Politecnico di Milano

Software Engineering 2

MeteoCal of group Giuliani, Mapelli, Marocco

Acceptance testing

Authors:
Andrea Enrico Turri
Andrea Salmoiraghi
Fabiano Riccardi

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Contents

1 Introduction

This document summarizes the tests that have been performed by us to ensure that the project of the group formed by Giuliani, Mapelli and Marocco works as expected and to find eventual bugs.
We organized the tests in 3 phases with a sort of "top down" approach, starting from requirements and specification, to specific test cases:

- **Requirements and Specifications**: this chapters contain every requirement proposed by the group in their RASD, every requirement indicated in the official project assignment and every specification written in the RASD, in order to find out how they have been implemented and have a look at the whole system before trying to find hidden bugs. We propose some tables that report correctness of requirements and specification, with eventually some notes;

- **Use Cases and UX**: this chapters contain some tables that report if the implemented software matches correctly the Use Cases presented in the RASD and functionalities presented in the User Experience diagram (functionalities and redirects);

- **Test Cases**: this chapter contains every test case presented in the group's test document and further test cases we've added, with the result (correct or not with reference to their expected result) and eventually some notes.

At the end we summarized all bugs that we found in the last chapter of this document.

2 Requirements

2.1 Login/Signup

Registration or log in to the system

Requirement	Notes
The system has to offer a sign up functionality and the possibility to log in	IMPLEMENTED

2.2 Event CRUD

Creating, deleting or updating an event

Requirement	Notes
A user can create a custom new event, specifying name, location, a brief description, a time slot to place it, its visibility and if it is outdoor or indoor	IMPLEMENTED
A user is allowed to update any information regarding his/her events	IMPLEMENTED
To the user is also given the possibility to delete his/her events	IMPLEMENTED

2.3 Calendar privacy

Possibility to make the calendar public

Requirement	Notes
The software also provides the function share with other registered users or hide from them his/her calendar	IMPLEMENTED

2.4 Invitations

Inviting people to events and accepting or refusing invitations

Requirement	Notes
The organizer is allowed to invite any number of registered users to his/her events	IMPLEMENTED
If someone is invited to an event, the system has to send an e-mail, as well as notify the user in his/her homepage	IMPLEMENTED
The system allows users to accept or decline an invitation whenever they want to	IMPLEMENTED

2.5 Weather updates

Checking weather conditions if available for all the events scheduled

Requirement	Notes
Once an event is saved in the calendar, the system has to enrich the event with weather forecast information (if they are available)	IMPLEMENTED
The system must update weather information associated to events periodically	IMPLEMENTED

2.6 Weather alerts

Managing in an effective way the organization of the events, thanks to the weather forecast system

Requirement	Notes
In case of bad weather condition for outdoor events, the system has to inform all the participants one day before the event, sending them an e-mail and a notification which will be visible just after the login	IMPLEMENTED
In case of bad weather conditions for outdoor events, three days before, the system has to propose to the event organizer the closest sunny day (if any)	IMPLEMENTED

2.7 Import/Export

Possibility for users to load/save their calendar

Requirement	Notes
The system allows users to import/export their calendar from/to an external file	IMPLEMENTED but with some limitations because doesn't export events for which the user is participant, but not the creator

3 Specifications

3.1 RASD Specifications

These are the minimum specifications that were listed in the RASD document of the group we are testing.

Requirement	Notes
A user can create an unlimited number of events	IMPLEMENTED
An event has only one organizer and can have an unlimited number of participants	IMPLEMENTED
During the creation or the modification of an event, it is compulsory to specify its name, time and location, while the visibility and the kind, if not selected, will be set respectively at "private" and "indoor" by default and the description of the event is not necessarily needed	IMPLEMENTED but "Where" (the location where the event will take place) is not mandatory in the implemented software
An organizer can delete his/her event whenever he/she wants, and it will not be visible anymore by other participants. A notification is sent to its participants to warn them about this and the invitation, changes and time inconsistency notifications are removed	IMPLEMENTED but actually it is not possible for the organizer to delete a past event
It is not allowed to create a new event that overlaps in time an existing one	IMPLEMENTED
It is not possible to create a new event that starts in the past	IMPLEMENTED
The creation of a new account requires an e-mail address, password and username	IMPLEMENTED
The password of every user must be at least 4 characters	IMPLEMENTED
The info on the weather conditions, if present, have to be uploaded by the system once every 12 hours	IMPLEMENTED
It is also compulsory that the username and e-mail must be unique	IMPLEMENTED
An event does not have a maximum duration of time defined	IMPLEMENTED
Once read, the notifications could be cancelled	IMPLEMENTED

3.2 Minimum specifications

These are the minimum specifications explicitly required by our professors, in this section we ensure that they all have been matched.

