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CityFix - Product Backlog

Laboratório de Desenvolvimento de Software

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1. Introduction

In the simplest definition the Scrum Product Backlog is simply a list of all things that needs to be done within the project. It replaces the traditional requirements specification artifacts. These items can have a technical nature or can be user-centric e.g. in the form of user stories.

The owner of the Scrum Product Backlog is the Scrum Product Owner. The Scrum Master, the Scrum Team and other Stakeholders contribute it to have a broad and complete To-Do list.

This artifact contains the specification of all actors that interact with the system and their respective *user stories* as an agile documentation of the project requirements. This section pretends to illustrate the communication between actors (with *case diagrams*) and describe the potential interactions from users with the system – *user stories*.

2. Actors

An actor is a person, organization, or external system that plays a role in one or more interactions with a system. Actors may inherit from another actors and are never part of the system that is being modeled (Ambler, 2004). An action performed by an actor implies a response from the system. For **CityFix** system let's consider the following actors represented in Figure 1 (Annex 1) and described in Table 1.

ID	Identifier	Description	Example
0	Visitor	Unauthenticated user; may register or log into the system and access to public information (homepage, list of tickets)	n/a
1	Authenticated	Authenticated user; may logout from the system, edit his profile or recover his password	tlucio
2	User	Can upload and vote on a ticket	joesteves
3	Moderator	Responsible for ticketing management (validate its content, assign extra points to users based on the points system, etc.)	cris92
4	Entity	Responsible for retrieving information from the applied tickets and updating the current tickets' state.	cmp
5	Administrator	Responsible for users management, system security and data integrity.	admin
6	Google API	External API which will be used to detect the user's geographical localization.	gmaps

3. User Stories

An user story is a high-level definition of a requirement, containing all the enough information to make it possible to produce a reasonable estimate of the effort to implement it (Ambler, 2004). The description of a potential interaction from an user with the system focuses the behaviour requirements, rather than design aspects. Usually, an user story is described by the following template (Cohn, 2004):

As a (role) I want (something) so that (benefit).

For **CityFix** system, let’s consider the following *user stories* described on the tables below, based on the above template.

3.1 Visitor

Identifier	Name	Priority	Description	Cost
US001	Login	High	As a Visitor I want to login into the system so that I can have access to restricted information.	3
US002	Register	High	As a Visitor I want to register myself so that I can upload new tickets.	5
US003	Password Recovery	Medium	As a Visitor I want to recover my authentication credentials so that I can access the platform if I forget my password or username.	3
US004	List Tickets	Medium	As a Visitor, I want to see a list with a simple view of recent tickets so that I know the most recent activity.	2
US005	Facebook Register	Low	As a Visitor, I want to register myself with my Facebook account so that my basic information is already filled automatically .	8

3.2 Authenticated

Identifier	Name	Priority	Description	Cost
US101	Search	Medium	As an User I want to search all public information (entity profiles, etc.) so that I can know who I should contact if there is a problem near my location.	5
US102	View Ticket	High	As an User I want to view a ticket’s content so that I can know if there is a problem near my location and what actually happened.	3
US103	Logout	High	As an Authenticated I want to be able to logout from the system so that I can terminate my session correctly.	1
US104	Profile	Medium	As an Authenticated I want to see and edit my profile so that I can change my basic information and authentication credentials.	3

3.3 User

Identifier	Name	Priority	Description	Cost
US201	Add Ticket	High	As an User I want to submit a ticket to the system so that I can show that there’s a problem near my location.	3
US202	Edit Ticket	High	As an User I want to edit a ticket i own in the system so that I can update its information.	5
US203	Remove Ticket	High	As an User I want to remove a ticket I own so that I can hide its content from the public.	2
US204	Associate Category	High	As an User I want to associate a ticket to a category so that it helps to solve a problem.	1
US205	Manual Location	Medium	As an User I want to manually add a location so that I can add a ticket after a situation when I didn’t have internet connection.	8
US206	Automatic Location	High	As an User I want the system to automatically detect my location so that I don’t have to add it manually.	8
US207	Vote	High	As an User I want to vote on a ticket so that I can contribute to the truthfulness of that ticket and its respective user.	3
US208	List My Tickets	Medium	As an User I want to have access to a list of my submitted tickets so that I can keep track of their status.	3
US209	Associate Image to Ticket	High	As an User I want to associate an image to a ticket so that an user or entity can easily detect what’s happening on that location.	5
US210	Ticket Suggestion	Medium	As an User I want to suggest changes to a ticket so that whenever I think an update must be, it shall be considered.	5
US211	Ticket Search	High	As an User I want to search all public tickets so that I can see information on tickets others submitted	3

3.4 Moderator

Identifier	Name	Priority	Description	Cost
US301	Validate Tickets	High	As a Moderator I want to validate tickets so that an entity can solve the problem.	1
US302	Change Ticket Information	Medium	As a Moderator I want to change information of a ticket so that I can update the current status, etc.	5

3.5 Entity

Identifier	Name	Priority	Description	Cost
US401	Entity tickets	High	As an Entity I want to access the tickets associated with me so that I can take action on solving those problems.	3

US402	Change Ticket State	High	As an Entity I want to change a ticket’s state so that an active user may know the current state of that specific problem.	1
US403	Filter Tickets	Low	As an Entity i want to filter tickets so that I can optimize my schedule.	8

3.6 Administrator

Identifier	Name	Priority	Description	Cost
US501	Manage Users	High	As an Administrator I want to manage users so that I can delete or mute an user if necessary.	3
US502	Manage Content	High	As an Administrator I want to manage the system’s content so that whenever a change is necessary, there is permission to do so.	5
US503	Statistics	Low	As an Administrator I want to get statistics so that I can know information about my system.	8

3.7 Business Rules

Identifier	Name	Description
BR01	Password	On the registration, password must be at least 6 characters and contain numbers and letters
BR02	Email	An email must be associated with only one account
BR03	Ban	An user is banned whenever he uses the system improperly
BR04	Aprove	Only a moderator or an administrator can aprove a ticket
BR05	Change Information	After being aproved, a ticket can not be changed
BR06	Access	After authentication, the user must terminate the session before he can login with another account
BR07	Ticket Text	A ticket must have between 1 and 5000 characters
BR08	Ticket Creation	After creating a ticket a user has 30 minutes to change any information on it
BR09	Facebook Restrition	An entity or Admin cannot have a facebook account associated
BR10	Service Association	An entity can only take action on tickets whose category the service serves

3.8 Functional Requirements

Identifier	Name	Description
FR01	Usability	The system must be simple and easy to use.
FR02	Accessibility	The system must be available to all web browsers.

FR03	Portability	The system must work on different operative systems.
FR04	Performance	The system must have response time of at most 5 seconds.
FR05	Security	The system must protect information from unauthorized access through a system of authentication and privilege checking.
FR06	Fault tolerance	The system must be prepared to treat and keep working with runtime errors.
FR07	Traceability	The system must store action history of its users, such as ticket uploads.
FR08	Ethics	The system must respect the ethical principles by encrypting passwords.
FR09	Scalability	The system must have the capacity to maintain the same performance when there is an increase in the number of users and / or simultaneous requests.
FR10	Availability	The system must be avilable 99% of the time for each 24 hours period.

4. Acceptance Tests

4.1 Visitor

4.1.1 User Login

ID: 1

Requirement ID: US001

Description: This test should verify that a user is able to authenticate himself in the system and take full use of its API according to his privileges.

Actors: Visitor

Pre-conditions:

- User device has active internet connection
- No account in local device authenticated in the system
- Record of account with email user@test.com with password User123 must be registered in the database.
- Record of account with email phony@test.com must not be registered in the database.
- Record of account with email moderator@test.com with password Moderator123 must be registered in the database.
- Record of account with email entity@test.com with password Entity123 must be registered in the database.
- Record of account with email admin@test.com with password Admin123 must be registered in the database.
- Record of account with account registered with facebook must be registered in the database
- No facebook session should be live
- 3.0.2 Visitor Register
- 3.0.5 Facebook Register
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Step	Description	Result
1	Access City Fix welcome page and press register login	A register form appears
	2 - User authentication scenario	
2.1	Wrong email and password scenario. Fill email login input with phony@test.com and Password input with a password that validates system requirements (e.g.: Phony12345). Click Login.	A message with text “wrong email/password combination” and a link with text “Recover Password” are displayed.
2.2	Wrong password scenario. Fill email login input with user@test.com and Password input with User12345. Click Login.	A message with text “wrong email/password combination” and a link with text “Recover Password” are displayed.
2.3	Valid login scenario Fill email login input with user@test.com and Password input with User123 Click Login.	User’s homepage is loaded. User’s first name and last name are displayed on top bar.

3 – Moderator authentication scenario		
3.1	Fill email login input with user@test.com and Password input with User123 Click Login.	Login succeeds. Moderator’s homepage is loaded. User’s first name and last name are displayed on top bar. Dropdown list on top right corner has a “moderator” item.
4 – Administrator authentication scenario		
4.1	Fill email login input with admin@test.com and Password input with Admin123 Click Login.	Login succeeds. Administrator’s homepage is loaded. Admin panel loads on page.
5 – Entity authentication scenario		
5.1	Fill email login input with entity@test.com and Password input with Entity123 Click Login.	Login succeeds. Entity’s homepage is loaded. Entity’s panel loads on page. Displays ticket’s to be served by the entity
6 – Facebook User authentication with no facebook session live scenario		
6.1	Press login with facebook	A popup asking to provide facebook login information (if a facebook session is live) shows up.
6.2	Fill facebook form with valid facebook account also registered in CityFix. Press login.	User’s homepage is loaded. User’s first name and last name are displayed on top bar.
7 – Facebook User authentication with live facebook session scenario		
7.1	Login to facebook	Facebook interface will appear
7.2	Open CityFix welcome page again	CityFix page will appear
7.3	Press login with facebook	User’s homepage is loaded. User’s first nameand last name are displayed on top bar.

4.1.2 Visitor Register

ID: 2

Requirement ID: US002, BR01, BR02

Description: This test should verify that a visitor is able to register an account in the system and take full use of its API according to his privileges.

Actors: Visitor

Pre-conditions:

- User device has active internet connection
- No account in local device authenticated in the system
- Record of account with email user@test.com in the database

Post-conditions:

- Repeat test 3.0.1 – User Login through step 2.3 with email account used in registration step 5.

Step	Description	Result
1	Access City Fix welcome page and press register	A register form will appear
2	Mandatory fields missing scenario.Leave all fields blank and select register	An alert message with text “Some fields are missing” is displayed. Missing fields are also highlighted.
3	Unique email violation scenario. Fill all fields with correct criteria except email. Insert user@test.com on email input and Click Register	An alert message with text “Email account already registered” is displayed. Missing fields are also highlighted.
4	Password requirements violation scenario. Fill all fields with correct criteria except password. Insert “111” in password field and press register	Message saying “Password must be
5	Correct registration scenario. Fill all fields with correct criteria (email cannot be user@test.com). An email account to which you have access must be provided. Press register	A message displaying “Welcome to City fix. An email was sent to you. Please confirm your registration”.
6	Repeat test 3.0.1 - User Login through step 2.3 with email account used in registration step 5.	Login fails due to wrong email and password. A message with text “wrong email/password combination” and a link with text “Recover Password” are displayed.
7	Go to email account used in registration in step 5, open confirmation email and click the provided link.	Page with message “Registration confirmed” will load.

