Department of

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MeteoCal

Project development for the 2014 Software Engineering 2 Course

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Test

Cases

Digest

The test cases document is provided as a guide for the testing phase of this project.

Problem description

The X company wants to offer a new weather based online calendar for helping people scheduling their personal events avoiding bad weather conditions in case of outdoor activities. Users, once registered, should be able to create, delete and update events. An event should contain information about when and where the event will take place, whether the event will be indoor or outdoor. During event creation, any number of registered users can be invited. Only the organizer will be able to update or delete the event. Invited users can only accept or decline the invitation. Whenever an event is saved, the system should enrich the event with weather forecast information (if available). Moreover, it should notify all event participants one day before the event in case of bad weather conditions for outdoor events. Notifications are received by the users when they log into the system.

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1. Test Cases – Introduction

We provide this document as a reference for testing the functionalities offered by the MeteoCal system.

The structure we decided to adopt is based on the main use cases of our functionalities, to better clarify and plan the testing phase. The information we provide here may be used in conjunction with the already provided RASD and DD documents.

Please note that there are some slight modifications related to some design choices. These difference, of moderate importance, should not be particularly relevant in the testing phase of our project.

2 Test Cases

2.1 Access in the system

2.1.1 Registration

Goal	User registration
Environment	Index page
Input	Valid profile information including username and password
Expected output	A new account is created on the system with the provided data and the user gets notified
Actual output	The expected output is confirmed
Other post-conditions	The page is reloaded
Possible errors	• Empty mandatory fields: the system doesn't allow the registration • Miss-match between password and confirmation: the system doesn't allow the registration, and the user is notified • Username below minimum length of four characters: the system doesn't allow the registration, and the user is notified • Password below minimum length of four characters: the system doesn't allow the registration, and the user is notified • Username and password should be composed only by letters and numbers. If this condition does not hold the system doesn't allow the registration, and the user is notified • Username already in use by another account: the system doesn't allow the registration, and the user is notified

2.1.2 Log in

Goal	Log in
Environment	Index page
Input	Username and password for a registered account on the database
Expected output	The log in is confirmed, and the user gets access to all the functionalities the system offers to registered users
Actual output	The expected output is confirmed
Other post-conditions	The user gets redirected to his personal calendar
Possible errors	• Empty mandatory fields: the system doesn't allow the log in • Username not associated with any account on the database: the system doesn't allow the log in • The username is associated to an account on the database, but the password doesn't match the one encrypted in the database: the system doesn't allow the log in

2.2 User Functionalities

These functionalities are available only to users registered on the database.

2.2.1 Account Functionalities

2.2.1.1 Access settings

Goal	Access personal settings
Environment	Any page with a top bar. Namely all the ones the user can access after login
Input	The user access his settings page by clicking on the link on the top bar menu
Expected output	The user gets redirected on a page where he can see his personal settings
Actual output	The expected output is confirmed
Other post-conditions	The settings displayed are coherent with the ones stored in the database
Possible errors	

2.2.1.2 Edit settings

Goal	Edit personal settings
Environment	Edit settings page
Input	The user access this page from the settings page by clicking on the “Edit” button. On this page the user enters valid data and press the confirmation button
Expected output	The user settings are updated with the new values
Actual output	The expected output is confirmed
Other post-conditions	The user is redirected to the settings page
Possible errors	• The user enters invalid data: the system doesn't allow the operation • The user tries to modify his password but the old password is empty or doesn't match the old password stored in the database: the system doesn't allow the operation • The user tries to modify his password but the new password doesn't match the confirmation password field: the system doesn't allow the operation • The inserted email doesn't match our regular expression: the system doesn't allow the operation

The regular expression we are using is the following:

^([a-zA-Z0-9_\-\.]+)@((\[[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.)|(([a-zA-Z0-9\-]+\.)+))([a-zA-Z]{2,4}|[0-9]{1,3})(\]?)$

2.2.1.3 Log out

Goal	Log out
Environment	Any page with a top bar. Namely all the ones the user can access after login
Input	The user access logs out by clicking on the link on the top bar menu
Expected output	The user session gets closed
Actual output	The expected output is confirmed
Other post-conditions	The user is redirected to the index page.