Requirement	**Notes**
Users, once registered, should be able to create, delete and update events.	IMPLEMENTED
An event should contain information about when and where the event will take place, whether the event will be indoor or outdoor.	IMPLEMENTED
During event creation, any number of registered users can be invited.	IMPLEMENTED
Only the organizer will be able to update or delete the event.	IMPLEMENTED
Invited users can only accept or decline the invitation.	IMPLEMENTED
Whenever an event is saved, the system should enrich the event with weather forecast information (if available).	IMPLEMENTED
The system should notify all event participants one day before the event in case of bad weather conditions for outdoor events.	IMPLEMENTED
Notifications are received by the users when they log into the system.	IMPLEMENTED
A user A should be allowed to make his/her calendar public, that is, visible to all other registered users. These last ones will see all the time slots in which A is busy but without seeing the details of the corresponding events, unless they have been defined as public.	IMPLEMENTED
Events can be defined as public or private by their owners, upon creation. If an event is public, all the registered users can see its details, including the corresponding participants.	IMPLEMENTED but unfortunately there are some bugs listed below
In case of bad weather conditions for outdoor events, three days before the event, the system should propose to its creator the closest (in time) sunny day (if any).	IMPLEMENTED

Requirement	**Notes**
Allow users to import and export their calendar.	IMPLEMENTED
Email notifications (both for invitation and cloudy outdoor events alerts).	IMPLEMENTED
Manage time consistency when creating an event by avoiding conflicts with existing events.	IMPLEMENTED
Update weather information associated to events periodically, e.g., every 12 hours, and, of course, notify outdoor event participants in case the forecast has changed.	IMPLEMENTED

4 Use cases

In this section we check that all use cases presented in the RASD matches the implementation.

Use Case	**Exit condition**	**Exception**	**Notes**
Sign up	CORRECT	CORRECT	
Login	CORRECT	CORRECT	
Add an event	CORRECT	CORRECT	
Update an event	CORRECT	CORRECT	
Delete an event	CORRECT	CORRECT	
Checking information about an event	CORRECT	CORRECT	
Accept an invitation	CORRECT	CORRECT	
Decline an invitation	CORRECT	CORRECT	
Change the visibility of the calendar	CORRECT	CORRECT	
Export the calendar	CORRECT	CORRECT	
Import the calendar	CORRECT	CORRECT	
Search another user?s calendar	CORRECT	CORRECT	

5 User Experience

In this section we ensure that operations that are present in the UX Diagram are correctly implemented.

5.1 Log In - Register - Log out

Login	**Notes**
Sign up	CORRECT: according to the modification reported at the end of their DD.
Login	CORRECT
Logout	CORRECT

5.2 Create event

Login	**Notes**
Create	CORRECT
Add invitation	CORRECT
Remove invitation	CORRECT

5.3 Modify event

Login	**Notes**
Modify event	CORRECT
Remove invitation	CORRECT
Delete event	CORRECT

5.4 Event details

Login	Notes
Show event details	CORRECT
Invitation details	CORRECT
Accept/refuse invitation	CORRECT
Search other user	CORRECT

6 Testing

In this chapter we describe the tests cases we made in order to find bugs. Most of them are the same proposed by the group in their testing document, we checked that the output is as expected and we added also further test cases (in *italic*) and some comments.

6.1 Login/Logout functionalities

6.1.1 Sign Up

Input	**Is output correct?**
[1] Username never used before, correct email never used before, password > 4 characters;	CORRECT
[2] The same as (1) but password <4 characters	CORRECT
[3] The same as (1) but username or email already used	CORRECT
[4] The same as (1) but insert a di??fferent password in "con??rm password"	CORRECT
[5] The same as (1) but wrong email format.	CORRECT
[6] Form field missing	CORRECT: the system doesn't create any new user and messages are shown.

User registration works properly, once filled the form with correct data, the user is correctly created into the database and it is possible to use the application.

