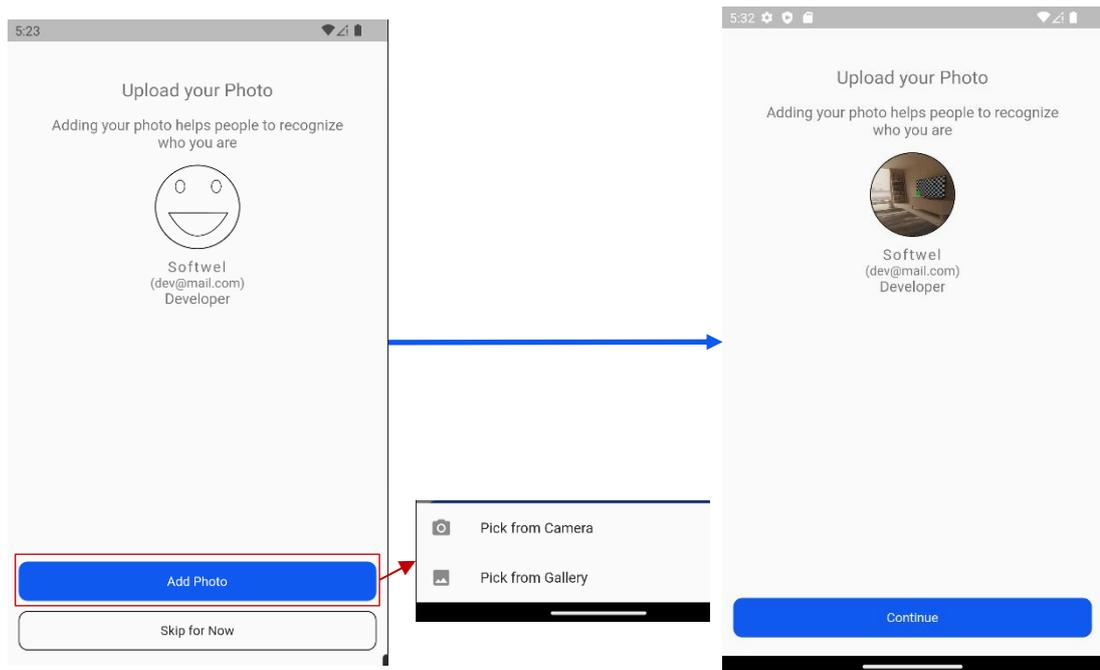


Figure 3-3: Profile Photo Setting Page

4 Home

In this page, the collected observations will be seen in a list. The profile photo taken in previous page can be seen in the app bar at top right corner. On ⚙️ (Settings) icon press, it navigates user to the Settings page. On '+' (Add) icon press Menu will be shown. On 'Add Observation' this navigates user to the Initial Details page.

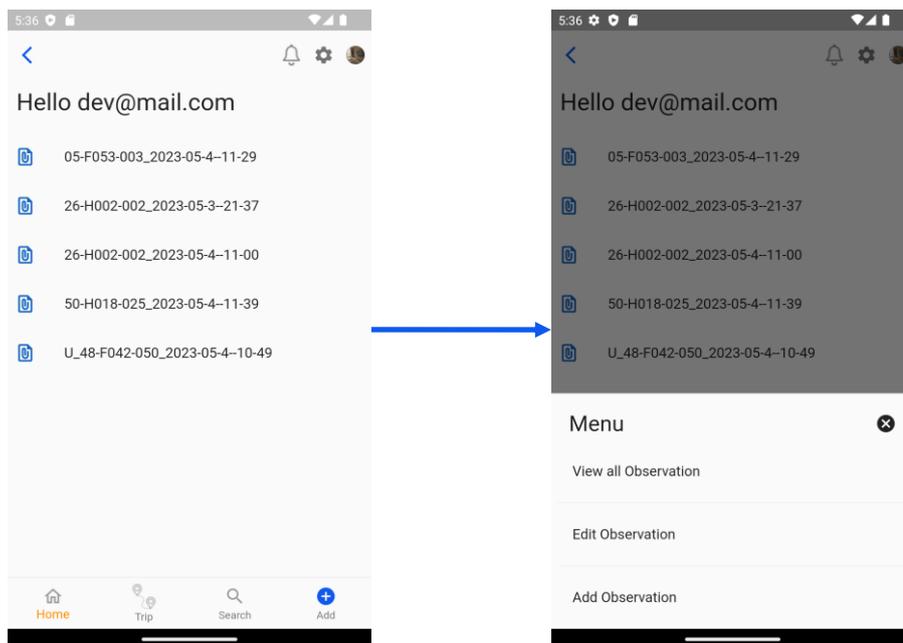


Figure 4-1: Home Page

5 Initial Details Page

Select all the required fields in the page and press ‘**Continue**’ to navigate to **Observation Details** page. User can directly choose the district and bridge from the list of Nearby Bridges or select individually one by one. Date of observation is automatically inserted from system.

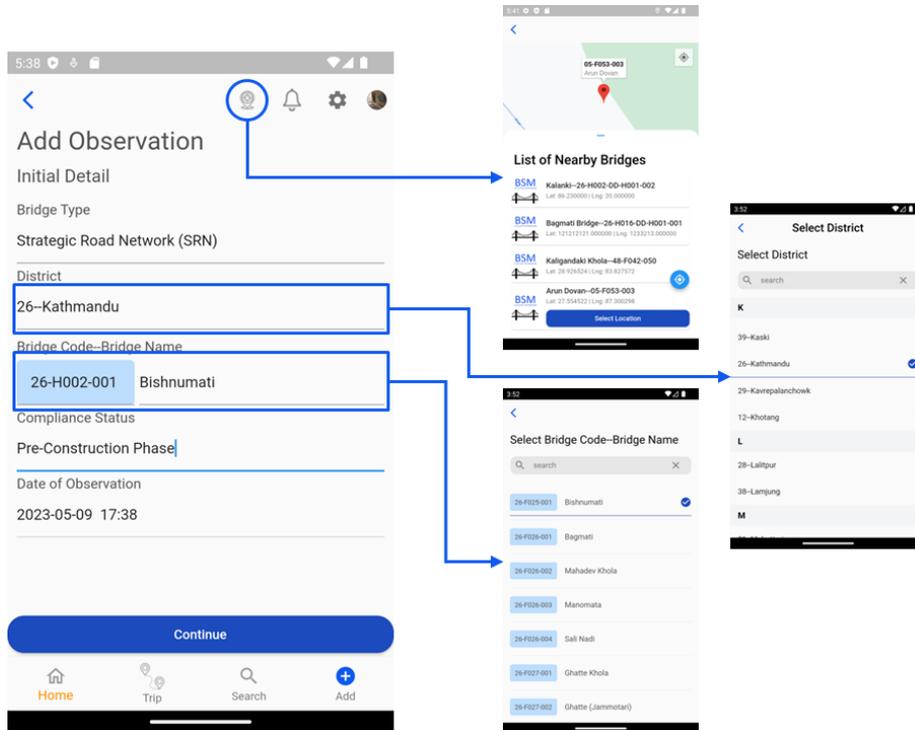


Figure 5-1: Initial details page

For LRN bridges the code is auto generated according to a format shown as below:

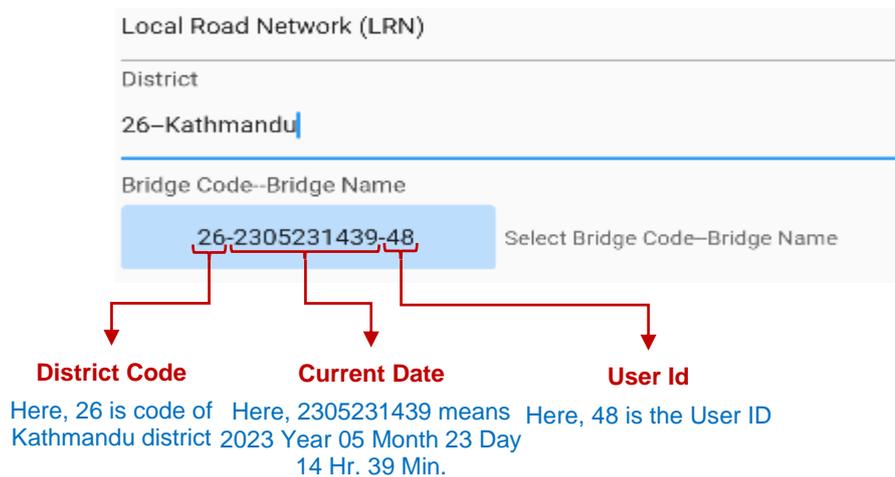


Figure 5-2: Format for LRN Bridge Code

6 Observations

User needs to fill all the required fields and press submit which navigates user to Observation List Page. In single observation 4 photos, 1 video and 1 audio can be taken.