2.2.2 Personal Calendar

2.2.2.1 Access

Goal	Access personal calendar, and see scheduled events
Environment	Any page with a top bar. Namely all the ones the user can access after login
Input	The user access his calendar by logging in or by clicking the link in the top bar
Expected output	The user gets redirected on a page where he can see his personal calendar
Actual output	The expected output is confirmed
Possible errors	

2.2.2.2 Visualization

Goal	Visualize personal calendar, and see scheduled events
Environment	User home: personal calendar page
Input	The user changes visualization mode for his calendar between month, week and day
Expected output	The page updates based on user choices. His events, including both the ones he created and the ones he decided to participate to, are collocated correctly in each one of the visualization modes
Actual output	The expected output is confirmed
Other post-conditions	
Possible errors	

2.2.2.3 Access events

Goal	Access events from calendar page
Environment	User home: personal calendar page
Input	The user clicks on an event on his calendar
Expected output	The event page for the selected event is shown
Actual output	The expected output is confirmed
Other post-conditions	
Possible errors	

2.2.3 Search

2.2.3 .1 Search

Goal	Search users and events based on usernames or event names
Environment	Any page with a top bar. Namely all the ones the user can access after login
Input	The user enters the required name in the search bar in the top bar and confirms
Expected output	The user gets redirected on a search results page
Actual output	The expected output is confirmed
Other post-conditions	The result page shows both users and events whose name fully match the input string
Possible errors	

2.2.4 Event lifecycle

2.2.4.1 Creation

Goal	Event creation
Environment	Create event, accessed from the top bar
Input	Valid event information
Expected output	A new event is created on the system using the provided data
Actual output	The expected output is confirmed
Other post-conditions	The event creator is actually the user that created the event. The invited users in the creation phase receive an invitation to the event. Note: the users to invite are separated by commas (e.g. “User1, User2, User3) The weather forecasts and suggested changes for the event are updated as soon as possible.
Possible errors	• Empty mandatory fields: the system doesn't allow the operation • Event name below minimum length of four characters: the system doesn't allow the operation

2.2.4.2 Visualization

Goal	Event visualization
Environment	Event page
Input	The user gets to the page of an event
Expected output	The system displays the event based on the visibility that the user has on the event. The possibilities are: “creator visibility”, “general visibility”, “no visibility”. The “creator visibility” is granted only to the creator, while the “general visibility” is granted to all other users if the event is public, or only to the invited ones if it's private. Where none of these conditions is met, no visibility is granted over the event data.
Actual output	The expected output is confirmed
Other post-conditions	The event data displayed are coherent with the ones stored in the database. Weather conditions are also shown if forecasts are available.
Possible errors	• The requested event doesn't exists and the user is sent to an error page.

2.2.4.3 Edit event

Goal	Edit event data
Environment	Edit event page, accessed by event page
Input	Valid event information
Expected output	The event data is updated
Actual output	The expected output is confirmed
Other post-conditions	The weather forecasts and suggested changes for the event are updated as soon as possible.
Possible errors	• Empty mandatory fields: the system doesn't allow the operation • Event name below minimum length of four characters: the system doesn't allow the operation

2.2.4.4 Invite more users

Goal	Invite users
Environment	Event page (event creator only)
Input	The username of the user to be invited
Expected output	The user gets invited to the event and receives an invitation
Actual output	The expected output is confirmed
Other post-conditions	
Possible errors	• The inserted username is not associated to any user on the database: no user gets invited • The inserted username is associated to a user already invited to the event: no user gets invited

2.2.4.5 Manage events

Goal	Manage personal events
Environment	Event management page
Input	The user gets to the page from the top bar menu
Expected output	The event management page is shown
Actual output	The expected output is confirmed
Other post-conditions	The page contains a list of all the events in the future where the user is either a participant or the creator.

2.2.4.6 Participate

Goal	Invite users
Environment	Event page (general visibility only, non participant)
Input	The user press the participate button
Expected output	A participation is added to the event
Actual output	The expected output is confirmed
Other post-conditions	
Possible errors	

2.2.4.7 Cancel participation

Goal	Cancel a participation
Environment	Event page (general visibility only, participant)
Input	The user press the cancel button
Expected output	The participation to the event is removed
Actual output	The expected output is confirmed
Other post-conditions	
Possible errors	

2.2.4.8 Check suggested change

Goal	Edit event schedule, following a suggested change
Environment	Suggested change page
Input	The user press the “Available changes” button on the event page (rendered only when a suggested change is available)
Expected output	The user is offered a suggested change if available and the possibility to confirm or manually change the schedule. When no match is found the default values on the page are the current start and end of the event.
Actual output	The expected output is confirmed
Other post-conditions	The weather forecasts and suggested changes for the event are updated as soon as possible.
Possible errors	

2.2.5 Invitation management

2.2.5.1 Visualization

Goal	Invitation visualization
Environment	Invitation management page
Input	The user gets to the page from the top bar menu
Expected output	The system displays the invitations that the user has not discarded yet and offers him to either “Join” or “Discard”. If the user discard an invitation the invitation is not visible anymore in this page. If the user joins, a participation is added to the event the invitation is related to.
Actual output	The expected output is confirmed
Other post-conditions	
Possible errors	

