

USER'S MANUAL

Mobility requirements tool for mobile apps

Jan, 2016

Revision Sheet

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USER'S MANUAL

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1.0 GENERAL INFORMATION

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1.1 System Overview

The name of the system is “Mobility requirements tool for mobile apps(MRTM)”. Its purpose is to be used by mobile app design teams for mobility requirements analysis for mobile apps. It was part of a Phd. research done by Xiaozhou Li under supervision of Dr. Zheyang Zhang. The mobile requirements analysis process used to implement this system is published in the paper “A User-App Interaction Reference Model for Mobility Requirements Analysis” published by Xiaozhou Li and Zheyang Zhang.

Mobility is a key characteristics of mobile apps that allows users to access features and services anywhere and anytime. For the mobile app to achieve mobility it should provide features that are suitable to use in different contexts. This tool provides a mobile requirements analysis process that analyses the different contexts and ways of interaction between users and apps. The tool enables to identify conflict between the ideal way of interaction and the way the features are designed to be used.

The tool allows to create projects and add users(analysts) that collaborate on the analysis process. The project owner adds requirements and the natural way of interaction for each of the requirements. The rest of the team members (analysts) vote by rating contexts for each of the created requirements. The system compares the designed way of interaction with the ideal way of interaction for each of the contexts to identify conflicts. The project owner resolves the conflict by eliciting requirements that enhance the mobility of the mobile app. The system have different user roles such as Admin, project manager and analysts with different level of access and permission levels.

The system is a web-based application and it uses the client/server architecture. The application should be hosted on a web-server and the user access it using a browser. In addition, the application requires a MySQL database to store data. The system is free and open source software(FOSS) and its hosted on a public git-hub account.

1.2 Points of Contact

- Xiaozhou Li
 - Project owner
 - Email - lixiao Zhou725@gmail.com
- Dr. Zheyang Zhang
 - Project owner
 - Email - Zheyang.Zhang@uta.fi

1.3 Organization of the Manual

This user manual is intended to be used as general introduction to the system and getting-started manual. In section 2, an overview of the system configuration and user access levels are described briefly. getting-started guide is presented in section 3. It describes the main menus of the system and their functionalities. Its main purpose is to introduce the user with user interface of the system and the main functionalities. Finally, section 4 describes the different functionalities of the system in detailed steps and illustrations.

2.0 SYSTEM SUMMARY

2.0 SYSTEM SUMMARY

The system developed is a web application. In order to use the system, a web server , web browser and Internet connection are required. The system have different users and each of them have different permissions. The Administrator have overall responsibility of managing and maintaining the application and all users. The project manager adds requirements and users to a project he owns. Analysts vote on situational contexts for each requirement of a project.

2.1 System Configuration

The following hardware, software and communication are required to configure and use the system.

- Web server - Its a computer on which the web server is installed. This is typically a powerful computer that can handle many requests from different clients.
- Web application - the system that is developed in this project and it will be hosted on the web server
- Browser - on the user computer a web browser needs to be installed which is used to access the application.
- Internet - the user computer should be connected to the Internet
- Database server - A database server is used to store the data.