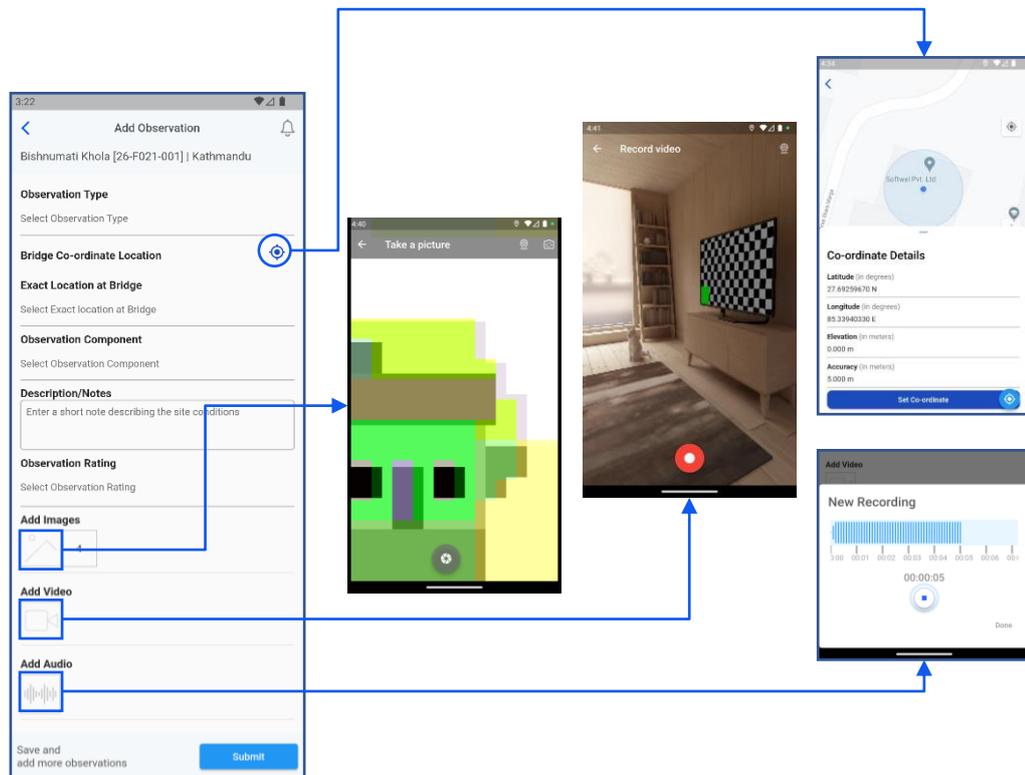


Figure 6-1: Observation Details Page

With the Observation Type selected the fields to be taken varies accordingly as below:

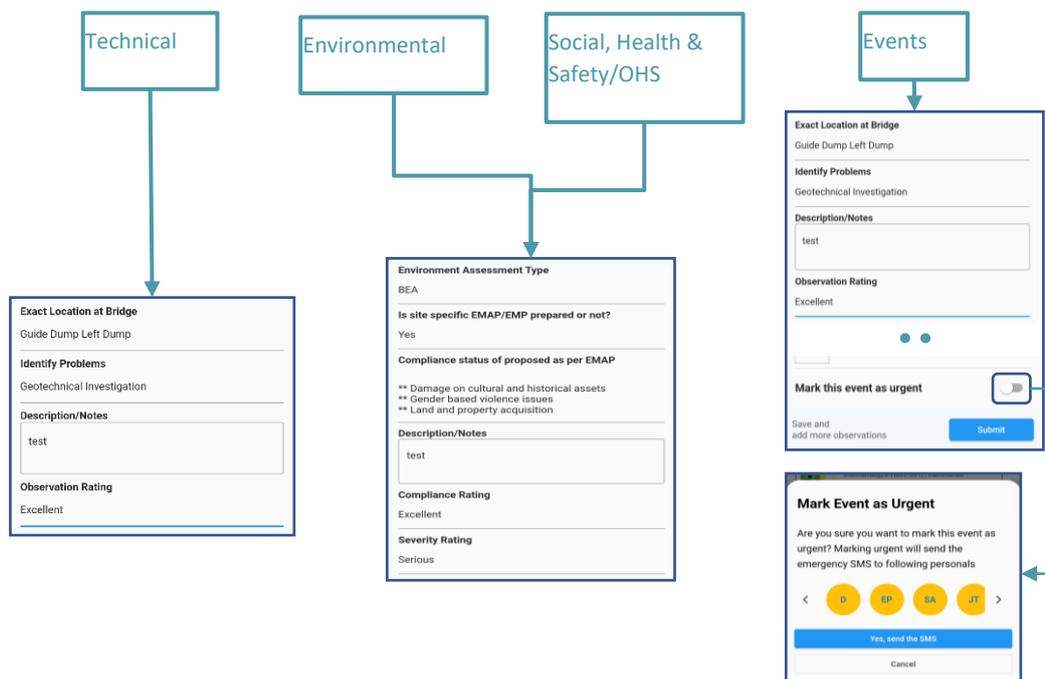


Figure 6-2: Fields According to Observation Type

When Events are taken, the SMS to the respective members can be sent if its urgent.
 (Note: The default system Messaging app needs to be used to send the SMS, but the messaging app directly opens from the BSMS app with pre-defined SMS.)

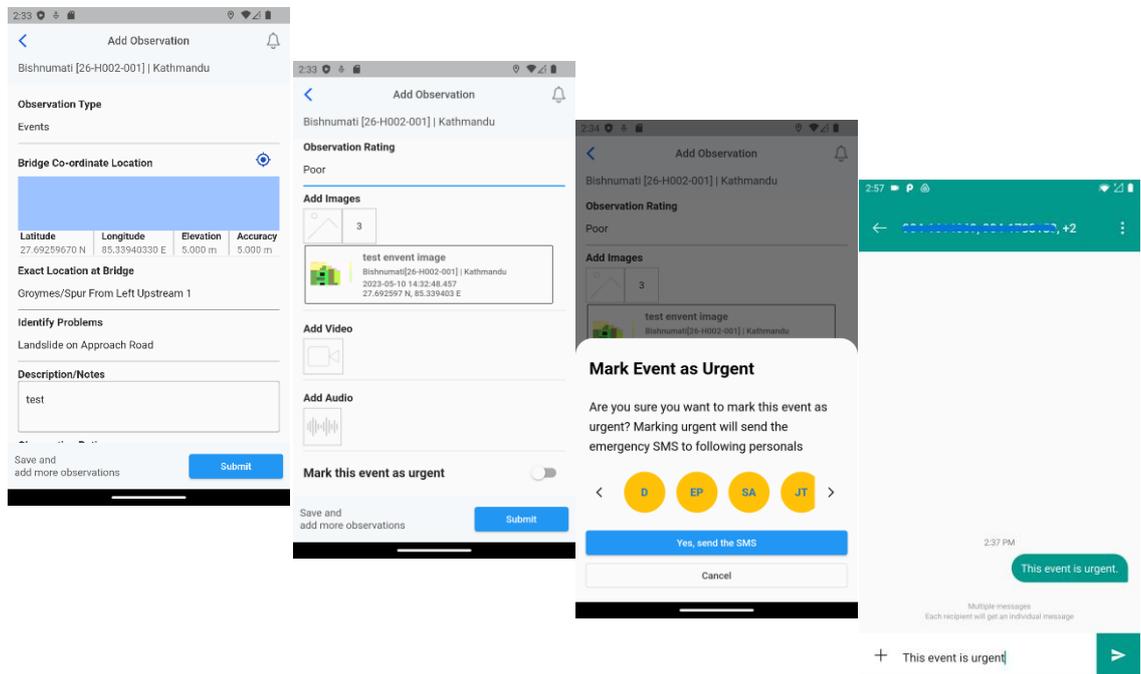


Figure 6-3: SMS in Event observation type

6.1 Photos in Observation Detail

User can take maximum 4 photos in single observation inside one bridge observation. To take Photos press the icon image below 'Add Image' then following screen appears.

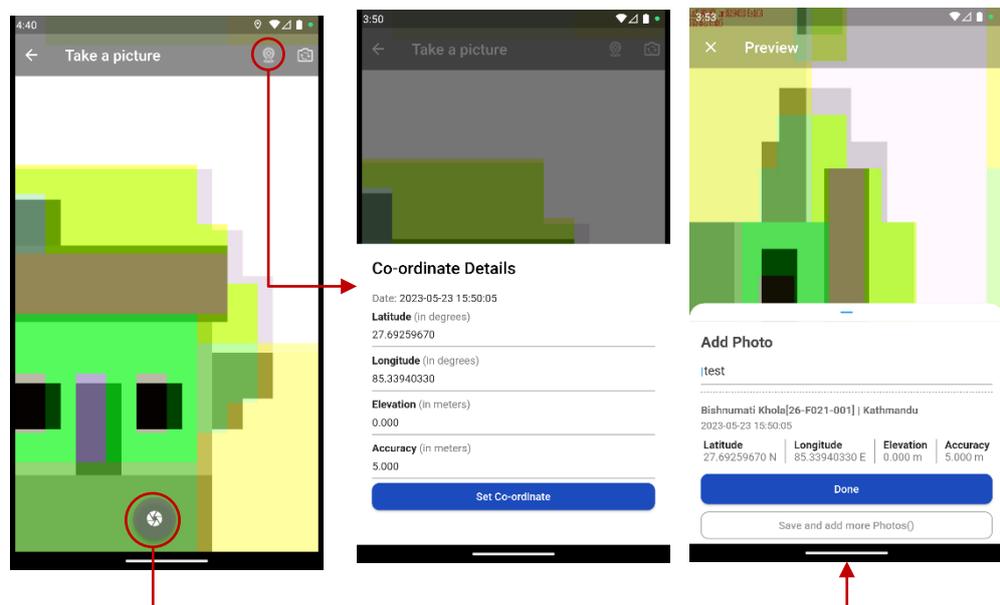


Figure 6-4: Add Photo in Observation

First user needs to take the GPS Coordinates before taking any photo. To set coordinate press 'Set Coordinate' button and take photos. After taking photo it navigates user to photo preview

page where it can view the photo and type the caption for it and save photo by pressing 'Done' button.