6.1.2 Login

Input	**Is output correct?**
[1] Correct username and password	CORRECT
[2] Wrong username	CORRECT
[3] Correct username but wrong password	CORRECT
[4] Missing username or password	CORRECT

Login works properly, the user can be logged if and only if already registered and if submitted the login form and the he is redirected to his homepage with the calendar. All protected pages are correctly hidden to guests.

6.1.3 Logout

Input	Is output correct?
[1] Click on the "Logout" button from home page	CORRECT
[2] *Click on the "Logout" button from any other page*	CORRECT

Logout works properly from every page where the user is logged in

6.2 Event functionalities

6.2.1 Event creation

Input	Is output correct?
[1] All fields filled correctly and no time consistency problems	CORRECT
[2] Missing one or more of: name, start date, end date, start time, end time	CORRECT
[3] Event's end set before it starts	CORRECT
[4] Start date on the current day, start time before the current time	CORRECT
[5] Choose start and/or end of the event which causes time inconsistency with other events	CORRECT
[6] *User types a city for which doesn't exist weather information*	CORRECT: the event is created, the weather remains unavailable
[7] *User types types something that is not a date / time in event start / end fields*	CORRECT: the event is not created, it is shown a message that says that the format cannot be understood
[8] *User types a very long text into fields*	CORRECT: the form validation doesn't allow to insert too long text, so there are not problems saving the event
[9] *For some reason the radio inputs are not checked*	CORRECT: the form validation doesn't allow to submit the form

Event creation works properly, there are not bugs, also with the additional cases we presented above.

Notes:

- City name always turned to lowercase;

6.2.2 Event modification

Input	Is output correct?
[1] All fields filled correctly and no time consistency problems in any participants' calendar	CORRECT
[2] Missing one or more of: name, start date, end date, start time, end time	CORRECT
[3] Event's end set before it starts	CORRECT
[4] Start date on the current day, start time before the current time	CORRECT
[5] Choose a start time and/or an end time for the event which causes time inconsistency with other events for the organizer	CORRECT
[6] Choose a start time and/or an end time for the event which causes time inconsistency with other events for one or more participants, but not for the organizer	CORRECT
[6] *User types a city for which doesn't exist weather information*	CORRECT: the event is created, the weather remains unavailable
[7] *User types types something that is not a date / time in event start / end fields*	CORRECT: the event is not created, it is shown a message that says that the format cannot be understood
[8] *User types a very long text into fields*	CORRECT: the form validation doesn't allow to insert too long text, so there are not problems saving the event
[9] *For some reason the radio inputs are not checked*	CORRECT: the form validation doesn't allow to submit the form
[10] *The user deletes the city from the event*	WRONG: also if removed, when we save the event, it remains saved the last city
[11] *Move forward/backward the event of a "long" time*	CORRECT: the date is correctly saved

Event modification works properly, except for a little bug while trying yo delete the city where the event was planned.

6.2.3 Deletion of event

Input	Is output correct?
[1] Click on the button "Delete"	CORRECT

There is only a problem for past events: there is not the button to delete them.

6.2.4 Invite users

Input	Is output correct?
[1] The username of a correct user not already invited or participant	CORRECT
[2] The username of the organizer of the event	CORRECT
[3] An username which do not correspond to any user in the db	CORRECT
[4] The username of a user already in the invited list	CORRECT
[5] The username of a user already in the participant list	CORRECT

For this functionality we didn't find any bug, the system works properly.

6.3 Weather forecast service

Input	Is output correct?
[1] All fields fields filled correctly and an existing location put in the field "place"	CORRECT
[2] The same as (1) but nothing put in the field "place"	CORRECT
[3] *The same as (1) but the beginning date is after a lot of days, so forecasts are not available*	CORRECT : there is no forecast
[4] *The same as (1) and the event lasts more than one day*	CORRECT: are provided forecasts for all days, when available

So we proved that also weather forecasts service works fine.