4.1.3 Visitor Password Recovery

ID: 3

Requirement ID: US003, BR01

Description: This test should verify that a visitor is able to recover his password.

Actors: Visitor

Pre-conditions:

- User device has active internet connection
- No account logged in on device
- Record of account with email phony@test.com cannot be in the database.
- Test 3.0.2 Visitor Register until step 7

Post-conditions:

- Repeat test 3.0.1 – User Login through step 2.3 with email account used in password recovery step 7.

Step	Description	Result
1	Access City Fix welcome page	
2	Click recover password	A form will appear with a password input
3	Non-registered account scenario. Fill data with phony@test.com and press recover	A message with text "the email account provided is not registered" will be displayed
4	Valid account scenario. Fill data with valid email (email registered in and press recover	Message saying to check email will appear
5	Go to email account and click recover password	A page will load with input for new password
6	Password requirements violation scenario. Insert password "123".	A message will load saying password does not meet criteria
7	Fill password input with a password that validates system requirements (e.g.: Phony12345).	Messsage with text "A new password has been set please login" will be displayed.

4.1.4 List Tickets

ID: 4

Requirement ID:

Description: This test should verify that a list of recent tickets is shown on the welcome page

Actors: Visitor

Pre-conditions:

- User device has active internet connection
- Record of at least one ticket in database

Step	Description	Result
1	Access City Fix welcome page	Information about CityFix,
2	Scroll down until a list with label "Recent tickets" show up	A list with one or more recent tickets will appear

4.1.5 Facebook Register

ID: 5

Requirement ID: US005

Description: This test should verify that a visitor is able to register himself in the system using facebook authentication.

Actors: Visitor

Pre-conditions:

- User device has active internet connection
- User must have facebook account.

Step	Description	Result
1	Access City Fix welcome page	
2	Press register with facebook	A popup asking to provide facebook login information or to confirm facebook account details (if a facebook session is live) shows up.
3	Click accept	A message with text “Welcome to City fix.” appears

4.2 Authenticated

4.2.1 Search

ID: 6

Requirement ID: US101

Description: This test should show to an authenticated user the result of his/her search.

Actors: Authenticated

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;

Step	Description	Result
1.	Locate the search bar	
2.	The authenticated user should write what he/she wants to search	
3.	The authenticated user should click on the “Ok” button	A page with his/her search results will appear

4.2.2 View Ticket

ID: 7

Requirement ID: US102

Description: This test should show to an authenticated user the details of a specific ticket.

Actors: Authenticated

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;

Step	Description	Results
1.	Click on “Tickets” button	A list of tickets appears
2.	Select one of the tickets	The detailed information of that ticket is presented.

4.2.3 Logout

ID: 8

Requirement ID: US103

Description: This test should make an authenticated user go unauthenticated.

Actors: Authenticated

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;

Step	**Description**	**Results**
1.	Click on “Logout” button	The authenticated user is logged out.

4.2.4 Profile

ID: 9

Requirement ID: US104

Description: This test should show to an authenticated user his/her own profile page where he/she can see and edit his/her own information

Actors: Authenticated

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;

Step	**Description**	**Results**
1.	Click on “My Profile” button	The profile page is displayed
2.	Click on “Edit Profile” button	The user can now edit his/her basic information

4.3 User

4.3.1 Add Ticket

ID: 10

Requirement ID: US201

Description: This test should show to an user a submitted ticket by him/her

Actors: Authenticated

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;

Step	Description	Results
1.	Click on “Add Ticket” button	A page to submit a ticket is displayed
2.1	All informations about the ticket are valid	Ticket is submitted
2.2	Informations about the ticket are not valid	Ticket not submitted
3	User saves the changes	Data verification is made
4.1	The changes are successful	The data is updated
4.2	A problem occured while changing the data	The data remains the same and the user returns to the previous page

4.2.2 Edit Ticket

ID: US202

Requirement ID: US202

Description: This test should verify if a user can ticket edit its, i.e, change its current status, respective description, etc.

Actors: User

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;
- The ticket must belong to the respective user;
- The ticket must not be blocked by the moderator (concerning the status) in order to edit it;

Post-conditions:

- The ticket’s respective status must not change if it is already blocked by a moderator;
- If no problem occurs, then the changes must be saved and the data consistent;

- Otherwise, the data must remain unchanged;
- The user redirected to his Tickets page;

Step	Description	Result
1	Click on “My Tickets” button	A list of own tickets appears
2.1	Select one of the tickets	The detailed information of that ticket is displayed
2.2	There are no tickets to be displayed	The user can’t edit any tickets
3	A list of fields is displayed and the user must edit the respective data	
4	User saves the changes	Data verification is made
5.1	The changes are successful	The data is updated
5.2	A problem occured while changing the data	The data remains the same and the user returns to the Tickets page

4.3.3 Remove Ticket

ID: US203

Requirement ID: US203

Description: This test should remove a ticket from an user (if is not blocked or undergoing).

Actors: User

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;
- The ticket must belong to the respective user;
- The ticket must not be blocked by the moderator (concerning the status) in order to edit it;

Post-conditions:

- If no problem occurs, then the ticket is removed;
- Otherwise, the ticket must remain unchanged;
- The user redirected to his Tickets page;

Step	Description	Result
1	Click on “My Tickets” button	A list of own tickets appears
2.1	Select one of the tickets	The detailed information of that ticket is displayed
2.2	There are no tickets to be displayed	The user can’t edit any tickets
3.1	Click on the delete button	
3.2	The delete button is blocked due to ticket’s undergoing status	The user can’t remove the ticket

4	An input box appears and asks the user if he really wants to remove the ticket	The user must choose yes or no
5.1	The changes are successful	The ticket is removed
5.2	A problem occured while removing the ticket	The ticket remains in the database

4.3.4 Associate Category

ID: US204

Requirement ID: US204

Description: This test should test if it allows an user to associate a category to a ticket.

Actors: User

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;
- The ticket must belong to the respective user (if the user wants to associate a category after creating it);
- The ticket must not be blocked by the moderator (concerning the status) in order to edit the category;

Post-conditions:

- If no problem occurs, then the category is associated;
- Otherwise, the ticket must remain unchanged or not created;
- The user is redirected to his Tickets page;

Step	**Description**	**Result**
1	Click on “My Tickets” button	A list of own tickets appears
2.1	Click on “Create a Ticket” button	A creation form appears
2.2	Select one of the tickets	The detailed information of that ticket is displayed
3.1	User fills the form and then selects a category	
3.2	A list of fields is displayed and the user must edit the category	
4	User clicks on the “Save” button	Data verification is made
5.1	The changes are successful	The ticket is created or edited and a category is associated
5.2	A problem occured while creating or editing the ticket and associating a category	The category is not associated

4.3.5 Manual Location

ID: US205

Requirement ID: US205

Description: This test should test if it allows an user to type a location during a ticket creation.

Actors: User

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;

Post-conditions:

- If no problem occurs, then the ticket is created with the specified location;
- Otherwise, the ticket is not created and the user must specify the location again;
- The user redirected to his Tickets page;

Step	Description	Result
1	Click on "My Tickets" button	A list of own tickets appears
2.1	Click on "Create a Ticket" button	A creation form appears
3	User fills the form and then types the location	The system tries to establish connection to Google Maps API to recognize the typed location for a more efficient use.
4.1	The typed location is not recognized by Google Maps	The location is still saved but not directly connected to Google Maps
4.2	The typed location is recognized by Google Maps	The location stays associated to Google Maps
5	User clicks on the "Save" button	Data verification is made
6.1	The changes are successful	The ticket is created and the location is associated
6.2	A problem occured while creating the ticket or associating a location	The ticket is not created and the user must rewrite or try again to recognize the location

4.3.6 Automatic Location

ID: US206

Requirement ID: US206

Description: This test should test if it allows an user recognize its current location.

Actors: User

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;
- The device must be capable to recognize the user’s geographical location.

Post-conditions:

- If no problem occurs, then the user’s location is recognized;
- Otherwise, the user must specify a manual location;

Step	**Description**	**Result**
1	Click on “My Tickets” button	A list of own tickets appears
2.1	Click on “Create a Ticket” button	A creation form appears
3	User fills the form and then selects the automatic location	The system tries to establish connection to Google Maps API to recognize the user’s location.
4.1	The location is recognized	The user may save the ticket and its respective location is associated
4.2	The user attempts to recognize the location again	The system tries again to establish a connection to Google Maps API
4.3	The location is not recognized and the user must type the location by himself (4.2.5)	
5	User clicks on the “Save” button	Data verification is made
6.1	The changes are successful	The ticket is created and the location is associated
6.2	A problem occured while creating the ticket or associating a location	The ticket is not created and the user must rewrite or try again to recognize the location

4.3.7 Vote

ID: US207

Requirement ID: US207

Description: This test should test if it allows an user to vote on a ticket.

Actors: User

Pre-conditions:

- User device has active internet connection;
- The user must be logged in;

Post-conditions:

- If no problem occurs, then the user’s location is recognized;
- Otherwise, the user must specify a manual location;

Step	Description	Result
1	Click on “Tickets” button	A list of tickets appears
2	Select a ticket	The detailed information of that ticket is displayed
3	The user clicks on the “Vote” button (Up or Down)	
4.1	The vote is successful	The vote is counted and is saved on the database
4.2	A problem occured while voting (try to vote twice or lost internet connection, etc.)	The vote is saved on the database

4.3.8 List My Tickets

ID: 17

Requirement ID: US208

Description: This test checks if the user is able to correctly list the tickets he created

Actors: User

Pre-conditions:

- The user must be authenticated with an User account
- Internet connection

Step	Description	Result
1	Access the User profile	
2	Click on the symbol that opens the menu	The menu with multiple options will show
3	Click on “My tickets”	The list of tickets submitted by the user will show

4.3.9 Associate Image to Ticket

ID: 18

Requirement ID: US209

Description: This test checks if the user is able to attach an image to the ticket he is creating, either by using the phone’s camera or by searching in its gallery

Actors: User

Pre-conditions:

- The user must be authenticated with an User account
- Access to the phone’s camera
- Access to the phone’s gallery
- A ticket creation process must have been initiated previously:

Step	Description	Result
1	Click on “Attach a photo”	A popup asking if the user wants to take a photo or search in the phone’s gallery appears

2	Click on “Take a Photo”	A new window will open with the image from the phone’s camera
2.1	Take the photo	The photo taken will automatically appear in the ticket creation screen. The camera will close.
2	Click on “Upload from Gallery”	A new window will appear listing all the photos the user has in its phone’s gallery
2.1	Click on a photo	The photo will become selected and a button will appear in the top right corner saying “Upload”
2.2	Click on “Upload”	The selection screen will close and the photo will appear in the ticket creation screen

4.3.10 Ticket Suggestion

ID: 19

Requirement ID: US210

Description: This test checks if the user is able to submit for approval suggestions to change some information in the ticket details

Actors: User

Pre-conditions:

- The user must be authenticated with an User account
- Internet connection

:

Step	Description	Result
1	Click on “Search tickets”	A new screen
2	Click on “Take a Photo”	A new window will open with the image from the phone’s camera
2.1	Take the photo	The photo taken will automatically appear in the ticket creation screen. The camera will close.
2	Click on “Upload from Gallery”	A new window will appear listing all the photos the user has in its phone’s gallery
2.1	Click on a photo	The photo will become selected and a button will appear in the top right corner saying “Upload”