6.2 Video in Observation Detail

User can take maximum 1 video in single observation inside one bridge observation. To take Video press the icon image below 'Add Video' then following screen appears.

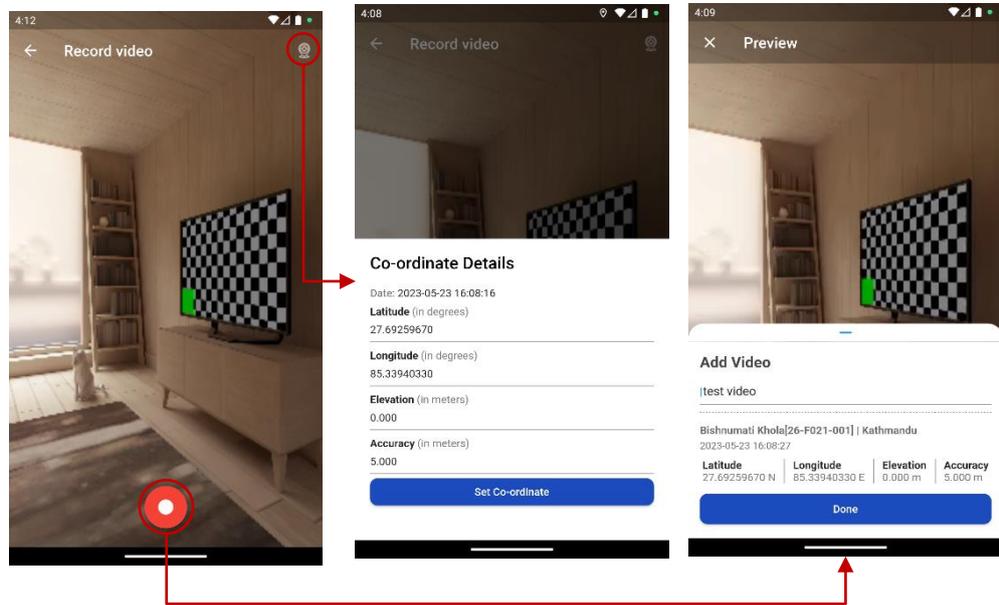


Figure 6-5: Add Video in Observation

First user needs to take the GPS Coordinates before taking video. To set coordinate press 'Set Coordinate' button and take photos. After taking video it navigates user to photo preview page where it can view the video and type the caption for it and save video by pressing 'Done' button.

6.3 Audio in Observation Detail

User can take maximum 1 audio in single observation inside one bridge observation. To take Audio press the icon image below 'Add Audio' then following screen appears.

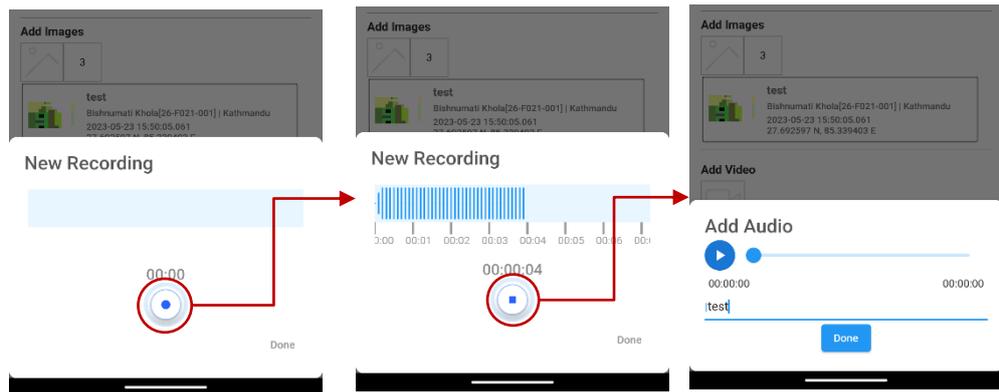


Figure 6-6: Add Audio in Observation

After taking audio user can type caption and save audio by pressing 'Done' button.

7 Upload Observations

To Upload the taken Observations user can simply press on the observations list items shown in the home page an alert dialog appears for confirmation. On availability of internet if 'Yes' button is pressed the observation is uploaded to the server. The uploaded observations will be shown in the website.

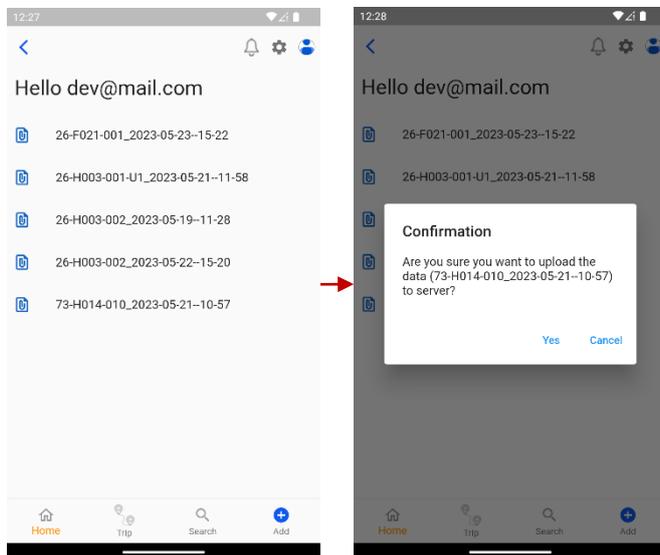


Figure 7-1: Upload Observations

Bridge Site Monitoring System (BSMS)

Web Application User Manual

The screenshot displays the BSMS web application interface. On the left is a blue sidebar with the BSMS logo and navigation links for 'Dashboard' and 'Login'. The main content area is titled 'Dashboard' and features a summary bar with the following metrics: Total Bridge Visit (3944), Visits This Week (5), Event Reported (13), Technical This Week (35), OHS This Week (4), Social This Week (10), and Environment This Week (11). Below this is a 'Bridge Visit Chart' section with a 'Daily Visits Line Chart' showing a peak in late December. To the right, the 'Bridge Visit' data table is shown with columns for SN, Check, Bridge Code, Bridge Name, Visit Date, Observation Type, Report Status, District, and Observer Name. The table lists two entries for Dhobi Khola on 2024-01-28. A detailed view of a visit is shown below, including a 'Bridge Site Monitoring Report' with fields for Observer Name, Designation, Bridge Type, Bridge Code, Bridge Name, and Date. It also includes a 'Location Map' and an 'Observation 1' section with details like Observation Category (Technical), Exact Location (River Training Up Bridge), Observation Information (Boardings Board), and Observation Rating (Fair).

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1 Introduction

The BSMS web app is a management and reporting platform for the BSMS mobile application. It provides tools to edit report, view maps and generate various types of reports. This can be used using any browser from website <https://bsms.dor.gov.np>

2 Dashboard

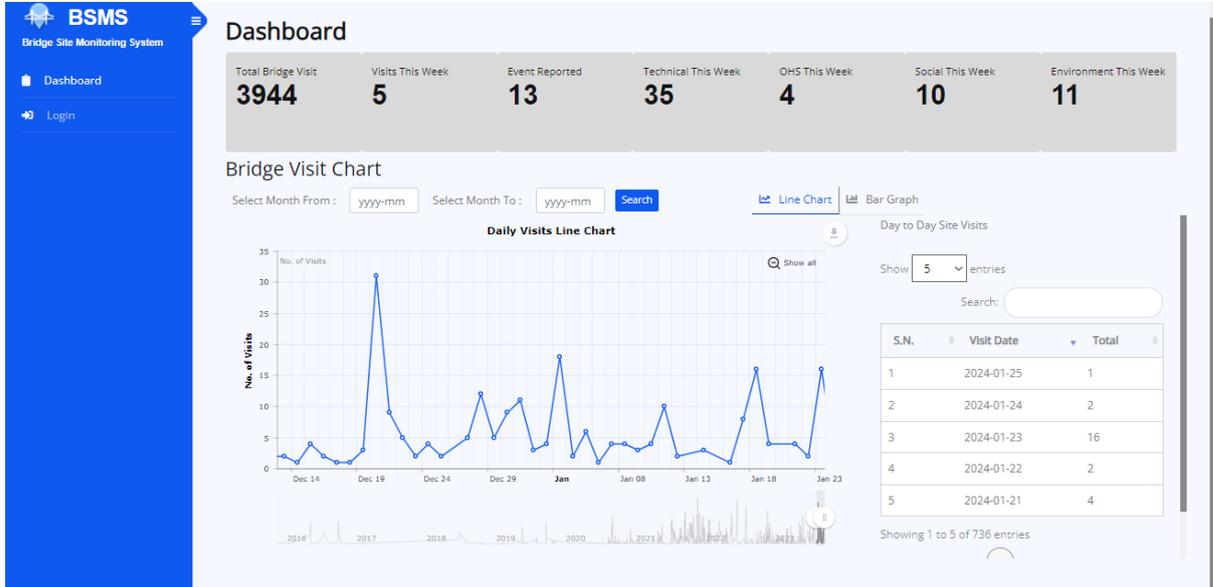


Figure 2-1: BSMS Dashboard

The dashboard provides a snapshot of the entire data in the system. It provides;