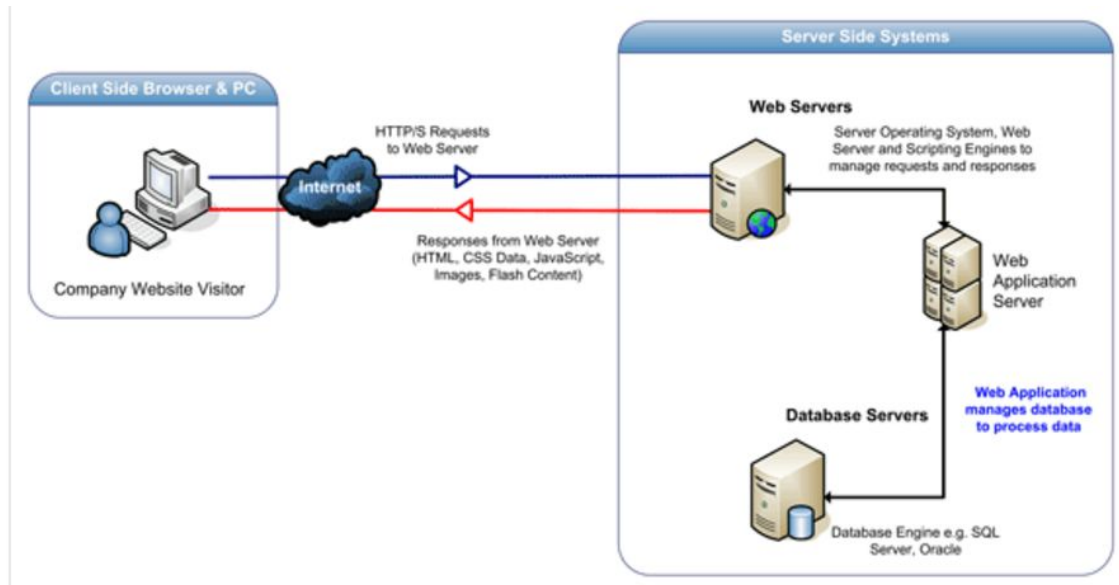


Figure 2.1 how web application work.

2.2 User Access Levels

This section describes the different users and/or user groups and the restrictions placed on system accessibility or use for each.

User	Description	Permissions
<i>Administrator</i>	The person in charge of overall management and maintenance of the system	<ul style="list-style-type: none"> creates all user accounts and can also edit and delete user accounts Can also do other tasks done by a <i>project manager</i> and <i>analyst</i>
<i>Project manager</i>	owner of a project	<ul style="list-style-type: none"> creates a project adds users(Analysts) to a project Add requirements to a project

		<ul style="list-style-type: none"> ● Determine the way of interaction for a requirement
<i>Analyst</i>	works on a project he/she is a member	<ul style="list-style-type: none"> ● vote on the contexts of a requirement

3.0 GETTING STARTED

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The application is divided into three major modules:

- Log-in Module
- User management module
- Project Management module

3.1 Logging On

The access to the application is secured by a user ID and a password. Email is treated as used Id in the application. A user can log in to the application in two different roles - as a Project manager and as a normal team member. Getting a user id and a access password is different for different roles. There is no registration module for the application, so user ID and password are provided to users by different ways

- Project manager: When the system is installed at a system it comes with a default user id and password. This password can be used by a system admin to generate as many Project manager log in credentials as possible using Email of the respective project managers. The Project Managers can change their user name and password by visiting the User management module of the application.
- Normal Team members: The team members role consist of roles such as designer, developer etc. The user credentials for them are generated by their project's respective project manager. They can edit their credentials by visiting the user management module.

**MOBILITY REQUIREMENT ANALYSIS TOOL
FOR
MOBILE APPLICATIONS**

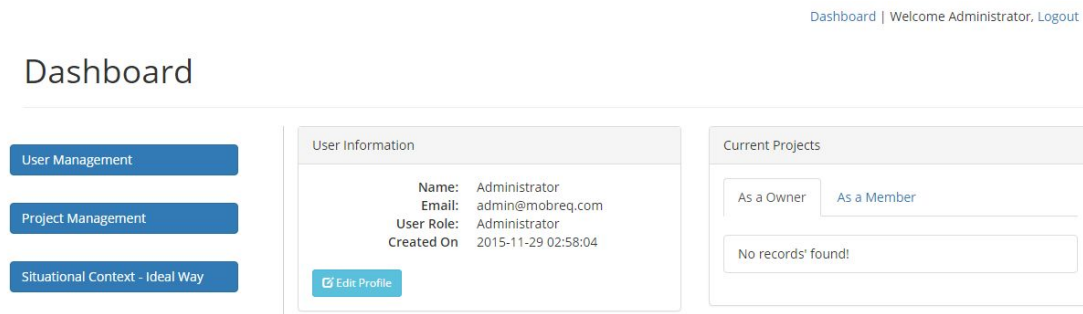
Please sign in

admin@mobreq.com

Login

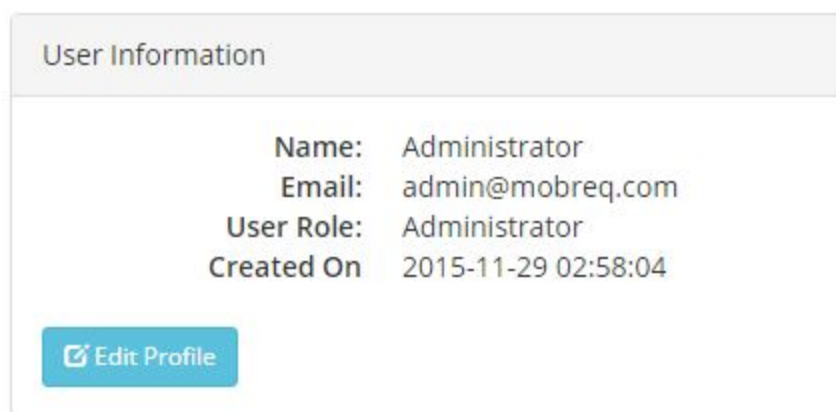
3.2 User Dashboard

After the user logs in to the system, he is greeted by the dashboard page or the main page of the application. This page acts as an interface to access other contents of the application. The features that can be accessed by the dashboard are described below in detail and can be seen in the image:



3.2.1 User Information

This can be seen on the dashboard. It contains the basic info of the user name, email, user role and the date when it was created. There is a button to edit the profile, which can be used to change the user id and password.