4.3.11 Ticket Search

ID: 20

Requirement ID: US211

Description: This test checks if the user is able to search the ticket directory, either by date, or location, or by entity

Actors: User

Pre-conditions:

- The user must be authenticated with an User account
- Internet connection

Step	**Description**	**Result**
1	Access the User profile	
2	Click on the symbol that opens the menu	The menu with multiple options will show
3	Click on “Search Tickets”	A new screen will appear with text fields to fill
4	Fill the fields with required information	
5	Click on “Search”	In the screen will appear a list of tickets corresponding to the information requested

4.4 Moderator

4.4.1 Validate Tickets

ID: 21

Requirement ID: US301

Description: This test checks if the moderator is able to approve a ticket previously submitted

Actors: Moderator

Pre-conditions:

- The user must be authenticated with a Moderator account
- Access to the internet

Step	Description	Result
1	Access the user account	
2	Search a ticket	A list of tickets corresponding to the search will appear in a new screen
3	Click on an unapproved ticket	A new window will appear will all the ticket information, as well as a button in the bottom saying “Approve ticket”
4	Click on “Approve Ticket”	The where the Moderator clicked will become green saying “Ticket Approved”

3.3.2 Change Ticket Information

ID: 22

Requirement ID: US302

Description: This test checks if the moderator is able to change some information on the ticket’s details

Actors: Moderator

Pre-conditions:

- The user must be authenticated with a Moderator account
- Access to the internet

Step	Description	Result
1	Access the user account	
2	Search a ticket	A list of tickets corresponding to the search will appear in a new screen
3	Click on a ticket	A new window will appear will all the ticket information, as well as “Edit” buttons on each of the ticket’s fields
4	Click on “Edit” on any field	The field will become editable and the Moderator can now change the information. A green tick mark will appear next to the field being edited.
5	Click on the green tick mark	The field will be locked and the information in the ticket is updated. The screen keeps showing ticket details

4.5 Entity

4.5.1 Entity tickets

ID: 23

Requirement ID: US401

Description: This test will check that the tickets are being redirected to the right Entity, and that the Entity is able to access the tickets in order to solve the situation.

Actors: Entity

Pre-conditions:

- The user must be authenticated with an Entity account
- Internet connection

Post-conditions:

- The user accesses a list of active tickets associated with the Entity. Then, he can access the tickets and change the state of them, if needed.

Step	Description	Result
1	Access the Entity profile	
2	Click on the “My Tickets” button	
3.1	A list of active tickets is displayed, and the user can access the tickets listed by clicking it	A list of multiple active tickets is displayed, and the user can access the tickets
3.2	There are no available tickets to be displayed	A warning informing that there are not active tickets at the moment appears on the screen

4.5.2 Change Ticket State

ID: 24

Requirement ID: US402

Description: This test will confirm that when a ticket is validated and associated with an Entity, the Entity responsible can update the current state of a situation, and even close it.

Actors: Entity

Pre-conditions:

- The user must be authenticated with an Entity account
- Internet connection
- At least one active ticket related to that Entity must be available

Post-conditions:

- The current state of the ticket changes

Step	Description	Result
1	Access the Entity profile	

2	Click on the “My Tickets” button	A list of multiple active tickets is displayed
3	Select one of the tickets	The detailed information of that ticket is displayed
4	Click the dropdown menu, and choose a new state to the ticket	
5.1	The alteration is successfully made	The state of ticket is updated
5.2	A problem occured with the selection	The state of the ticket remains the same

4.4.3 Filter Tickets

ID:25

Requirement ID: 403

Description: This test will confirm that an Entity can successfully filter tickets by geographical distance, and with this organize an optimized route to attend and solve the active problems

Actors: Entity

Pre-conditions:

- The user must be authenticated with an Entity account
- Internet connection

Post-conditions:

Step	Description	Result
1	Access the Entity profile	
2	Click on the “My Tickets” button	A list of multiple active tickets is displayed
3	Select “My route” button	A map using Google Maps is displayed, with marks representig the active problems in the area
4	Select one of the active marks	The mark is highlighted, and some information about the problem is displayed
5.1	Click the “plus” sign next to the mark icon	The mark is added to the current route
5.2	A problem occured while adding the mark	A popup appears indicating the error and the route remains the same

4.5 Administrator

4.5.1 Manage Users

ID: 26

Requirement ID: 501

Description: This test will verify the user’s management system. All the activities related with change of permissions or accounts will be tested.

Actors: Administrator and User

Pre-conditions:

- The user must be authenticated with an Administrator account
- Internet connection

Step	**Description**	**Result**
1	Access the Administrator profile	
2	Click on the “Manage Users” button	A list of the system’s users is displayed
3	Click on the name of an User, Moderator or Entity	The detailed information of that User is displayed
4.1	Click the dropdown menu, and promote an User to Moderator	The User is now seen by the system as a Moderator, and gains the permission associated with it
4.2	Click the dropdown menu, and depromote a Moderator to User	The Moderator is now seen by the system as an User, and loses his previous permissions
4.3	Click the dropdown menu, and delete an User, Moderator or Entity	The User’s account no longer exists in the system

4.5.2 Manage Content

ID: 27

Requirement ID: 502

Description:

Actors: Administrator

Pre-conditions:

- The user must be authenticated with an Administrator account
- Internet connection

Step	**Description**	**Result**
1	Access the Administrator profile	
2	Click on the “Manage Content” button	A list of most active tickets will be displayed
3	Click on a ticket	The detailed information of that ticket is displayed
4.1	Click the dropdown menu, and select “Edit Ticket” button	The ticket information is immediately updated

4.2	Click the dropdown menu, and select “Delete Ticket” button	The ticket is removed from the system

4.5.3 Statistics

ID: 28

Requirement ID: 503

Description:

Actors: Administrator

Pre-conditions:

- The user must be authenticated with an Administrator account
- Internet connection

Step	Description	Result
1	Access the Administrator profile	
2	Click on the “Manage Content” button	A view with multiple graphs and statistics is displayed
3	Click on the radio button corresponding to the desired information	The graph will change, displaying the information accordingly

Bibliography

Ambler, S. (2004). *The Object Primer* (3ª ed.). Cambridge: Cambridge University Press.

Cohn, M. (2004). *User Stories Applied: For Agile Software Development* (3ª ed.). Chicago: Addison-Wesley Professional.

Does every item in the product backlog require a User Story? (October de 2015). Fonte: Agile @ Adobe: http://blogs.adobe.com/agile/2012/06/20/does-every-item-in-the-product-backlog-require-a-user-story/

Raymond, E. S., & Landley, R. W. (2004). *The Art of Unix Usability.* Pearson Education, Inc.

The Scrum Product Log. (October de 2015). Fonte: International Scrum Institute: http://www.scrum-institute.org/The_Scrum_Product_Backlog.php

Annexes

Annex A

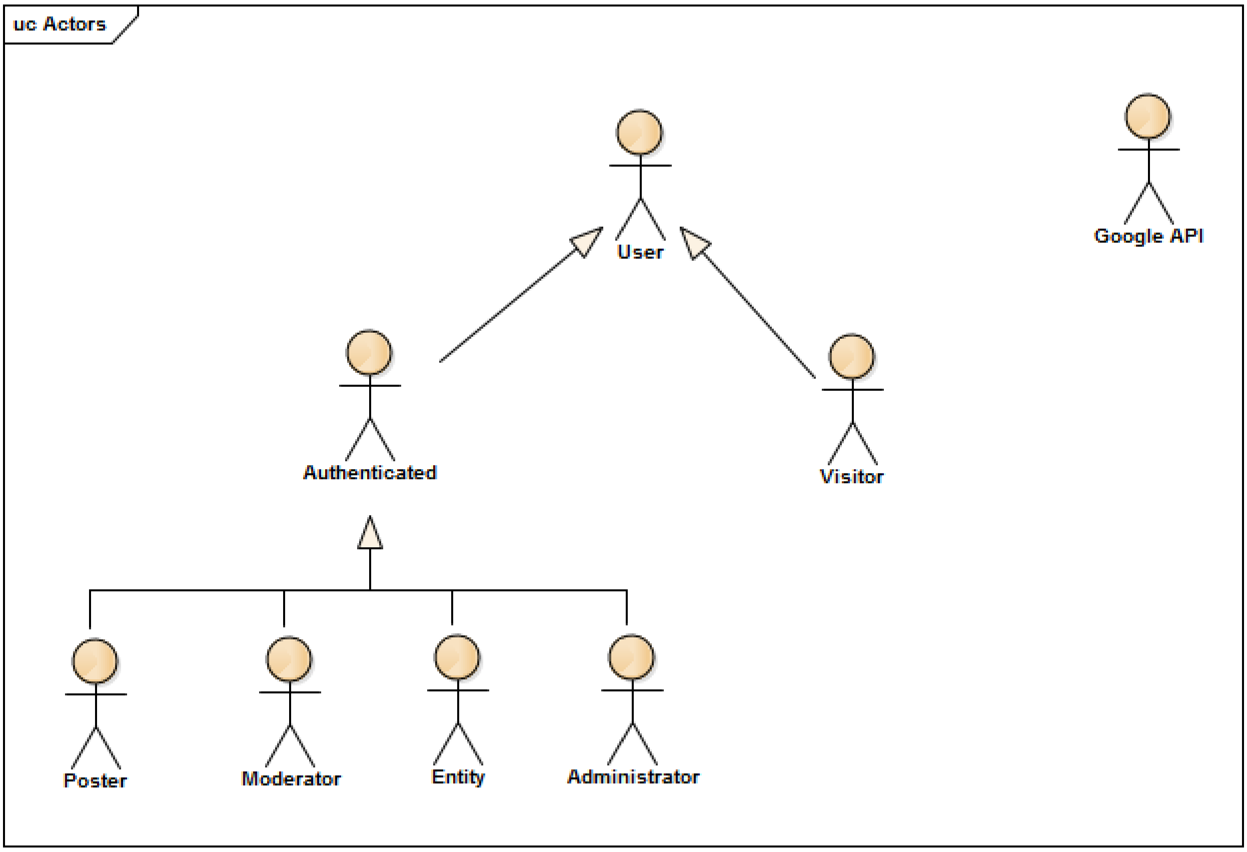
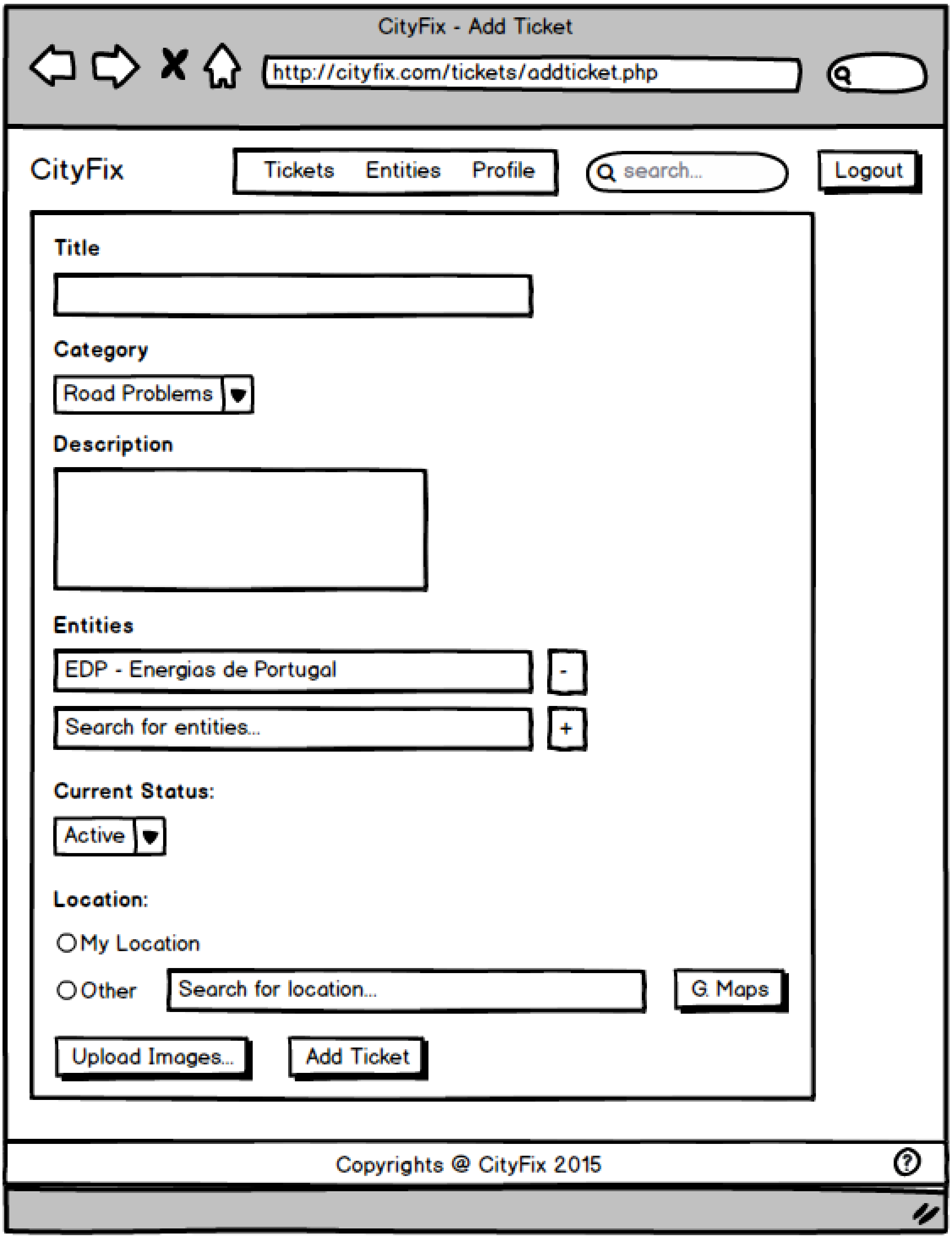