- Total Bridge Visit till date.
- Bridge Visit this week.
- Event reported till date.
- Weekly Technical, OHS, Social and Environmental Observations
- Line Chart/Bar Graph Representation of Daily Visit.
- Day to Day Record of Bridge Visit

3 Login

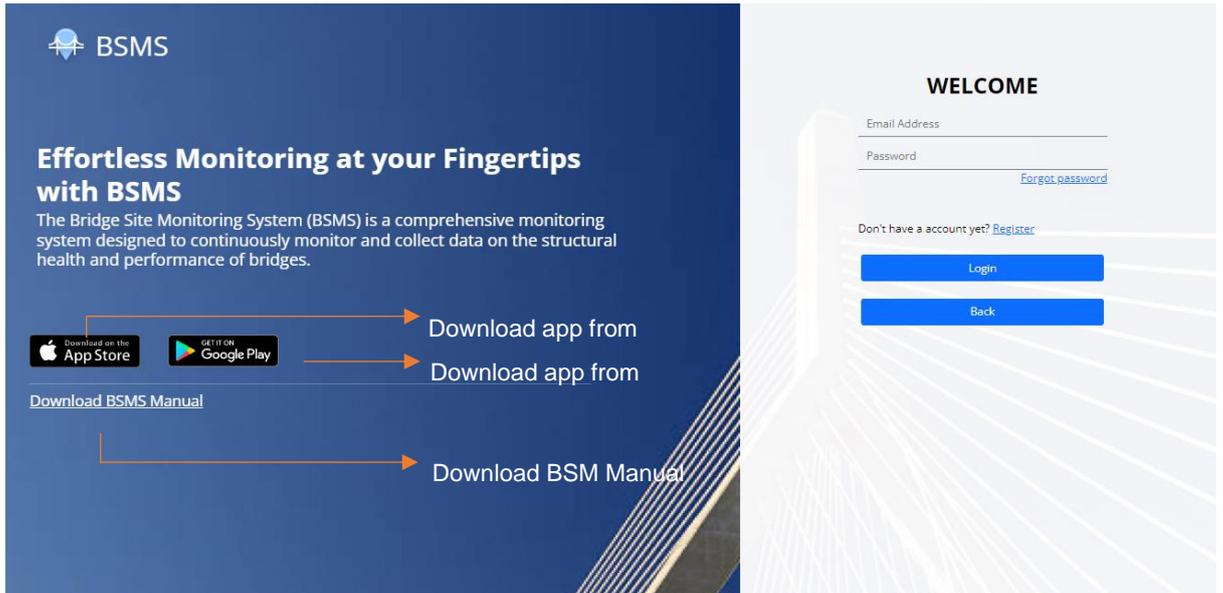


Figure 3-1: Login

- 1) Enter your Username (which is your Email ID) and Password (same Username and Password used for BSMS Mobile App) and click Login
- 2) You can download the BSMS app from Play Store and Appstore later
- 3) You can also download the BSMS Manual in PDF Format
- 4) In case you forgot your password there is an option to reset your password, just enter your email and submit
- 5) If you don't have user account you can register and request your user account.
- 6) Fill the form and submit to request your account.

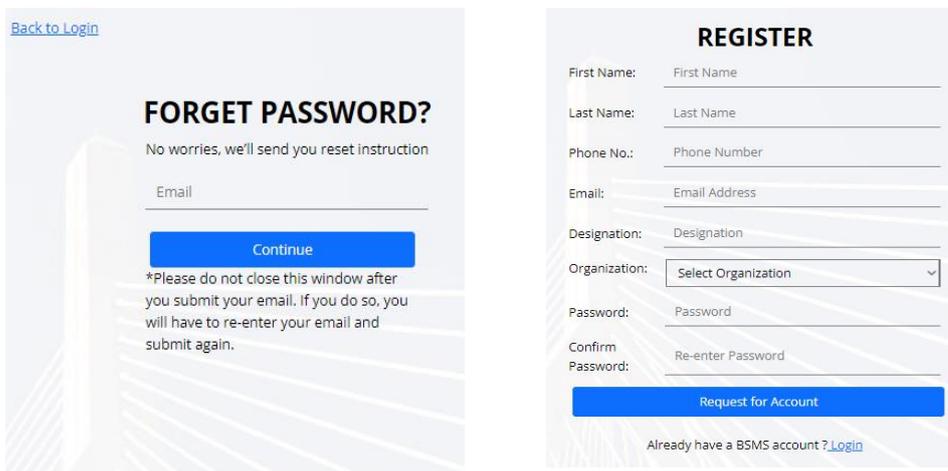


Figure 3-2: Password Recovery and Registering in the System

4 User Dashboard

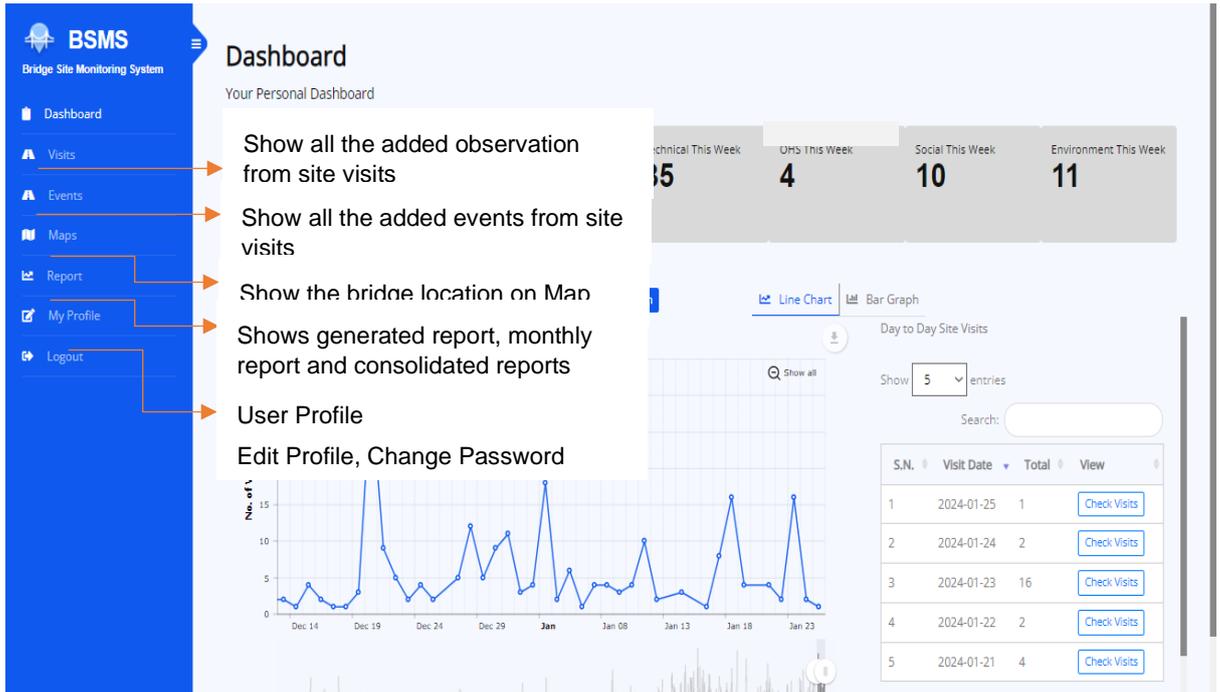


Figure 4-1: User Dashboard

5 Visit Menu

Click on the Visit menu lists all the observations report as shown above. Clicking on the check box activates the menu