6.4 Notification and participation to events

6.4.1 Accept an invitation

Input	Is output correct?
[1] Click on the invitation notification related to the event and click to the "accept invitation" button and there are no time conflicting events	CORRECT
[2] Same as (1), but there is in the user calendar one or more conflicting events with the new one	CORRECT

6.4.2 Decline an invitation

Input	Is output correct?
[1] Click on the invitation notification related to the event and click to the "decline Invitation" button	CORRECT

6.4.3 Decline participation

Input	Is output correct?
[1] Click on the "decline participation" button	CORRECT

6.4.4 Delete a notification

Input	Is output correct?
[1] Click on the "x" button in the proper notification	CORRECT

6.5 Additional features

6.5.1 Search another user calendar

Input	Is output correct?
[1] The username of a correct user whose calendar is public	CORRECT
[2] The username of a correct user whose calendar is private	CORRECT
[3] Your username	CORRECT
[4] The username that do not correspond to any user registered to the system	CORRECT

6.5.2 Change the visibility of the calendar

Input	Is output correct?
[1] Click on the button "change visibility"	CORRECT

6.5.3 Export the calendar

Input	Is output correct?
[1] Click on the button "Export"	CORRECT

The only thing that we found out in this feature is that it is not possible to export events in which the user is not the owner, but participant. The RASD said that this functionality should export the user's calendar, for us it was not so clear if they meant only events created by the user or not: for this reason we marked this requirement as "Implemented", but with some limitations.

6.5.4 Import the calendar

Input	Is output correct?
[1] Correct xml file chosen and the imported events do not generate any time consistency conflict	CORRECT
[2] Correct xml file chosen but some of the events to be imported generate time consistency with one or more existing events on the user calendar	WRONG: when we export a calendar it is possible to import it exactly as it was, with all events duplicated, while if we try to import another calendar with conflicting events the bug disappears and it is shown a message for time inconsistency.
[3] Chosen file not in xml format	CORRECT
[4] Chosen a non valid file in xml format	CORRECT
[5] *Correct xml file chosen but some of the events to be imported have the beginning date/time after the end date/time*	WRONG: the system imports the events anyway.

6.5.5 Notifications

Input	Is output correct?
[1] *User updates an event in which there are participants*	CORRECT: every participant receives a notification
[2] *User creates an event and invites some users*	CORRECT: every invited user receives a notification (on the system and by email)
[3] *User updates an event and invites some other users*	CORRECT: every invited user receives a notification (on the system and by email)
[4] *User deletes an event with participant users*	CORRECT: every participant receives a notification
[5] *The weather changes*	CORRECT: invited users, participants and owner receive a notification
[6] *One day before the event, the system finds bad weather*	CORRECT: invited users, participants and owner receive a notification (on the system and by email)
[7] *Three days before the event, the system finds bad weather and proposes the first good weather day (if available)*	CORRECT: the owner receives a notification (on the system and by email)

6.5.6 Security

Input	Is output correct?
[1] *User searches another user with private calendar*	CORRECT: the system does not allow to find the user
[2] *User knows the username of a user with private calendar and types the URL to see the calendar*	WRONG: the system shows the private calendar of the user
[3] *User knows the id of a private event and types the URL to see details*	WRONG: the system shows the private event to a unauthorized user
[4] *User knows the id of an event and types the URL to edit it*	WRONG: the system allows any user to modify every event

7 Bugs

7.1 Wrap up

After performing our tests, we report here a list of all bugs we found (they are the same presented above):

- When importing events, time consistency is not checked the first time, so it is possible to export a calendar and import it: as a result the calendar will contain double events. If the user tries to import the calendar again, the system works properly showing an error message.
- When importing events, also events that end before starting are created into the calendar.
- It is not possible for the organizer of a past event to remove it.
- When the user creates an event inserting also the city, if then decides to remove it, it is not possible: when modifying the event leaving that field blank it is saved the same city of before.
- When the user types into the browser the URL of the event's details page of a PRIVATE event of another user, details are completely visible anyway.
- When the user types into the browser the URL of the event's details page with the id of an event that is deleted or that it doesn't exist, an error occurs and no page is displayed.
- When the user types into the browser the URL of the page to edit an event, complete with the id of every existing event, it is possible for that user to edit that event, also if he is not the organizer, invited or participant.
- When the user types into the browser the URL of the page of another user's calendar, it is always shown, also if private.

7.2 Other minor issues

Here we present a list of minor issues that we found, that are unlikely to be considered as bugs:

- When the user doesn't interact with the webpage for a long time, the session expires, but it leaves the current page as it was, so the system doesn't respond to inputs until we refresh the page.
- On Opera browser there are some issues with login. No problem with Chrome, Firefox and Safari.
- Notifications are in the opposite order (shown on the top the oldest, while the newest is on the bottom).