Figure 1 - Actors

Annex B



Title

Category

Road Problems ▼

Description

Entities

EDP - Energias de Portugal

Search for entities...

Current Status:

Active ▼

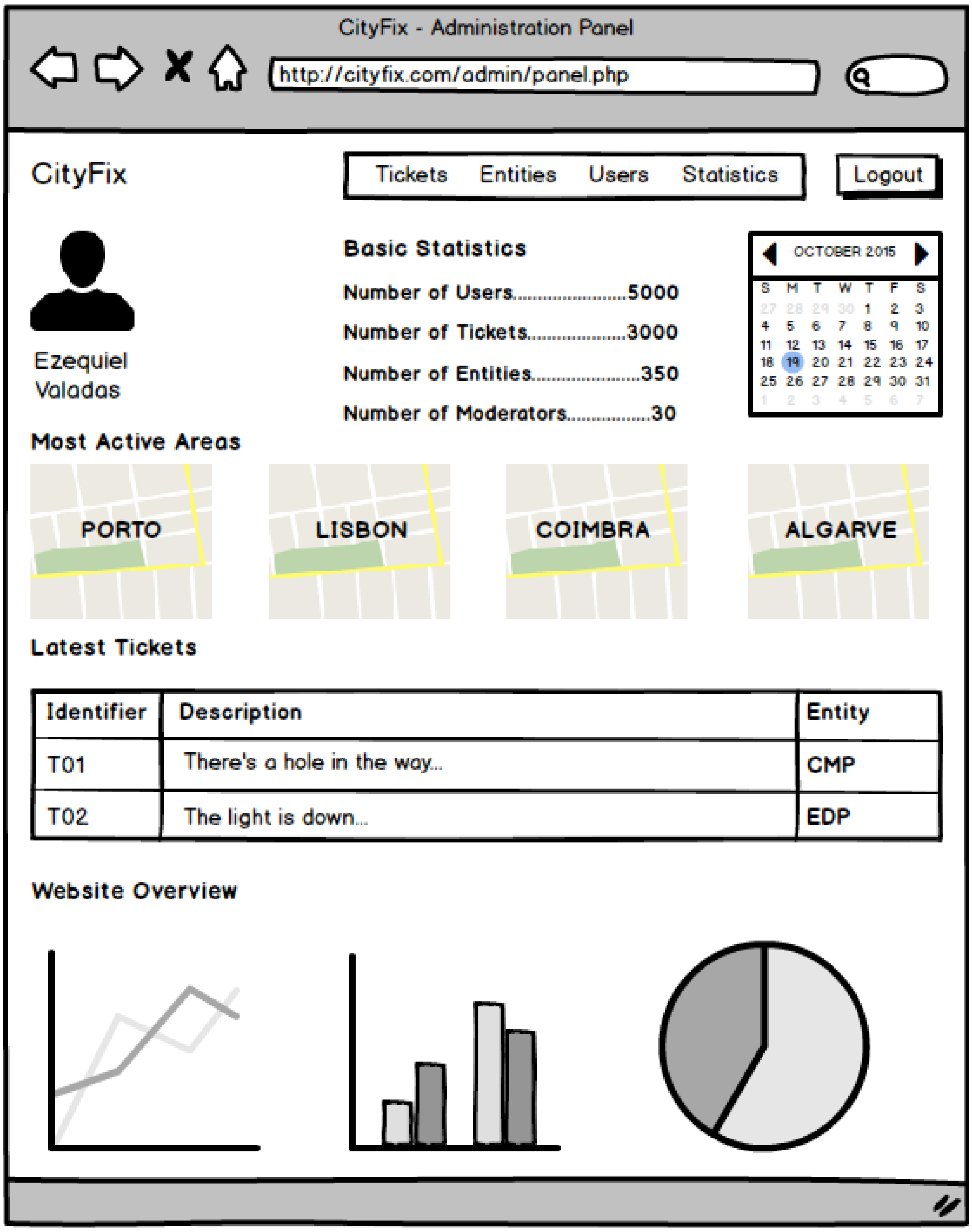
Location:

○ My Location

○ Other Search for location...

Figure 2 - Add Ticket UI

Annex C



Basic Statistics

Number of Users.......................5000

Number of Tickets....................3000

Number of Entities......................350

Number of Moderators.................30

OCTOBER 2015

S	M	T	W	T	F	S
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

Most Active Areas

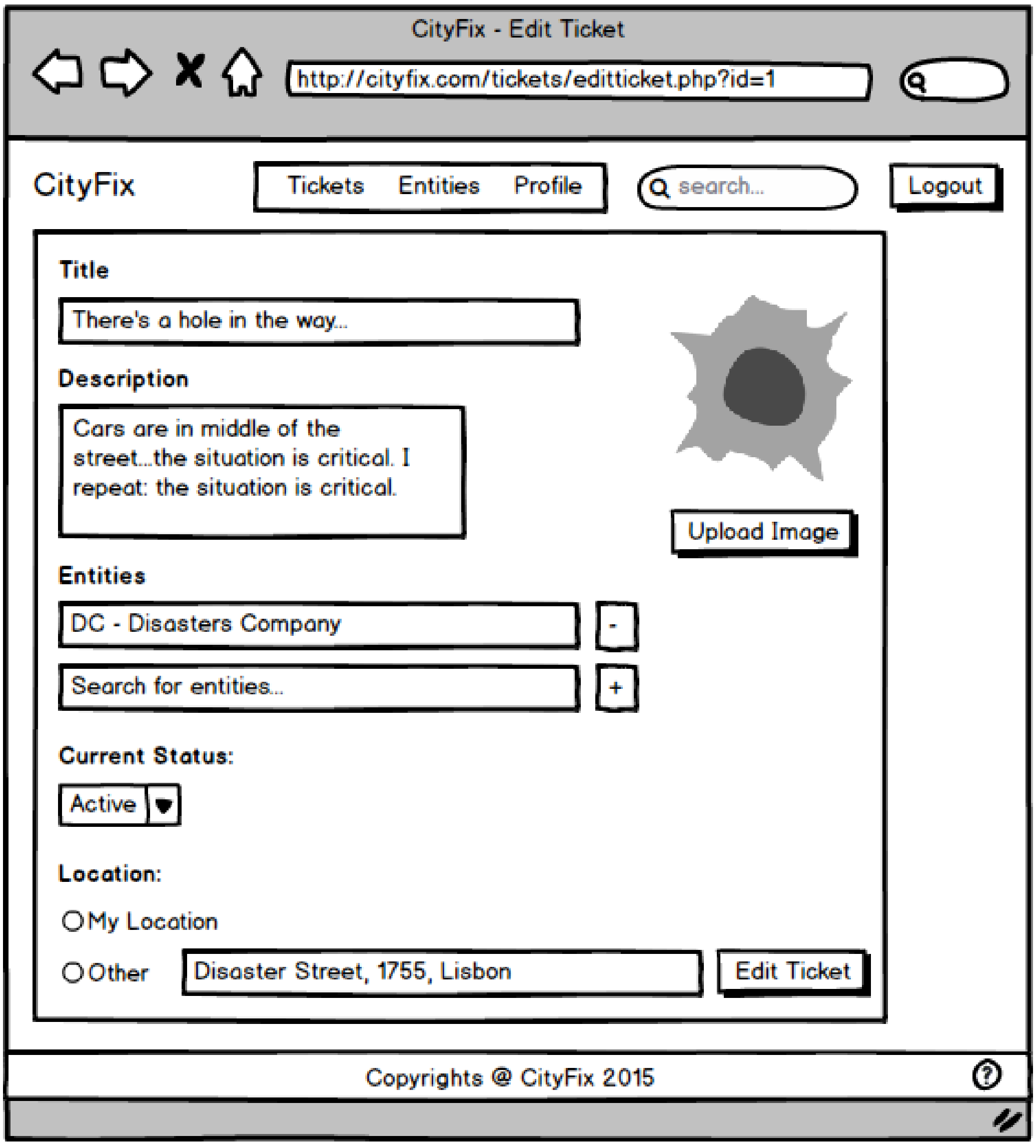
Latest Tickets

Identifier	Description	Entity
T01	There's a hole in the way...	CMP
T02	The light is down...	EDP

Website Overview

Figure 3 - Administrator Panel UI

Annex D



Title

There's a hole in the way...

Description

Cars are in middle of the street...the situation is critical. I repeat: the situation is critical.

Entities

DC - Disasters Company

Search for entities...