- Detail Report View
- Export
- Forward
- Clear

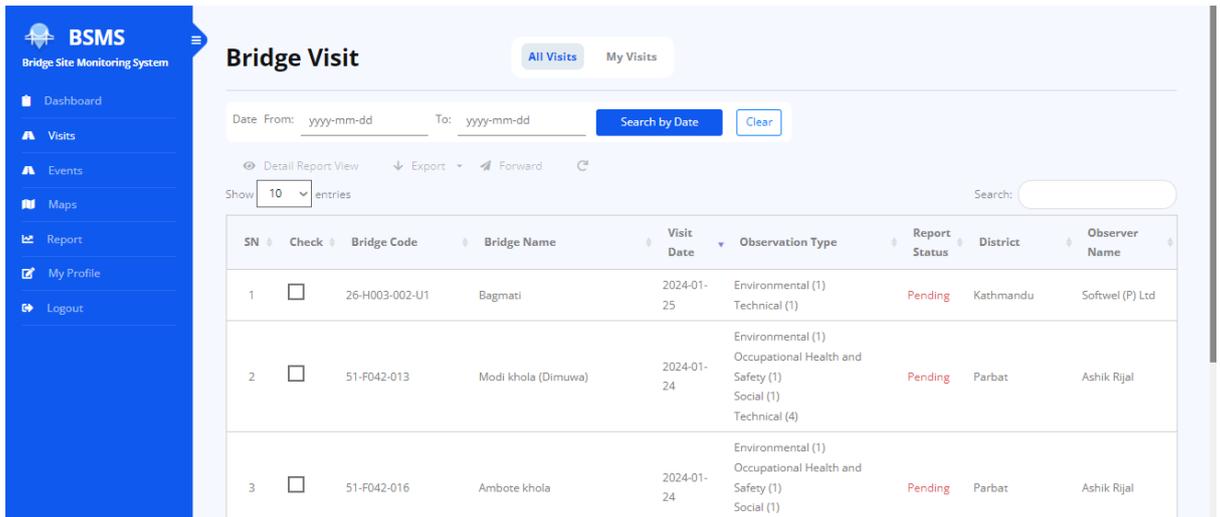


Figure 5-1: Visit Listing

Other than that user can View Report, Export Report in XLSX/PDF/DOC Format, Forward Report to other Users for checked reports.

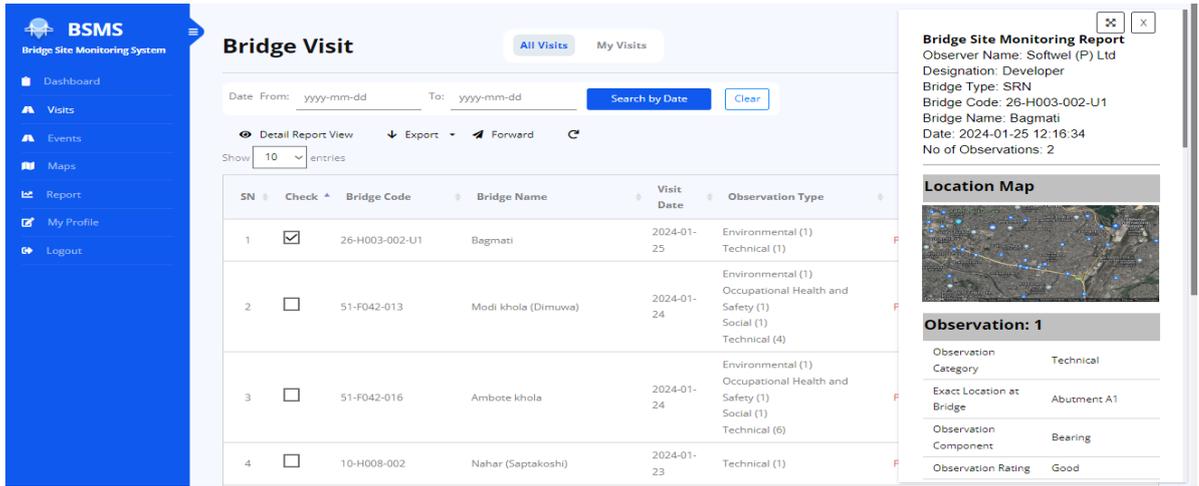


Figure 5-2: Detailed View

Click on My Visits tab to list all the observation report that you visited. This will display the visits done by the logged user.

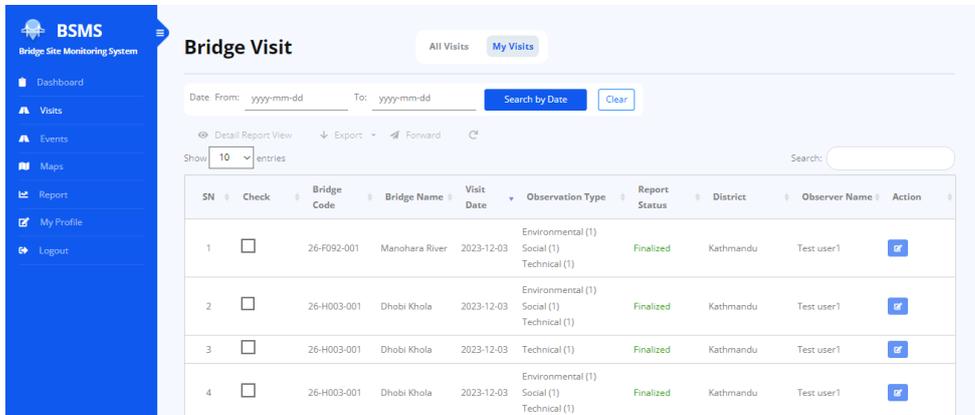


Figure 5-3: My Visits

In case the Report Status of the report is “Pending” the report can be edited. The editing can be done for the text parts e.g. observation notes, rating etc but the photographs cannot be changed but. It can be deleted if the photographs are not relevant.

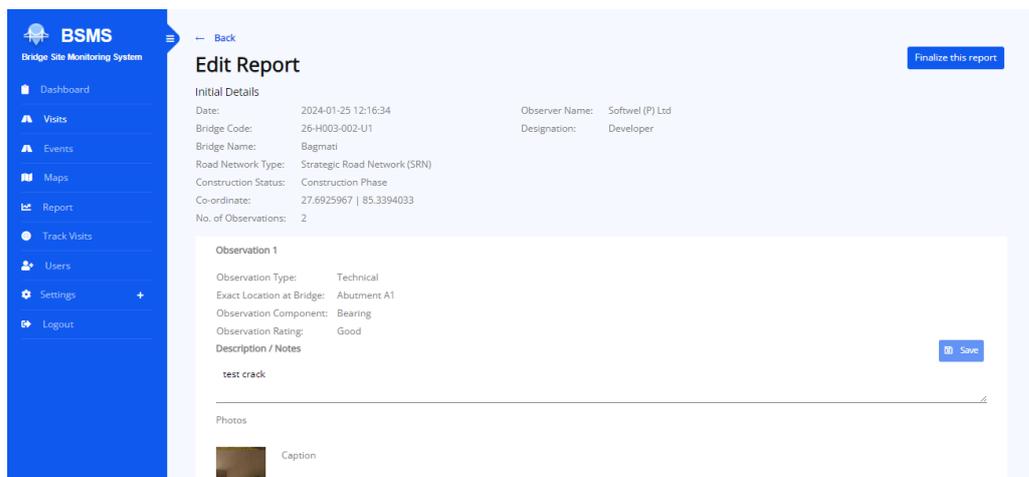


Figure 5-4: Edit Report

Finalizing this report finalizes the report and it cannot be edited again. Once the report has been finalized you can only view the report and send final report via email see. You can no longer edit the report.

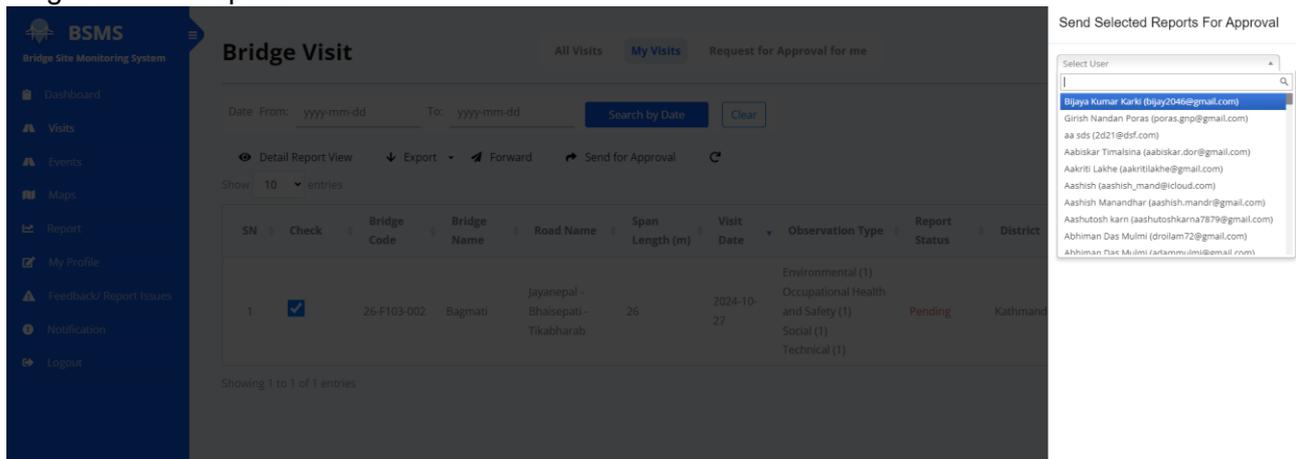


Figure 5-5: Send Report for Approval

In addition to this, the observation visited by logged user can be “Send for approval” to other users only if the Report Status of the report is “Pending”.