3.2.2 Current Projects

This part is present in the dashboard and it represents the current projects the user is currently part of. It filters those projects in terms of roles - As a member and as a Owner/ Project Manager.

Current Projects

As a Owner

As a Member

Test project

3.2.3 User management

This section of the application is only available to the administrator of the application. Using this feature, the admin can provide access to new users or deny access to existing ones by deleting them from the application.

- The admin can create a new user and give role of admin, project manger or other team member for that user.
- The admin can edit name, email, change password and change roles of the existing user. The admin can also delete the user.

Dashboard | Welcome Administrator, Logout

All Users [Create New](#)

#	User Name	Email	Role	Created On	Action
1	User ABC	abc@user.com	Project Manager	2016-01-12 12:18:04	Edit Delete
2	test Man	test@spamfinity.com	Developer / Designer	2016-01-07 13:01:43	Edit Delete
3	Administrator	admin@mobreq.com	Administrator	2015-11-29 02:58:04	Edit Delete
4	Yi Zhou	weixihexi@gmail.com	Developer / Designer	2015-10-19 02:00:49	Edit Delete
5	Biruk Habteselassie	habteselassie.biruk.y@student.uta.fi	Project Manager	2015-10-19 01:58:33	Edit Delete
6	Rahul Arora	arora.rahul.x@student.uta.fi	Project Manager	2015-10-19 00:57:26	Edit Delete
7	Biswa Raj Upreti	biswa.upreti@gmail.com	Administrator	2015-10-07 15:53:01	Edit Delete

View all the users using the application

Edit User :: Rahul Arora

Full Name:

Email:

Change Password: ☐

Password:

Confirm Password:

User Role:

Edit a user

3.2.4 Project management

This section showcases the projects that were created in the application. This section is only accessible to the project manager or admin of the application, other team member do not have access to this area. Each project's info contains its title, description, project owner, when it was created and the current status of the Project- Closed or Open. New projects can be created and the existing ones can be edited and deleted in this section.

Dashboard | Welcome Administrator, Logout

Dashboard / Projects

All Projects

#	Project Title	Description	Project Owner	Created On	Status	Action
1	ScreenCastify	ScreenCastify, helps you record videos on your browser tab.	Administrator	2016-01-12 12:19:37	Closed	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
2	Test project	test	Rahul Arora	2016-01-11 20:17:41	Open	--
3	Fiverr	Fiverr is a global online marketplace offering tasks and services, beginning at a cost of \$5 per job performed, from which it gets its name. The site is primarily used by freelancers who use Fiverr to offer services to customers worldwide. Currently, Fiverr lists more than three million services on the site that range between \$5 and \$500.	Administrator	2016-01-07 12:11:15	Closed	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
4	Spotify Player	Spotify is a Swedish commercial music streaming, podcast and video service that provides digital rights management-protected content from record labels and media companies. It is available in most of the Americas, Western Europe and Oceania. Music can be browsed or searched by	Biswa Raj Upreti	2016-01-06 22:56:02	Closed	--

Projects listed in Project Management section

Create a New Project

Project Title:

Description:

Project Owner:

Project Members:

Create a new project page

3.2.5 Situational context - ideal way

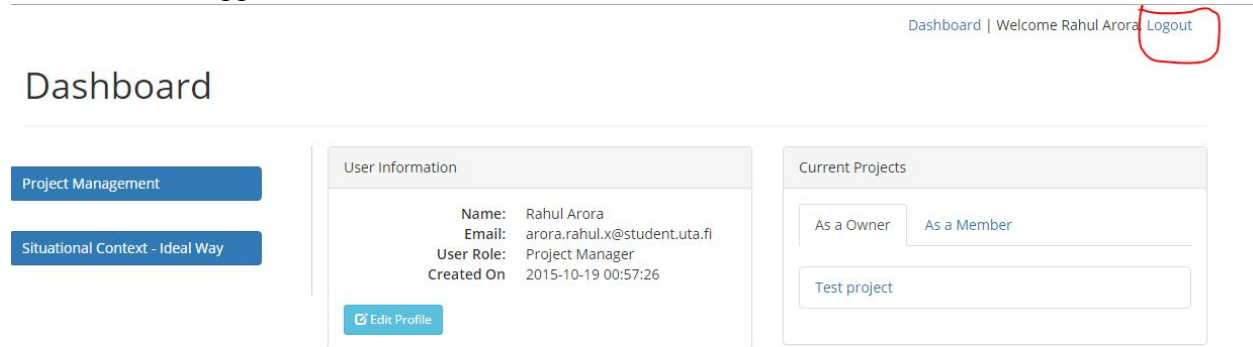
This section lists the ideal ways of interaction for different situational contexts. The way of interaction stated by the project owner for each requirement is compared with this ideal ways of interaction. If there is a conflict the system identifies it and it is resolved by enhancing the requirement to support better mobility.

Ideal Way of Interaction for Situational Context

#	Situational Context	Typical Scenario	Ideal Ways of Interaction
1	VCI	In a conference giving presentation	Accompanying;
2	VCA	In a lecture listening	Intermittent;
3	VEI	In a cafe working on assignments with close deadline	Accompanying; Intermittent;
4	VEA	At home idle	Interrupting;
5	TCI	In a car driving with time limit	Accompanying;
6	TCA	In a car driving and sight seeing	Accompanying; Intermittent;
7	TEI	In a train when it is about to arrive at the destination	Accompanying; Intermittent;
8	TEA	In a train idle	Accompanying; Interrupting;
9	WCI	Running in a race	Accompanying;
10	WCA	Wondering in a cocktail party as a host	Intermittent;
11	WEI	Running to catch a bus	Accompanying;
12	WEA	Walking in a park relaxing	Accompanying; Intermittent;

3.3 Exit System

To exit the system, the user needs to click on the ‘Logout’ hyperlink that can be found in the top most bar of the application.



4.0 USING THE SYSTEM

4.0 USING THE SYSTEM

4.1 User Management

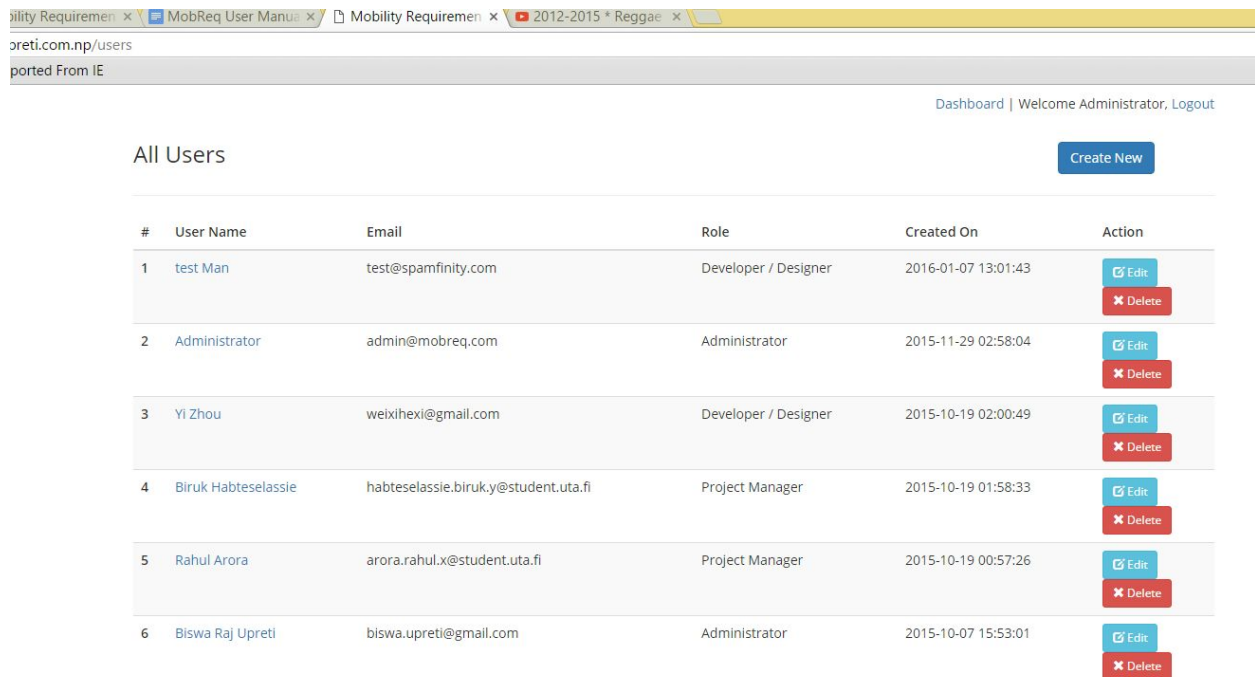
The user management module provides functionalities to create new users and manage existing users. The functionalities includes user registration, view existing users , edit and delete user accounts. Only the *Administrator* have access to the user management module.