Current Status:

Active

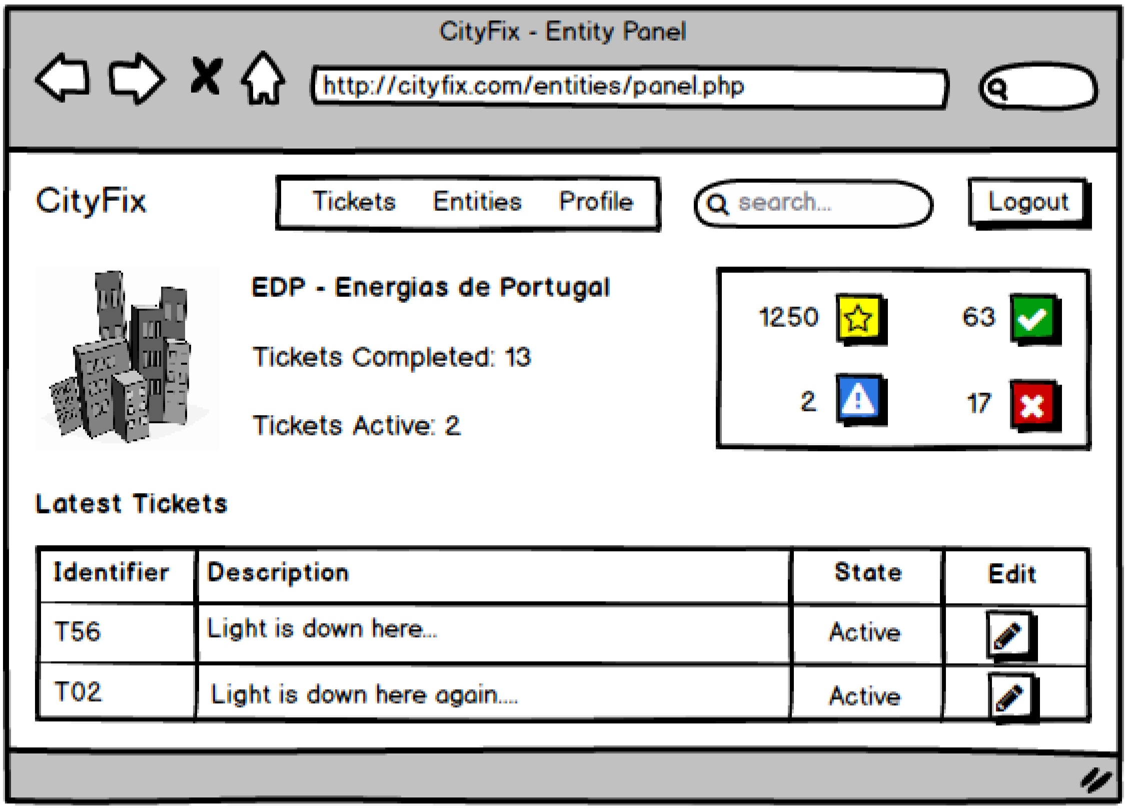
Location:

○ My Location

○ Other Disaster Street, 1755, Lisbon

Figure 4 - Edit Ticket UI

Annex E



EDP - Energias de Portugal

Tickets Completed: 13

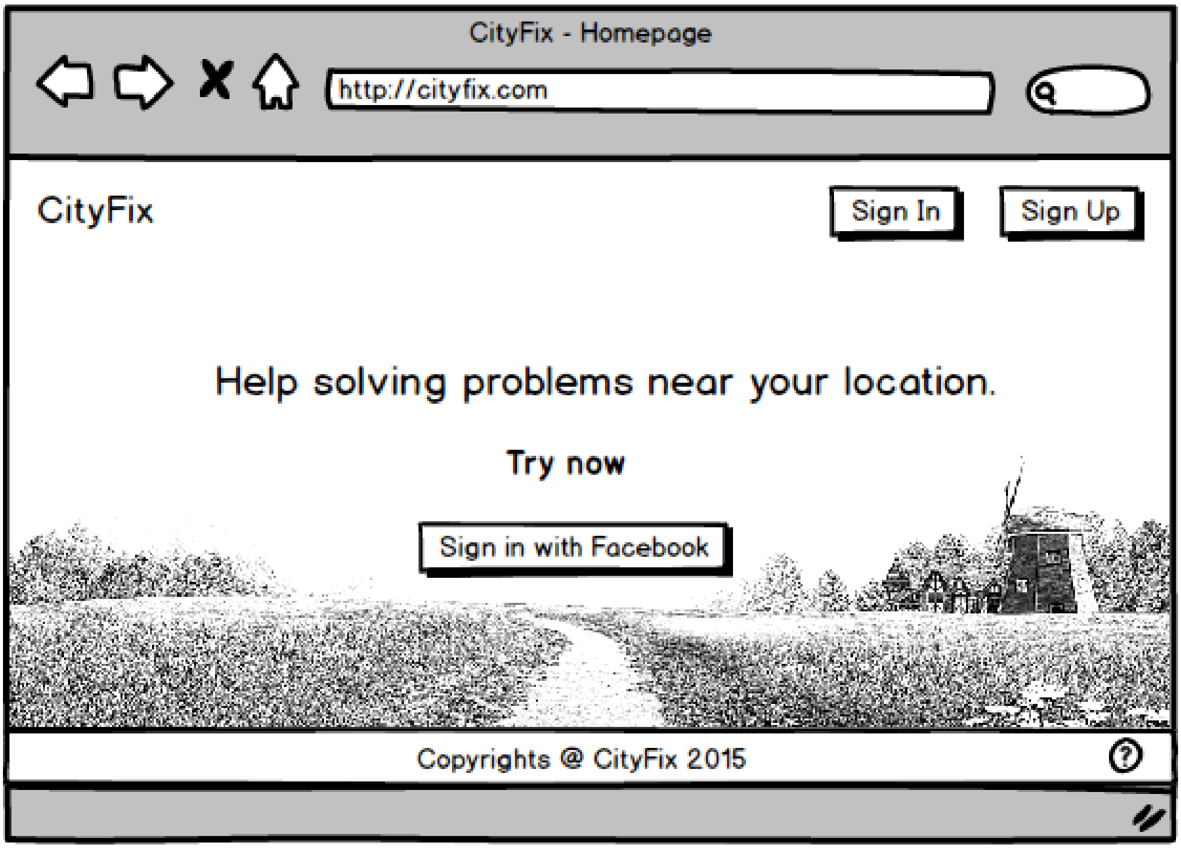
Tickets Active: 2

Latest Tickets

Identifier	Description	State	Edit
T56	Light is down here...	Active	✎
T02	Light is down here again....	Active	✎

Figure 5 - Entity Panel UI

Annex F



Help solving problems near your location.

Copyrights @ CityFix 2015

Figure 6 - Homepage UI

Annex G

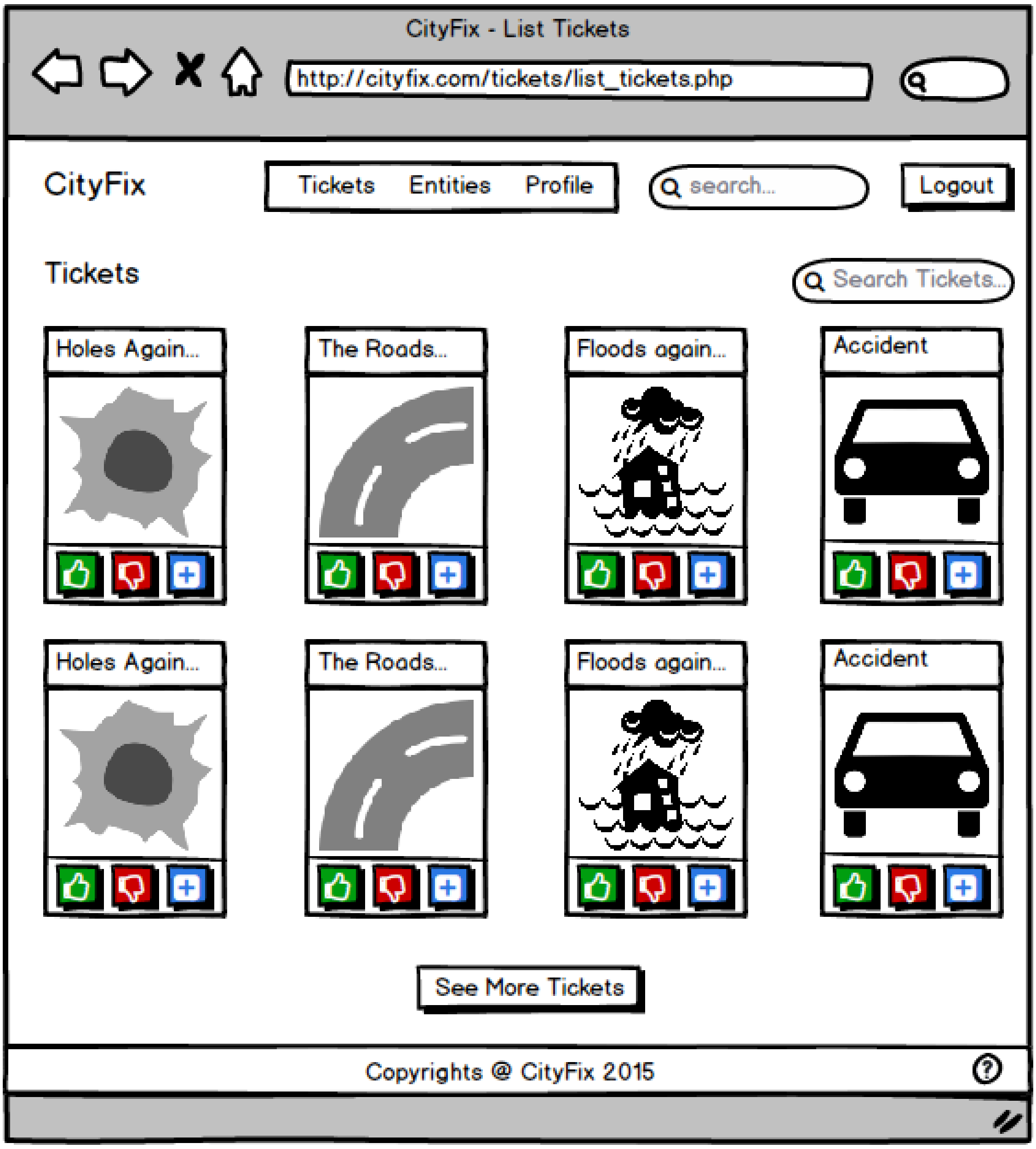
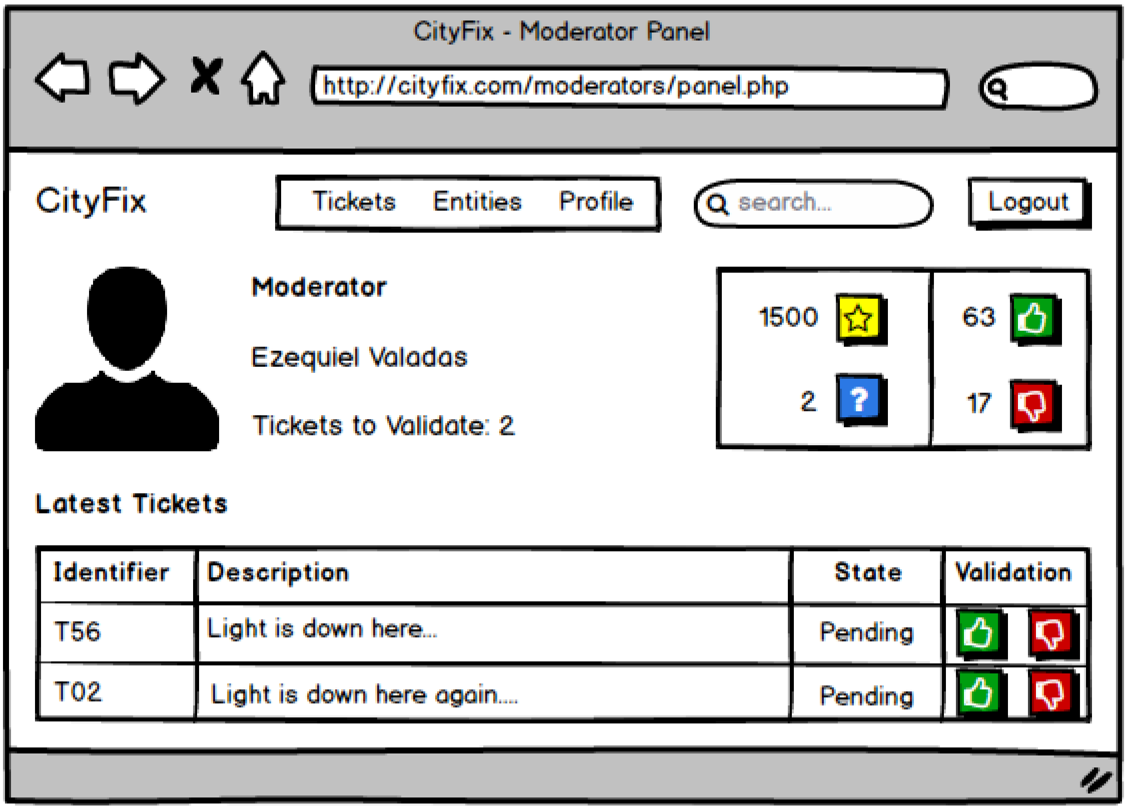