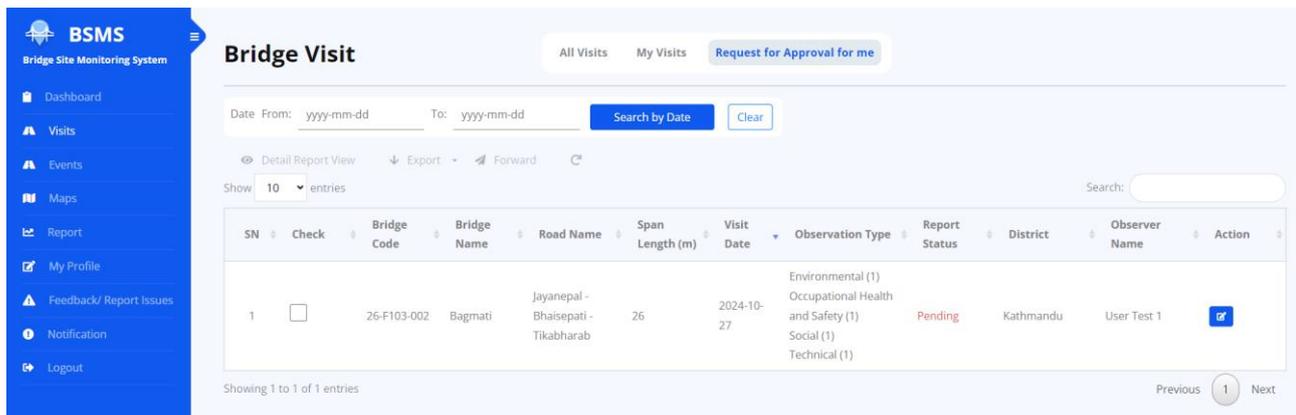


Figure 5-6: Request for Approval for me

Click on Request for Approval for me tab to list all the visit that has been send to the logged user for approval by other users. By clicking the action button the report can be viewed, edited and lastly finalized.

6 Events

Click on the Event menu lists all the events report which will provide all the reports which can be filtered by dates. Check the report box for Detail Report View shows the details report of the selected event.

Bridge Events Total Event Events Marked Urgent Events Not Urgent

Date From: To: Search by Date Clear

Detail Report View Export Search:

Show entries

SN	Check	Observer Name	Bridge Code	Bridge Name	Date	Identified Problem	Rating	Mark as Urgent
1	<input type="checkbox"/>	Nitesh shakya	24-H004-001	Sungure (Ganesh)	2019-09-23		Good	
2	<input type="checkbox"/>	Lomas Upadhyaya	30-F026-007	Indrawati	2019-11-22	Bridge information block	Choose Any	
3	<input type="checkbox"/>	Ajay Kumar Sah	67-F051-003	Prabhali Gad	2020-02-24	Landslide on Approach Road	Low Risk	
4	<input type="checkbox"/>	Ashutosh Parsaila	67-NO-BRIDGE-ID	Manohara D/s	2020-07-22	Accident	Low Risk	
5	<input type="checkbox"/>	Arun Khatri	54-LRN Bridge (L=5*35m.)	Jhimruk Khola(Khaira-Dhaka-Kawadi) Bridge, Pyuthan	2020-12-17	Jhimruk River Khaira	Low Risk	
6	<input type="checkbox"/>	Mahesh Kumar BK	52-NO-BRIDGE-ID bheri	Bheri	2021-01-21	Landslide on Approach Road	Low Risk	

Figure 6-1: Events

Event Marked Urgent Lists the events that are marked urgent and need immediate action. Event Not Urgent lists the events that are not urgent.

7 Online Maps

Map menu shows the location shows the entire country with the bridges and the observations in each of the bridges. Each of the bridge can be identify and details obtained using “Identify tool”

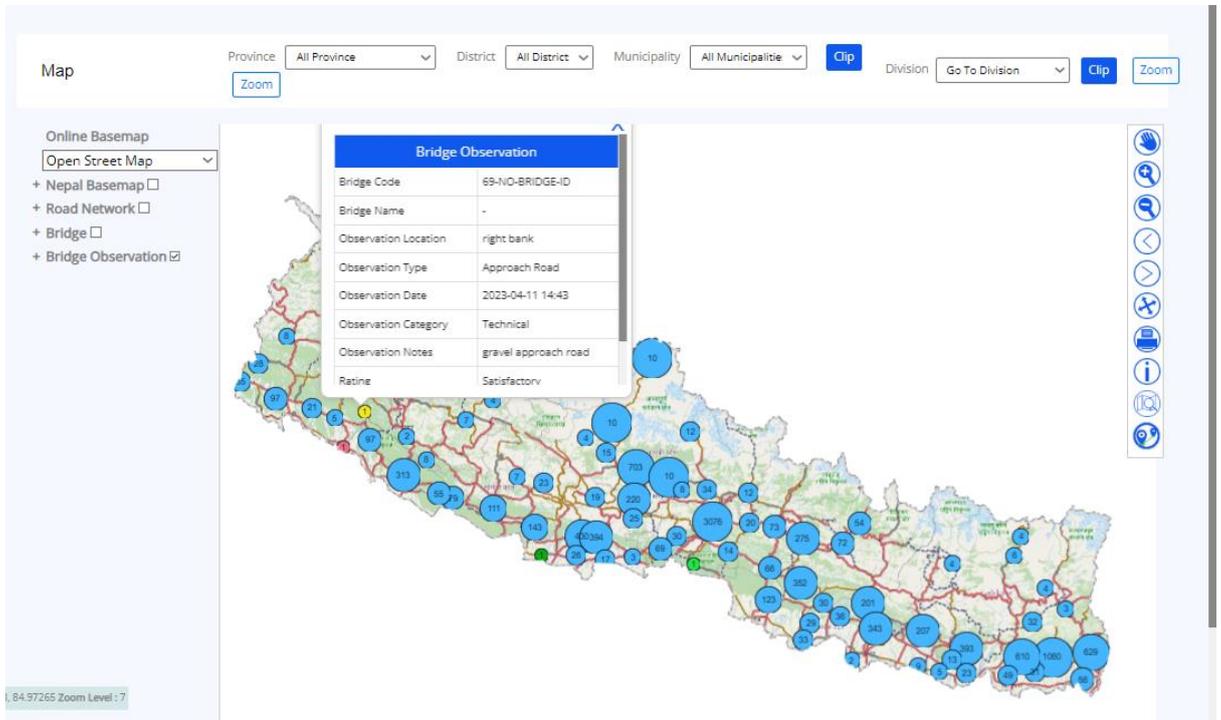


Figure 7-1: Online Map

Various background basemap can be overlaid and layers can be enabled to visualize the required layers. A simple printing facility is also provided which can export required view in specified scale to PDG, PNG and JPEG formats.

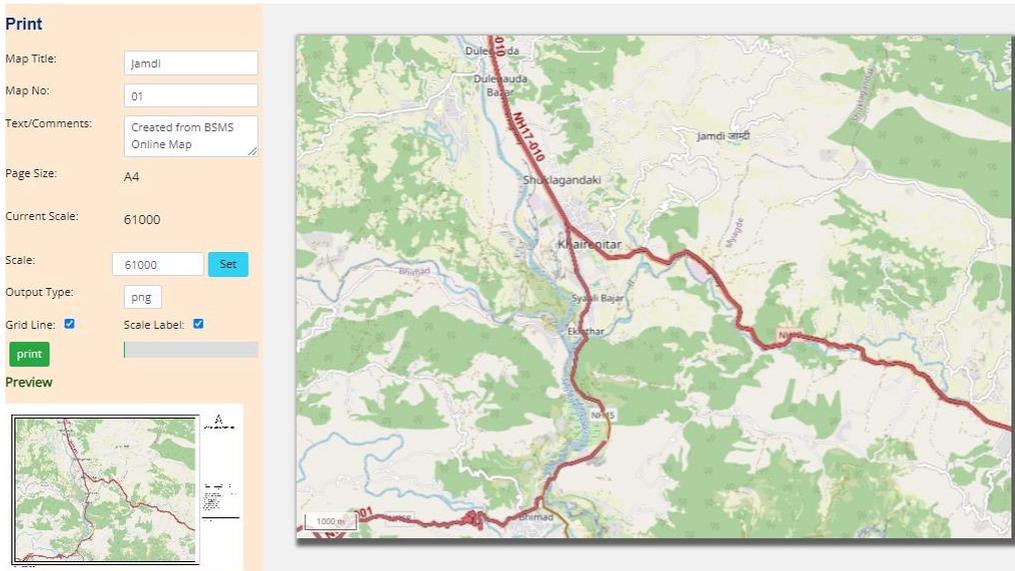


Figure 7-2: Print Map

8 Reports

Three types of reports are generated a) Visit Report b) Monthly Report and c) Consolidated Report

Visit Report

Visit Report generates the report according to filter applied. The filter options are Offices, Observation Date, Observed Bridge, Observation Type and Observation Rating. Choose accordingly as per your requirement and press Get Report to Generate Report.