4.2.1 User View

The list of projects is displayed the info includes user name, Email, role, created on and action. Next to each user list there is *Edit* and *Delete* buttons.

Steps:

- Select *user management* on the user dashboard(see Fig. 4.2)
- The list of users is displayed
- There are *Edit* and *Delete* buttons next to each user



The screenshot shows a web application interface for user management. At the top, there's a navigation bar with tabs for 'Mobility Requirements', 'MobReq User Management', 'Mobility Requirements', and '2012-2015 * Reggae'. Below the navigation bar, there's a header area with 'Dashboard | Welcome Administrator, Logout' and a 'Create New' button. The main content area is titled 'All Users' and contains a table with the following columns: #, User Name, Email, Role, Created On, and Action. The table lists six users, each with an 'Edit' button and a 'Delete' button in the Action column.

#	User Name	Email	Role	Created On	Action
1	test Man	test@spamfinitly.com	Developer / Designer	2016-01-07 13:01:43	Edit Delete
2	Administrator	admin@mobreq.com	Administrator	2015-11-29 02:58:04	Edit Delete
3	Yi Zhou	weixihexi@gmail.com	Developer / Designer	2015-10-19 02:00:49	Edit Delete
4	Biruk Habteselassie	habteselassie.biruk.y@student.uta.fi	Project Manager	2015-10-19 01:58:33	Edit Delete
5	Rahul Arora	arora.rahul.x@student.uta.fi	Project Manager	2015-10-19 00:57:26	Edit Delete
6	Biswa Raj Upreti	biswa.upreti@gmail.com	Administrator	2015-10-07 15:53:01	Edit Delete

Figure 4.2.1 List of users.

4.2.1 User registration

The Admin can create a new user.

Steps :

- Click *Create New* button (see fig. 4.2.1)
- On the user registration form Enter necessary info
- click *Add user* button

The screenshot shows a web browser window with the URL 'i.com.np/users/create'. The page has a header with 'Dashboard | Welcome Administrator, Logout'. The main content area is titled 'User Registration'. It contains the following fields and controls:

- Full Name:** A text input field.
- Email:** A text input field.
- Password:** A text input field.
- Confirm Password:** A text input field.
- User Role:** A dropdown menu with 'Select One' as the placeholder text.
- Buttons:** 'Add User' (blue) and 'Cancel' (white with blue border).

Figure 4.2.1 User registration form.

4.2.2 Edit user

The Administrator can edit a user account info.

Steps :

- Select *user management* on the dashboard(see Figure 4.2)
- the list of users is displayed
- Select *Edit* button

- Edit user info by updating the desired fields
- Select *update user*

The screenshot shows a web browser window with the URL `ti.com.np/users/15/edit`. The page title is "Edit User :: test Man". The form contains the following fields:

- Full Name:** A text input field containing "test Man".
- Email:** A text input field containing "test@spamfinity.com".
- Change Password:** A checkbox that is currently unchecked.
- Password:** A text input field.
- Confirm Password:** A text input field.
- User Role:** A dropdown menu with "Developer/Designer" selected.

At the bottom of the form, there are two buttons: "Update User" (highlighted in blue) and "Cancel".

Figure 4.2.2 Edit use profile.

4.2.2 Delete user

The Admin can delete a user.

Steps :

- Select *user management* on the dashboard(see Figure 4.2)
- Select the *Delete* button
- The system asks for confirmation
- select OK to delete or Cancel to reject the delete

4.2 Project Management

The project management module provides functionalities to create a new project and manage existing projects. The *project owner* creates a new project and adds *analysts* to the project. Moreover, the project owner can *edit* and *delete* projects he owns.