Figure 7 - List Tickets UI

Annex H


CityFix - Moderator Panel
http://cityfix.com/moderators/panel.php
CityFix
Tickets
Entities
Profile
search...
Logout

Moderator

Ezequiel Valadas

Tickets to Validate: 2

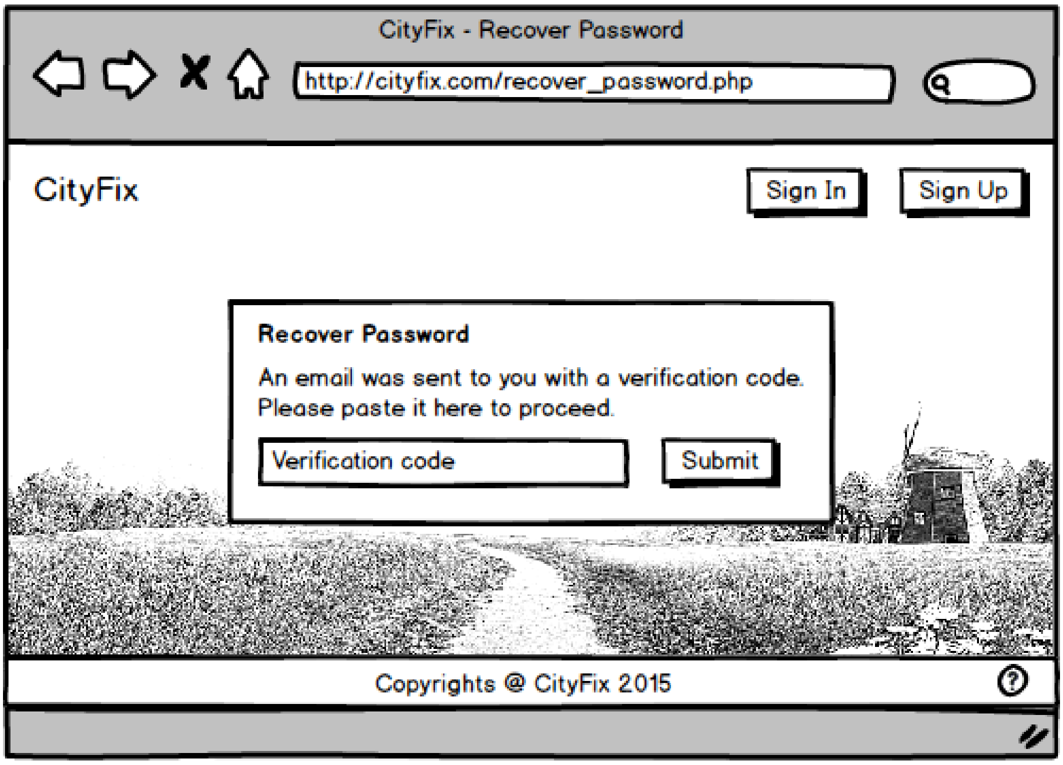
1500 ☆	63 👍
2 ?	17 👎

Latest Tickets

Identifier	Description	State	Validation
T56	Light is down here...	Pending	👍 👎
T02	Light is down here again....	Pending	👍 👎

Figure 8 - Moderator Panel UI

Annex I



CityFix - Recover Password

http://cityfix.com/recover_password.php

CityFix

Recover Password

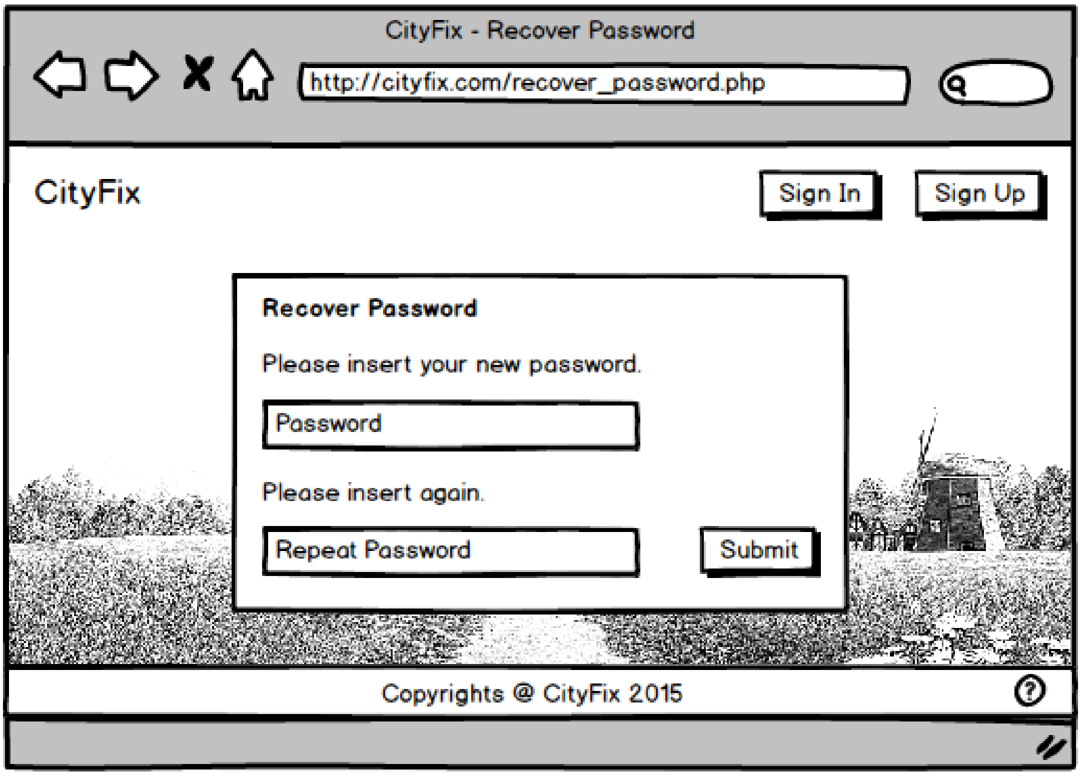
An email was sent to you with a verification code. Please paste it here to proceed.

Verification code

Copyrights @ CityFix 2015

Figure 9 - Recover Password UI

Annex J



CityFix - Recover Password

http://cityfix.com/recover_password.php

CityFix

Recover Password

Please insert your new password.

Password

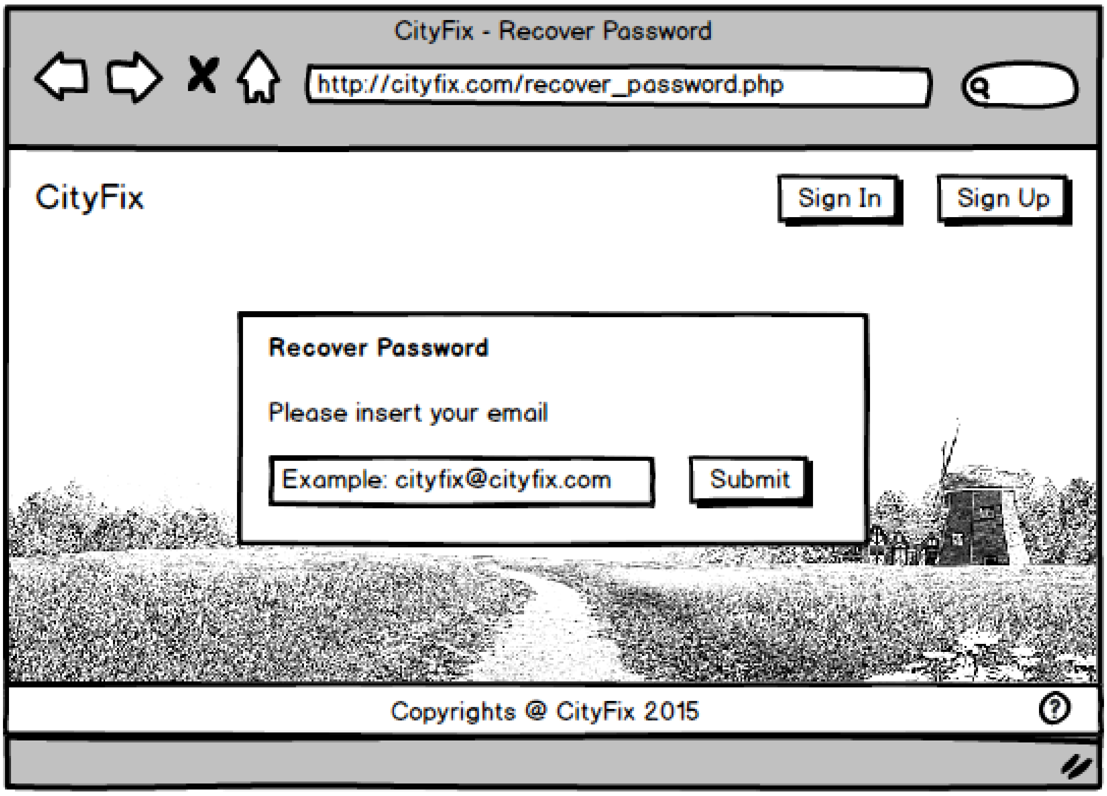
Please insert again.