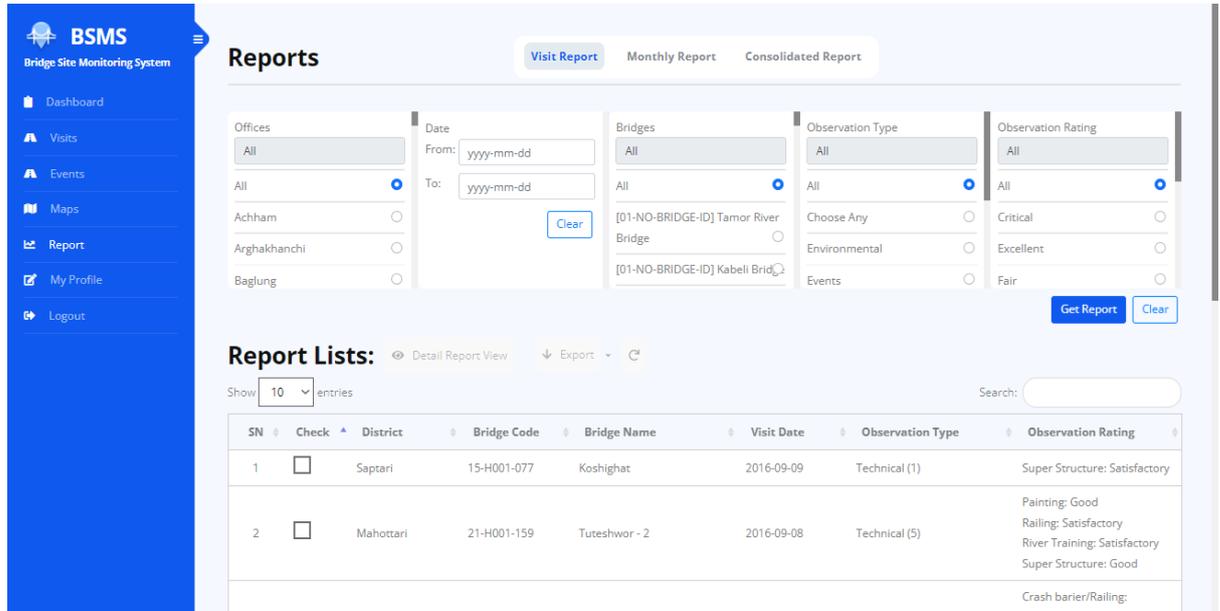


Figure 8-1: Visit Report

Monthly Report

Monthly Report allows you to filter the report by Year, Month, and Bridge Code. Year and Month options are mandatory whereas Bridge Code is optional

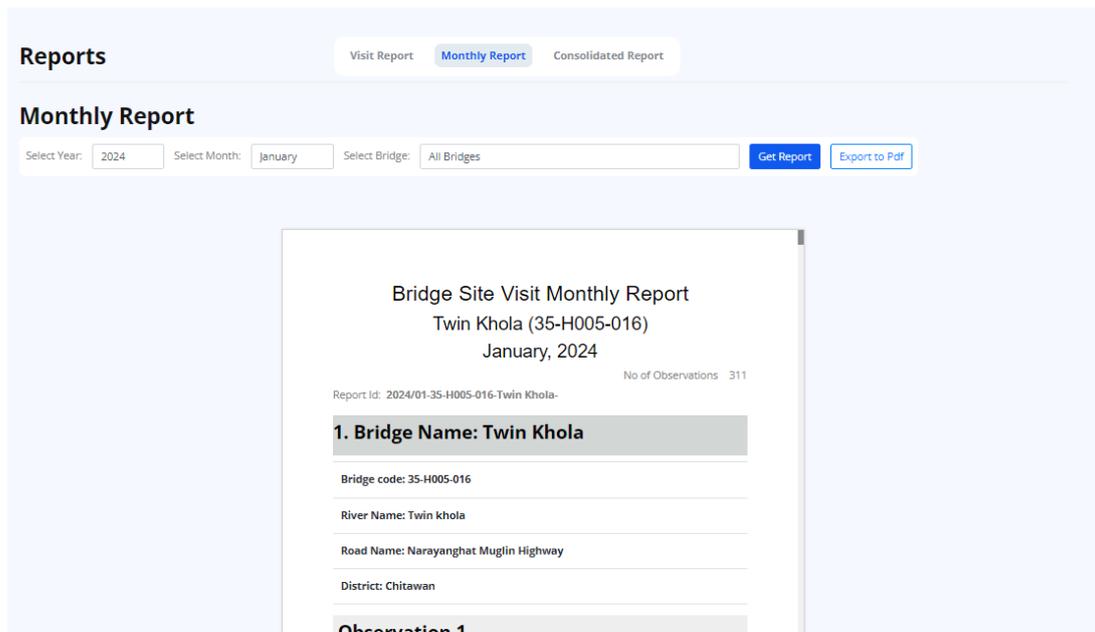


Figure 8-2: Monthly Report

Consolidated Report

Consolidated Report generates the total verified count between input timestamp specially targeted for DLI-7 output. The criteria used for qualification is as defined by the World Bank.

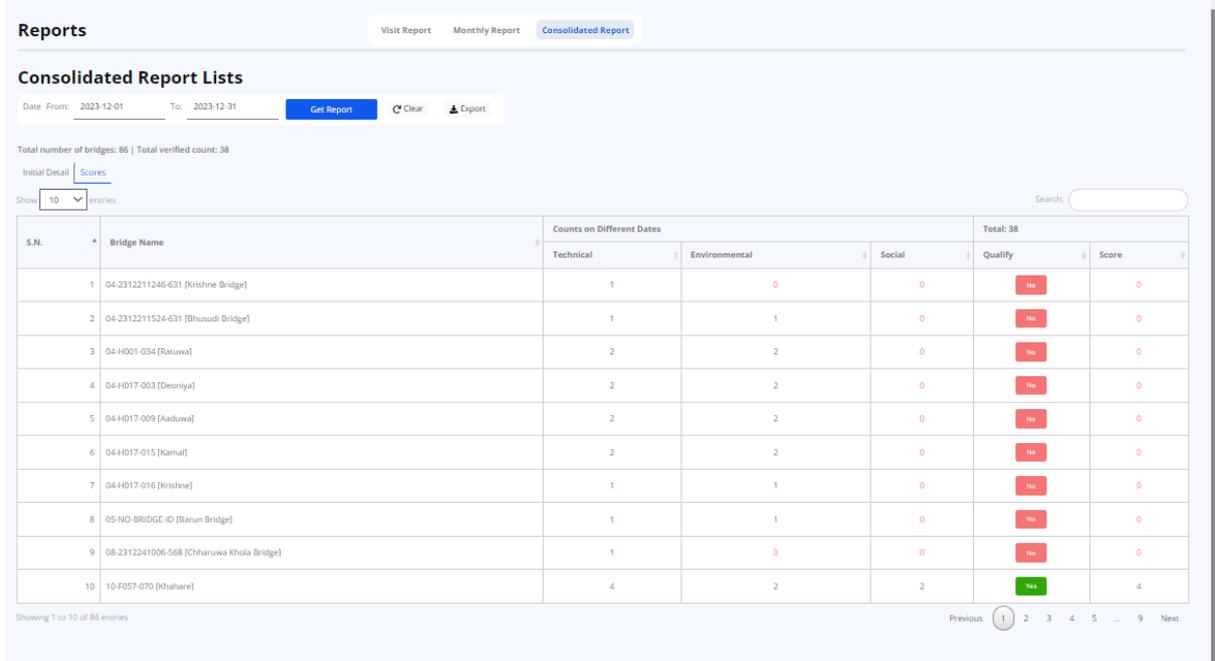


Figure 8-3: Consolidated Report

9 Settings

My Profile

My Profile menu show the Profile Detail of the User which can be updated by the user themselves.