2.2.5.2 Join

Goal	Accept an invitation by joining the event
Environment	Invitation management page
Input	The user press the “Join” button on an invitation
Expected output	A participation is added to the event the invitation is related to.
Actual output	The expected output is confirmed
Other post-conditions	The invitation is still visible on this page.
Possible errors	

2.2.5.3 Discard

Goal	Discard an invitation
Environment	Invitation management page
Input	The user press the “Discard” button on an invitation
Expected output	The invitation is not visible anymore in this page. If the user is participating to the event, the participation is not removed
Actual output	The expected output is confirmed
Possible errors	

2.2.5.4 Unseen invitation count

2.2.5.4.1 Unseen invitation count increase

Goal	Check invitation count increase
Environment	Any page with a top bar. Namely all the ones the user can access after login
Input	The user refreshes the page or gets on gets on a new page one or more new invitations have been produced by the system
Expected output	The unseen invitations count in the top bar is increased by a number equal to the new invitations produced by the system
Actual output	The expected output is confirmed
Other post-conditions	
Possible errors	

2.2.5.4.2 Unseen invitation count decrease

Goal	Check invitation count decrease
Environment	Invitation management page
Input	The user gets to the page
Expected output	The unseen invitations count in the top bar is decreased by a number equal to the new invitations shown
Actual output	The expected output is confirmed
Other post-conditions	
Possible errors	

2.2.6 Notification management

2.2.6.1 Visualization

Goal	Notification visualization
Environment	Notification management page
Input	The user gets to the page from the top bar menu
Expected output	The system displays all the notifications the user has received
Actual output	The expected output is confirmed
Other post-conditions	All the notification the user has received are shown on this page. Clicking on any of them redirects the user to the event page
Possible errors	

2.2.6.2 Unseen notification count

2.2.6.2.1 Unseen notification count increase

Goal	Check notification count increase
Environment	Any page with a top bar. Namely all the ones the user can access after login
Input	The user refreshes the page or gets on gets on a new page while one or more new notifications have been produced by the system
Expected output	The unseen notifications count in the top bar is increased by a number equal to the new notifications produced by the system
Actual output	The expected output is confirmed
Other post-conditions	
Possible errors	

2.2.6.2.1 Unseen notification count decrease

Goal	Check notification count decrease
Environment	Notification management page
Input	The user gets to the page
Expected output	The unseen notifications count in the top bar is decreased by a number equal to the new notifications shown
Actual output	The expected output is confirmed

2.2.7 User Calendar

2.2.7.1 Visualization

Goal	Access the calendar of another user, and see his scheduled events
Environment	Any page with a top bar. Namely all the ones the user can access after login
Input	The user access this page by clicking on a result offered by our search functionalities
Expected output	The user is shown the requested calendar if and only if his creator set it as public in his account settings. The private events that would be represented on this page are masked nevertheless and no information is shown about them other than the fact that the user is busy in that time frame.
Actual output	The expected output is confirmed

3 Additional Notes

3.1 Availability of weather forecasts

To provide weather forecasts we rely on the external service offered by Openweathermap and we are limited to their availability constraints. In particular, the weather forecasts are available generally in a range of 16 days from the current one, an their accuracy is of 3 hours for the first 5 days, and 24 hours for the next 11 days.

Please note also that weather forecasts may be unavailable for some cities. This could also be due to what we report in the following point.

3.2 Geographic repository

The geographic range of possibilities in the selection of country and city for an event covers the whole world. While this fact can be considered as a definitely positive element in the evaluation of our service, it also has, temporarily, some negative consequences.

First of all there's the fact that to produce the list we used external resources and we rely on the correctness of this sources.

Secondly, since we cover such an extended geographic range we didn't have enough time to work on this reference files to adapt the encoding to a perfect match with the external service API. For this reason weather forecasts for different cities in our repository won't be available. In the testing phase we suggest then to use only city names with an UTF-8 encoding without spaces for the best results, even though our service is already able to provide forecasts also in other cases.

This inconvenience is due to our external resources and could be fixed, but we decided to dedicate our limited time to improve our service in other aspects.

3.3 User seeing his own calendar as any other user would see it

Currently it is possible for a user to see his calendar as any other user would see it following these steps:

- Type his own username in the search bar
- Click on the result found (himself)

This note is just to state that this is not a bug, but an intended small feature that could be made more accessible in a future release. Many social networks allows for example to see the personal pages as an other user would see the same pages. This feature follows the same approach, but we didn't consider it enough relevant to create a user-friendly way of getting to it.

3.4 Automated tests

During our testing we focused more on manual testing than automated testing. Nevertheless we did different integration tests using the Arquillian framework. The automated tests among other aspects, cover completely the interaction with the external weather forecast service.