Repeat Password

Copyrights @ CityFix 2015

Figure 10 - Recover Password 2 UI

Annex K



CityFix - Recover Password

http://cityfix.com/recover_password.php

CityFix

Recover Password

Please insert your email

Example: cityfix@cityfix.com

Copyrights @ CityFix 2015

Figure 11 - Recover Password 3 UI

Annex L

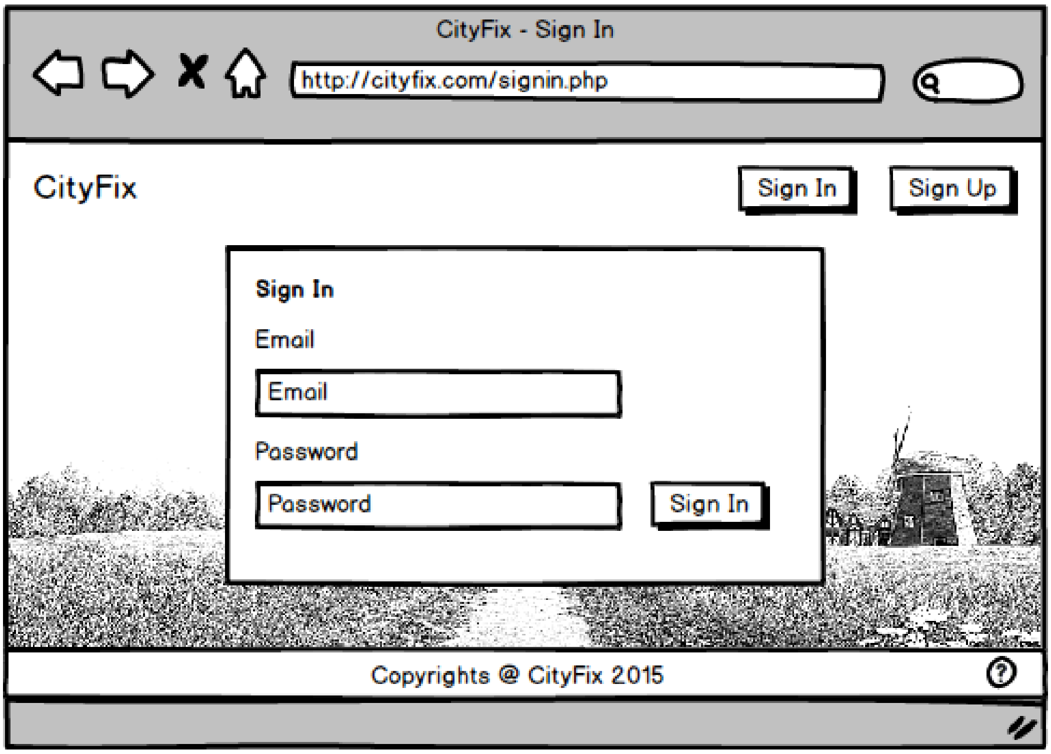
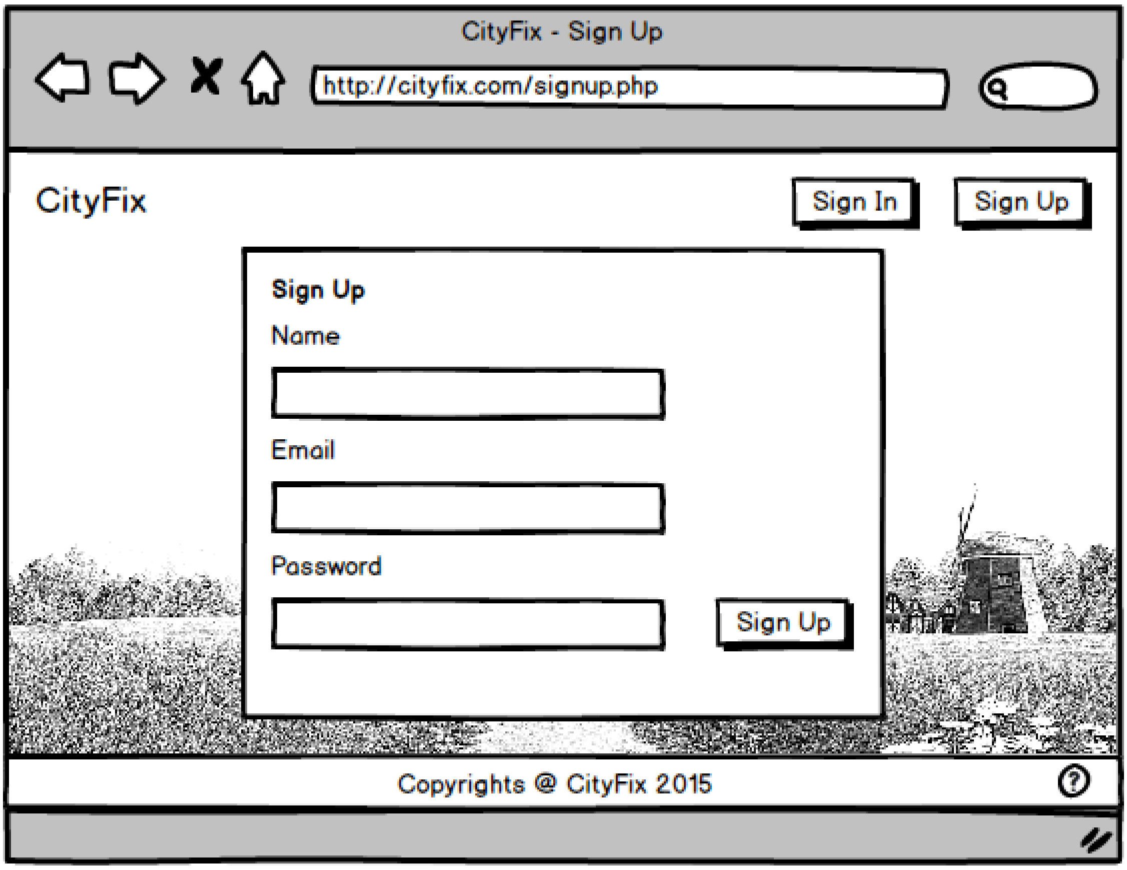


Figure 12 - Sign In UI

Annex M



CityFix - Sign Up

http://cityfix.com/signup.php

CityFix

Sign In

Sign Up

Sign Up

Name

Email

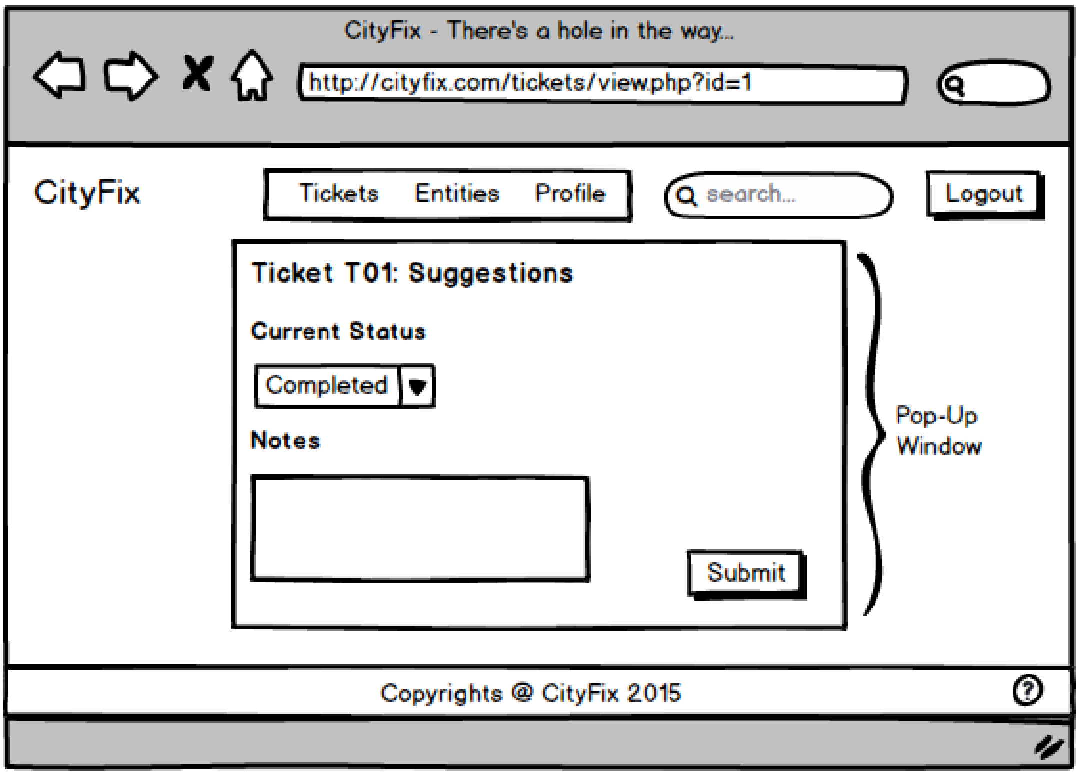
Password

Sign Up

Copyrights @ CityFix 2015

Figure 13 - Sign Up UI

Annex N



CityFix - There's a hole in the way...