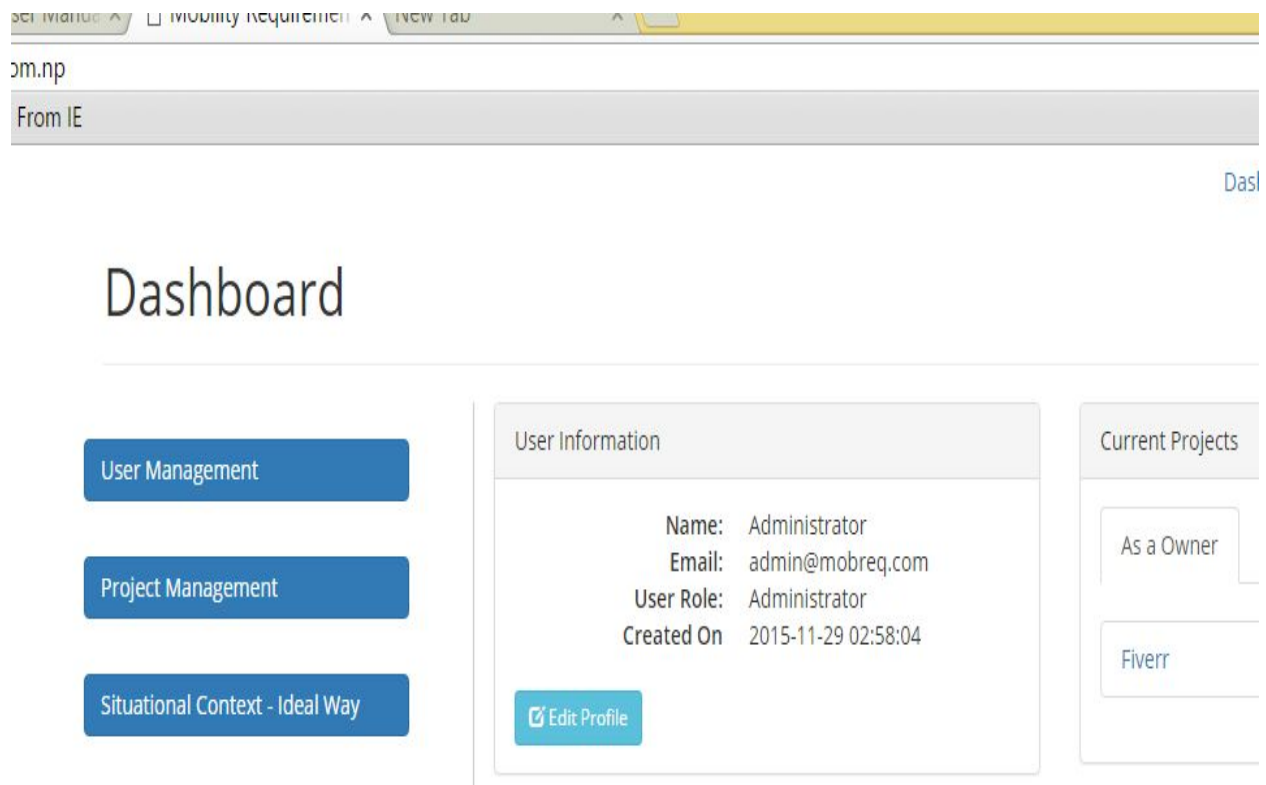


Figure 4.2 *The project management menu on the user dashboard.*

4.2.1 Project View

Displays list of projects for the logged in user. The administrator can see all projects. However, for other users they can only see projects they own . The list includes project info such as project title, description, project owner, date created and, status. The status is either *open* or *closed*, open means the project is still open for voting and closed is the project is no longer available for voting.

Steps:

- Select project management on the user dashboard(see Fig. 4.2)
- The list of projects is displayed
- There are *Edit* and *Delete* buttons next to each project the user own

Dashboard / Projects

All Projects [Create New](#)

#	Project Title	Description	Project Owner	Created On	Status	Action
1	Fiverr	Fiverr is a global online marketplace offering tasks and services, beginning at a cost of \$5 per job performed, from which it gets its name. The site is primarily used by freelancers who use Fiverr to offer services to customers worldwide. Currently, Fiverr lists more than three million services on the site that range between \$5 and \$500.	Administrator	2016-01-07 12:11:15	Open	Edit Delete
2	Spotify Player	Spotify is a Swedish commercial music streaming, podcast and video service that provides digital rights management-protected content from record labels and media companies. It is available in most of the Americas, Western Europe and Oceania. Music can be browsed or searched by artist, album, genre, playlist, or record label. Spotify operates under a freemium business model, with two music streaming tiers: Spotify Free (160kbit/s) and Spotify Premium (up to 320kbit/s). Paid Premium subscriptions (price varies worldwide, but is US\$9.99 per month in the United States) remove advertisements, improve audio quality and allow users to download music for offline listening.	Biswa Raj Upreti	2016-01-06 22:56:02	Closed	--

Figure 4.2.1 List of projects for the Admin user.