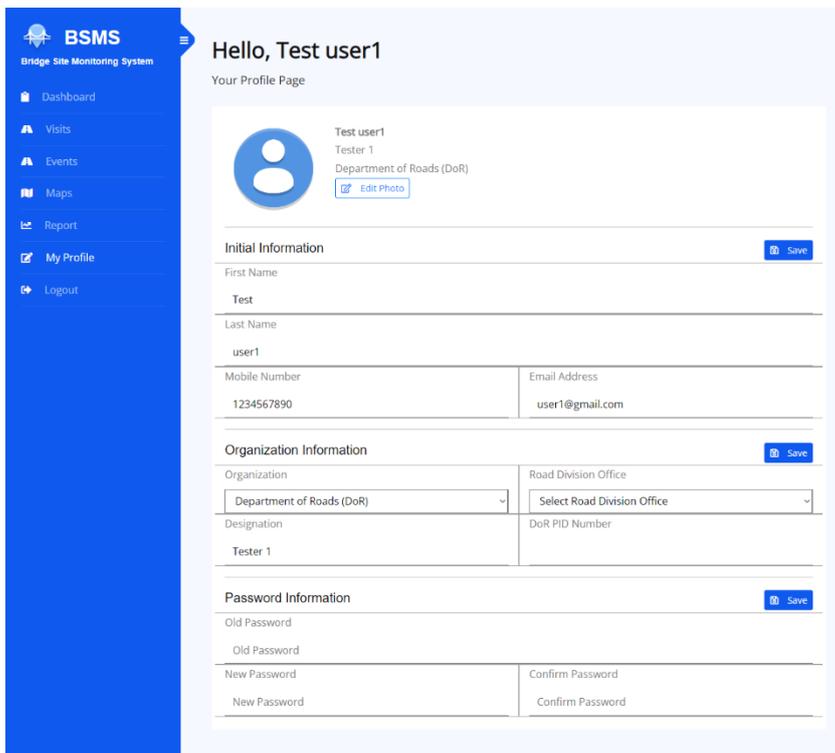


Figure 9-1: My Profile Editing

SMS Setting

Tool provides to predefine SMS messages so that it can be sent without typing.

Office & Project

The tool can be used for entering offices, road division, project offices, consultatns, contractor etc.

The screenshot displays the 'Office & Project' management interface. It is divided into two main columns: 'Office' and 'Project'.

Office Section:

- Add New Office:** A form with an 'Office Name' input field and an 'Add' button.
- Office List:** A table with columns 'S.N.' and 'Office Name'. It shows 5 entries with names in Hindi. Below the table is a pagination bar showing 'Showing 1 to 5 of 42 entries' and navigation buttons.
- Add New Consultant:** A form with a 'Consultant Name' input field and an 'Add' button.
- Consultant List:** A table with columns 'S.N.' and 'Consultant Name'. It currently shows 'No data available in table'.

Project Section:

- Add New Project:** A form with a 'Project Name' input field and an 'Add' button.
- Project List:** A table with columns 'S.N.' and 'Project Name'. It shows 5 entries with project names in Hindi. Below the table is a pagination bar showing 'Showing 1 to 5 of 74 entries' and navigation buttons.
- Add New Contractor:** A form with a 'Contractor Name' input field and an 'Add' button.
- Contractor List:** A table with columns 'S.N.' and 'Contractor Name'. It currently shows 'No data available in table'.

Figure 9-2: Office and Projects

10 Feedback and Report Issues

The tool provide user to report the bugs and issues in the system. The administrator can act on these and also report the status of the updates.

Feedback/Report Issues

[Report Issue/Feedback](#) Feedback/Issues From Last All

Show 5 entries Search:

Reported by	Date	Severity	Summary	Description	Status	Action
Jwalita Shrestha Occupational Health and Safety Expert jwalita.shrestha@gmail.com Department of Roads (DoR) Bridge Branch	4/13/2024	N/A	Report-generation	Why there is a limit of only 10 BSM data that can be downloaded? The limit should not be set.	Pending	
User Test 1 Tester 1 user1@gmail.com Department of Roads (DoR)	4/10/2024	Critical	test	this is a test	Pending	
Prina Bajracharya World Bank Consultant prina.bajracharya@gmail.com World Bank Transport Unit	4/4/2024	Major	test	test	In Progress Solve within a week	
Prina Bajracharya World Bank Consultant prina.bajracharya@gmail.com World Bank Transport Unit	4/4/2024	Critical	Not working at site BSMS	BSMS is not working in the worksite	In Progress We'll let you know once solved	
Prina Bajracharya World Bank Consultant prina.bajracharya@gmail.com World Bank Transport Unit	4/2/2024	Critical	Test	Test	In Progress Solve within 2-3 Working Days	

Figure 10-1: Feedback and Report Issues

11 Notification

The tool provide user to send notification to the other users via Email or via Mobile Notification. However, this feature is only available to Admin users.

Create Notification Notification From Last All

Show 5 entries Search:

Notification Title	Channel	Date	Severity	Send To	Description	Action
test notification	Email	10/27/2024 4:32:08 PM		user1@gmail.com user2@gmail.com user3@gmail.com	This is a test notification.	

Showing 1 to 1 of 1 entries Previous 1 Next

Figure 11-1: Notification

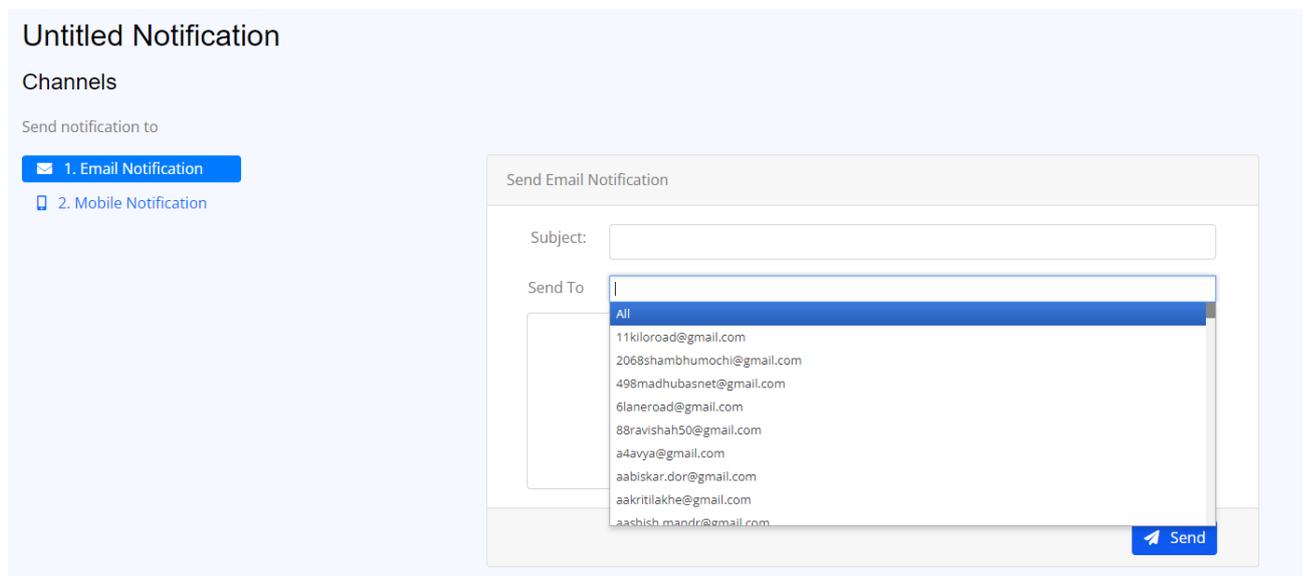


Figure 11-2: Send Email Notification

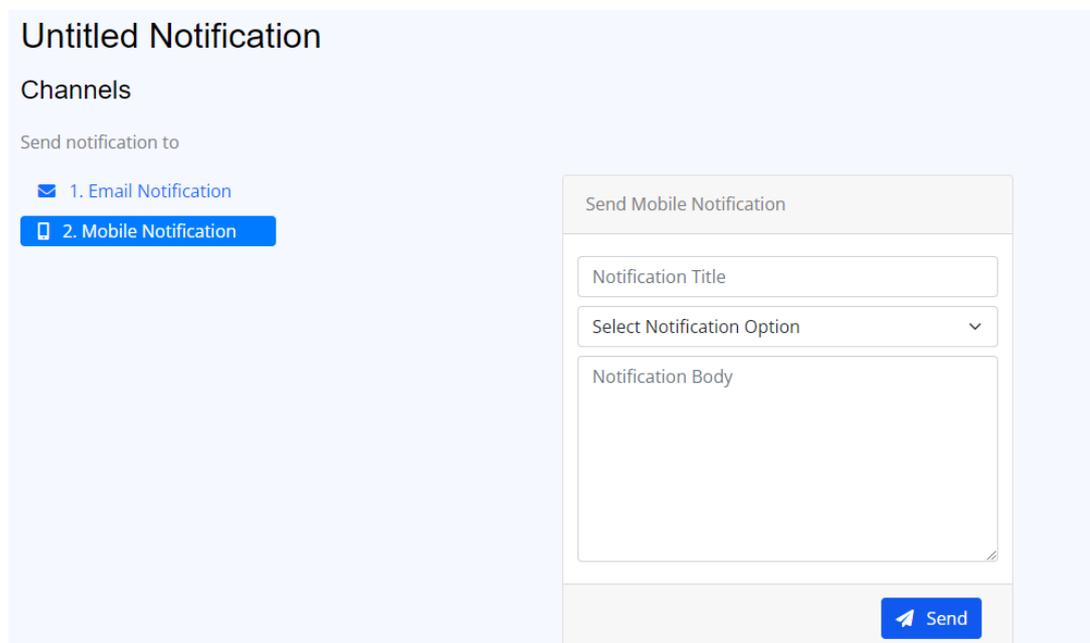


Figure 11-3: Send Mobile Notification

Click on “Create Notification” and choose the format (Email/Mobile) to send notification. Write “Subject/Notification Title” choose user/s then write notification body and click on send.