http://cityfix.com/tickets/view.php?id=1

Ticket T01: Suggestions

Current Status

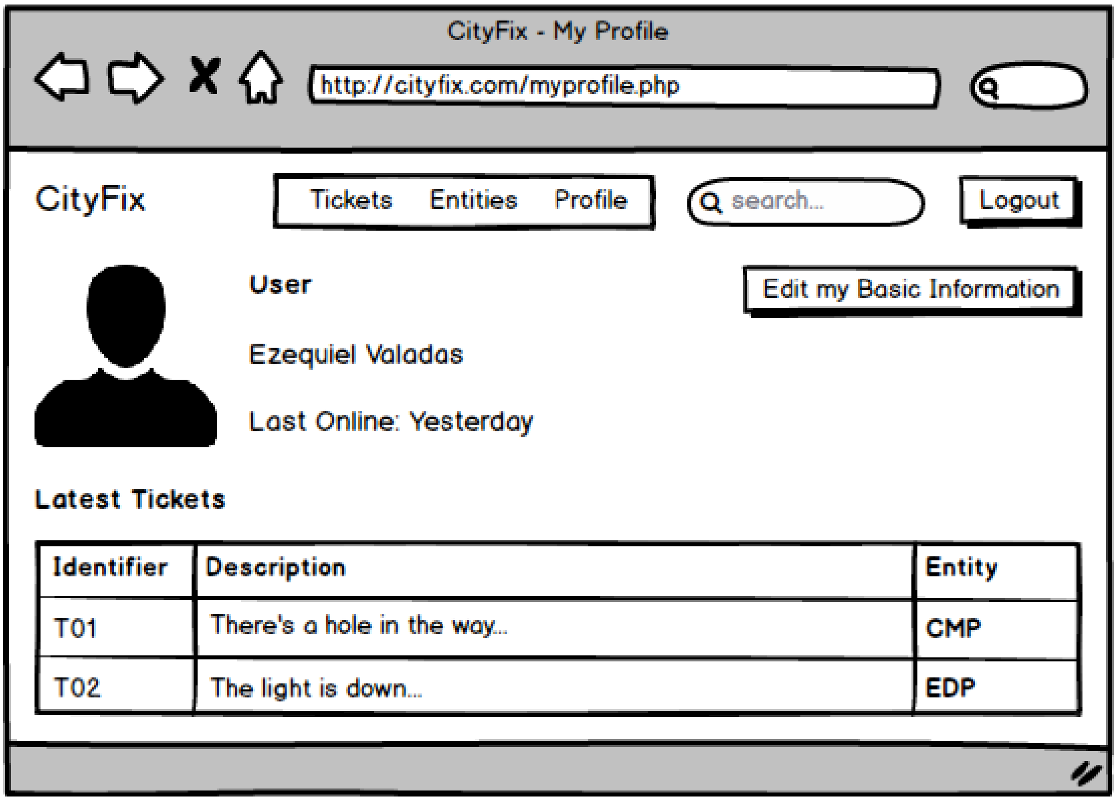
Completed

Notes

Copyrights @ CityFix 2015

Figure 14 - Suggestions to Ticket UI

Annex O



User

Ezequiel Valadas

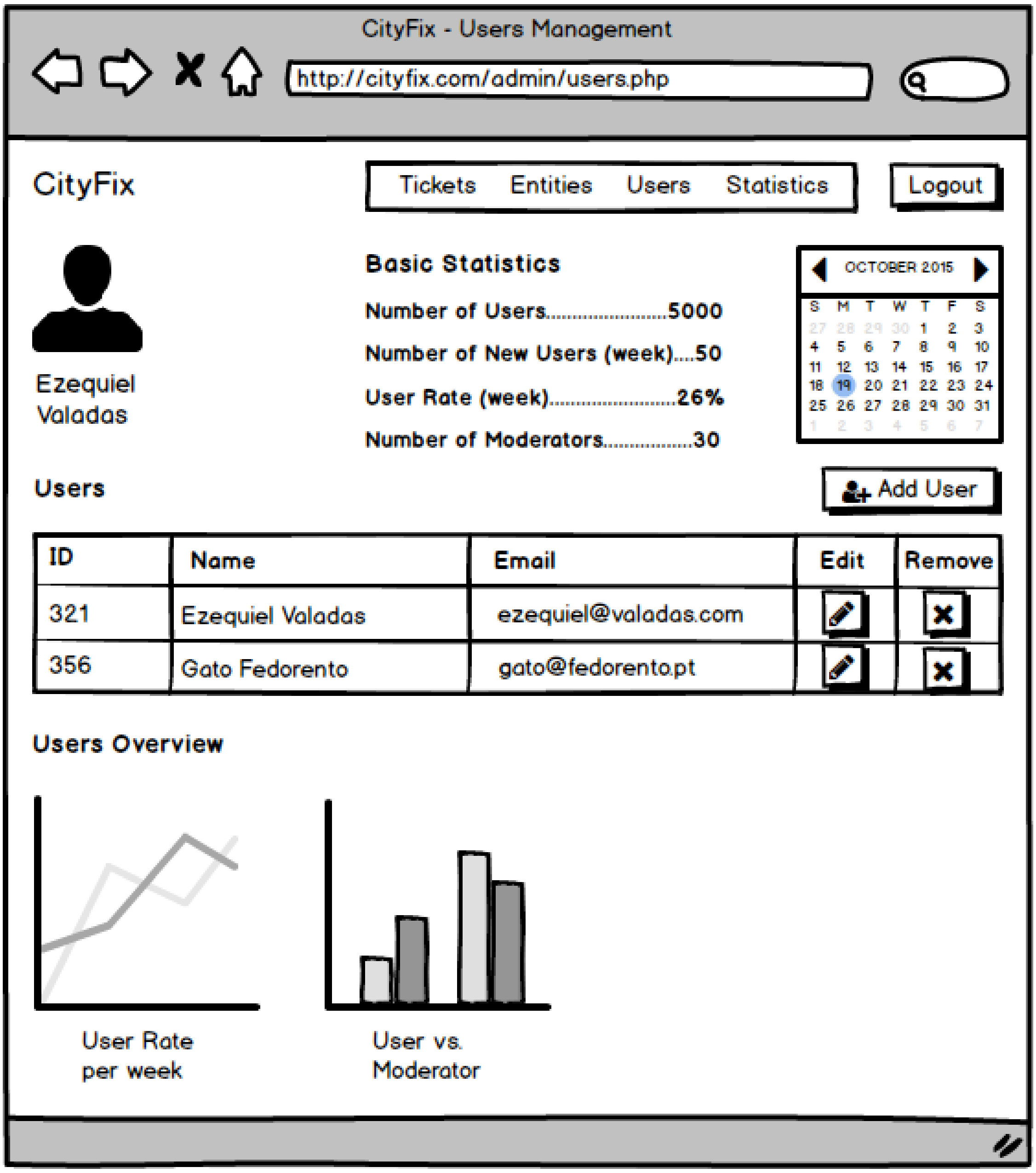
Last Online: Yesterday

Latest Tickets

Identifier	Description	Entity
T01	There's a hole in the way...	CMP
T02	The light is down...	EDP

Figure 15 - User Profile UI

Annex P



CityFix - Users Management

http://cityfix.com/admin/users.php

CityFix

Ezequiel
Valadas

Basic Statistics

Number of Users.......................5000

Number of New Users (week)....50

User Rate (week).........................26%

Number of Moderators.................30

OCTOBER 2015

S	M	T	W	T	F	S
27	28	29	30	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

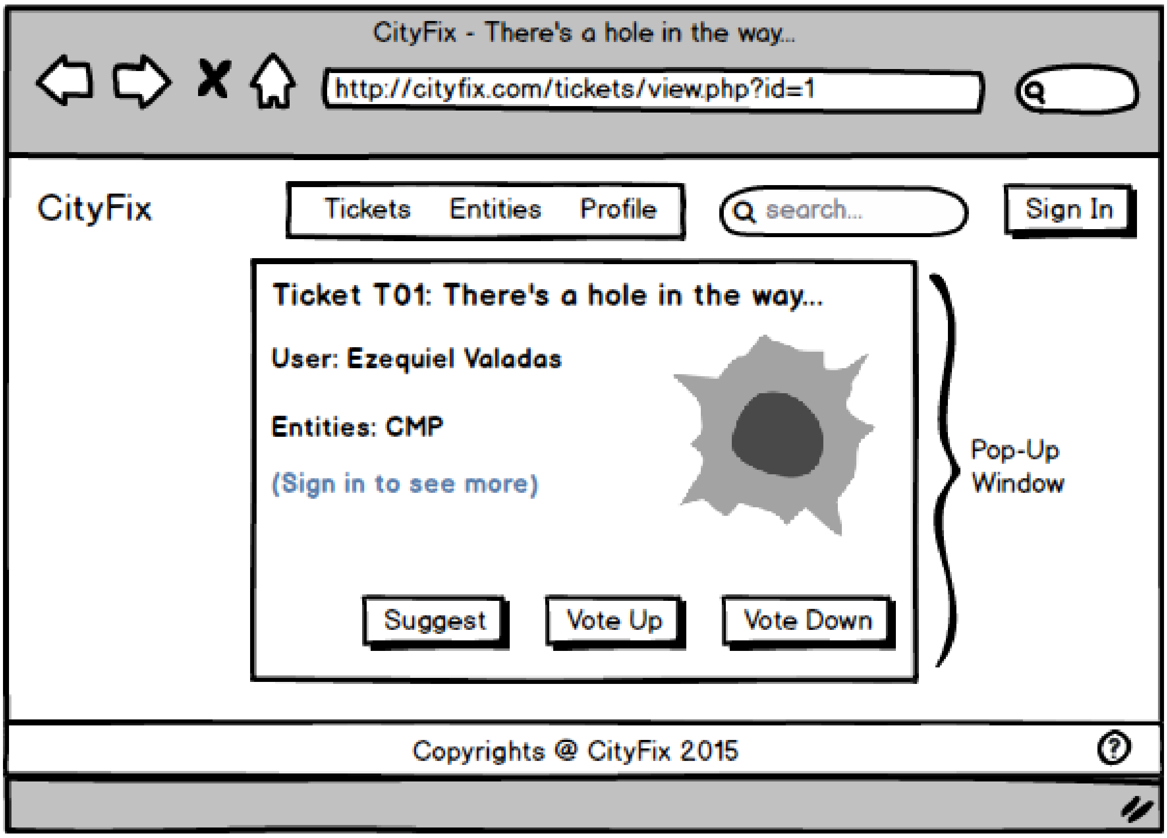
Users

ID	Name	Email	Edit	Remove
321	Ezequiel Valadas	ezequiel@valadas.com	✎	☒
356	Gato Fedorento	gato@fedorento.pt	✎	☒

Users Overview

Figure 16 - Users Management UI

Annex Q



CityFix - There's a hole in the way...

http://cityfix.com/tickets/view.php?id=1

Ticket T01: There's a hole in the way...

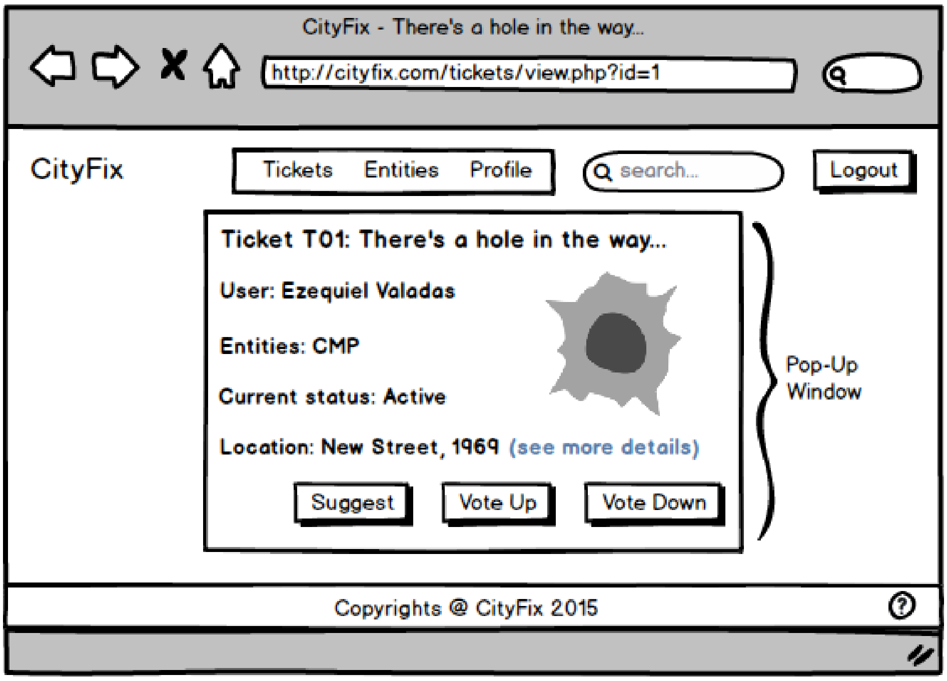
User: Ezequiel Valadas

Entities: CMP

(Sign in to see more)

Figure 17 - View Ticket (online) UI

Annex R



CityFix - There's a hole in the way...

http://cityfix.com/tickets/view.php?id=1

CityFix

Ticket T01: There's a hole in the way...

User: Ezequiel Valadas

Entities: CMP

Current status: Active

Location: New Street, 1969 (see more details)

Copyrights @ CityFix 2015

Figure 18 - View Ticket (offline) UI