4.2.2 Create a new project

The Administrator or project manager can create a new project.

Steps

- Click *Create New* button (see fig. 4.2.1)
- On the form Enter *project Title*
- Enter *Description*
- Select *Project owner*
- Select *project members*
- select *status* (for new project it should be open)
- click *Add Project* button

The screenshot shows a web browser window with the URL `np/projects/create`. The page title is "Create a New Project". The form contains the following fields:

- Project Title:** A text input field with the value "Example project".
- Description:** A text area with the value "This is an exmple project".
- Project Owner:** A dropdown menu with the selected value "Biruk Habteselassie".
- Project Members:** A multi-select dropdown menu with the following options: "Biruk Habteselassie", "Rahul Arora", "test Man", and "Yi Zhou".
- Status:** A dropdown menu with the selected value "Open".

At the bottom of the form, there are two buttons: "Add Project" (in blue) and "Cancel" (in grey).

Figure 4.2.2 Create new project.

4.2.2 Edit a project

The owner of a project can edit a project.

Steps :

- Select *project management* on the dashboard(see Figure 4.2)
- the list of projects is displayed
- Select *Edit* button
- Edit project info by updating the desired fields
- Select *update project*

Dashboard / Projects

Edit Project :: Fiverr

Project Title:

Fiverr

Description:

Fiverr is a global online marketplace offering tasks and services, beginning at a cost of \$5 per job performed, from which it gets its name. The site is primarily used by freelancers who use Fiverr to offer services to customers worldwide. Currently, Fiverr lists more than three million services on the site that range between \$5 and \$500.

Project Owner:

Administrator

Project Members:

Biruk Habteselassie
Rahul Arora
test Man
Yi Zhou

Status:

Open

Update Project Cancel

Figure 4.2.2 The edit project form.

4.2.2 Delete a project

The project owner can delete a project. Deleting a project removes the project permanently from the data base.

Steps :

- Select *project management* on the dashboard(see Figure 4.2)
- Select the *Delete* button
- The system asks for confirmation
- select OK to delete or Cancel to reject the delete

4.3 Requirements management

This module handles the creation of new requirements and management of existing requirements. The owner of a project adds requirements to the project. It also allows for editing and deleting existing requirements.

4.3.1 Requirements View

The list of requirements under a project are displayed.

Steps :

Select a project from list of projects in the project view (4.2.1)

Dashboard | Welcome Administrator, Logout

Dashboard / Projects

Project Details

Project Title: Fiverr
Description: Fiverr is a global online marketplace offering tasks and services, beginning at a cost of \$5 per job performed, from which it gets its name. The site is primarily used by freelancers who use Fiverr to offer services to customers worldwide. Currently, Fiverr lists more than three million services on the site that range between \$5 and \$500.
Project Owner: Administrator
Created On: 2016-01-07 12:11:15
Status: Open

Requirements

Create New

#	Title	Description	Created By	Created On	Action
1	Accepting an order	As a seeker, I should be able to accept an order from an employer	Administrator	2016-01-07 13:00:37	Edit Delete
2	Creating a Gig	As a seeker, I should be able to post a gig so that I can showcase my skills and get optimum price for it	Administrator	2016-01-07 12:50:17	Edit Delete
3	Completing an order	As an employer, I should be able to complete an order when the seeker has finished my job.	Administrator	2016-01-07 12:49:20	Edit Delete
4	Placing an order	As an employer, I should be able to place the order for using the services of a seeker. Implementation: Payment gateway should be implemented.	Administrator	2016-01-07 12:31:46	Edit Delete
5	Messaging a seeker	As an employer, I should be able to chat with a seeker so that I can negotiate with him about the prices and working hours.	Administrator	2016-01-07 12:30:37	Edit Delete
6	Accepting a Seeker	As an employer, I should be able to view all the seekers so that I can compare them and choose one for the job.	Administrator	2016-01-07 12:29:41	Edit Delete
7	Posting a job	As an employer, I should be able to post a job so that other seekers can apply on that job	Administrator	2016-01-07 12:28:29	Edit Delete

Figure 4.3.1 list of requirements.

4.3.2 Create a new requirement

The owner of a project creates a requirements.

Steps :

- Click *Create New* button (see fig. 4.3.1)
- The Create a New Requirement form
- Enter necessary info
- Click *Add new* button

m.np/requirements/create?project=12
From IE

Dashboard | Welcome Administrator, Logout

Dashboard / Projects / All Requirements

Create a New Requirement

Title:

Description:

☐ Is Accompanying?

☐ Is Intermittent?

☐ Is Interrupting?

Figure 4.3.2 Create new requirement form.

4.3.2 Edit requirement

The owner of a project can edit a requirement.

Steps :

- Go to requirements view (see Figure 4.3.1)
- the list of requirements is displayed

- Select *Edit* button
- Edit requirement info by updating the desired fields
- Select *update* button

om.np/requirements/23/edit

From IE

Dashboard | Welcome Administrator, Logout

Dashboard / Projects / All Requirements

Edit Requirement :: Accepting an order

Title:

Accepting an order

Description:

As a seeker, I should be able to accept an order from an employer

☐ Is Accompanying?

☐ Is Intermittent?

☐ Is Interrupting?

Figure 4.3.2 Edit requirements form.

4.3.2 Delete requirement

The project owner can delete a requirement.

Steps :

- Go to requirements view (see Figure 4.3.2)
- List of requirements is displayed
- Select the *Delete* button
- The system asks for confirmation
- select OK to delete or Cancel to reject the delete

4.4 Voting

The analysts rate the 12 predefined contexts for each of the requirements in a project. Analysts can only vote on projects they are member of. There are 12 predefined contexts and the analysts rate them giving high rate to contexts that they think are primary contexts of the requirement.

Steps:

- On the user dashboard select the tab “As a member”
- select a project from the list of projects displayed
- Select a requirement from the list of requirements
- The requirements detail page is displayed
- rate the 12 predefined contexts

requirements/26

E

Dashboard | Welcome Administrator, Logout

Dashboard / Projects / All Requirements

Requirement Details

Title: test req
Description: test
Created On: 2016-01-16 18:16:01

Ways of Interactions Intermittent

Context Scenarios

#	Context	Scenario	Ways of Interaction	Added By	Action
1	VCI ★★★★★ Ratings: 5.0 / 5 by 1 user		<input type="checkbox"/> Accompanying <input type="checkbox"/> Intermittent <input type="checkbox"/> Interrupting	Administrator	Edit
2	VCA ★★★★★ Ratings: 0.0 / 5 by 0 user		<input type="checkbox"/> Accompanying <input type="checkbox"/> Intermittent <input type="checkbox"/> Interrupting	Administrator	Edit
3	VEI ★★★★★ Ratings: 0.0 / 5 by 0 user		<input type="checkbox"/> Accompanying <input type="checkbox"/> Intermittent <input type="checkbox"/> Interrupting	Administrator	Edit

Figure 4.3 partial view of the voting page.

4.5 Conflict Identification

After the project manager closes the voting on a project the requirement can be reviewed to see if there was a conflict with the ideal way of interaction and the way of interaction stated by the manager. Only the project owner can see the review of the each requirement.

Steps:

- Go to requirements view (see Figure 4.3.1)
- The list of requirements is displayed
- Select the requirement you want to see the review
- Select the Review Requirement button
- In the requirement detail page the conflicted way of interaction for each context are displayed in red color
- The project owner can add remarks to resolve the conflict in the remark filed

Dashboard / Projects / All Requirements

Requirement Details

Title:

As a user I should be able to resize the video size before recording

Description:

As a user I should be able to resize the video size before recording

Created On:

2016-01-12 12:20:24

Ways of Interactions

Accompanying Intermittent

Context Scenarios

#	Context	Scenario	Ways of Interaction	Remarks
1	VCA Ratings: 5.0 / 5 by 1 user	Scenario 2	Intermittent	--
2	TEI Ratings: 5.0 / 5 by 1 user		Accompanying Intermittent	--
3	TCI Ratings: 4.0 / 5 by 1 user		Accompanying	--
4	VCI Ratings: 3.0 / 5 by 1 user	Scenario 1	Accompanying	--
5	VEI Ratings: 3.0 / 5 by 1 user		Accompanying Intermittent	--
6	TEA Ratings: 3.0 / 5 by 1 user		Accompanying Interrupting	Since this is of no use, this context and conflict can be ignored!
7	VEA Ratings: 2.0 / 5 by 1 user		Interrupting	<div>Add remarks here!</div>

Figure 4.5 requirements review page.