



*Department of*  
*Computer Science and Engineering*

## ***MeteoCal***

*Project development for the 2014 Software Engineering 2 Course*

*Supervisor:*     **Prof. Di Nitto**

### ***Authors***

**Andrea Bignoli**

Matr. 837493

*andrea.bignoli@gmail.com*

**Leonardo Cella**

Matr. 838074

*leonardocella@gmail.com*

**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

<i>Goal</i>	User registration
<i>Environment</i>	Index page
<i>Input</i>	Valid profile information including username and password
<i>Expected output</i>	A new account is created on the system with the provided data and the user gets notified
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	The page is reloaded
<i>Possible errors</i>	<ul style="list-style-type: none"><li>• Empty mandatory fields: the system doesn't allow the registration</li><li>• Miss-match between password and confirmation: the system doesn't allow the registration, and the user is notified</li><li>• Username below minimum length of four characters: the system doesn't allow the registration, and the user is notified</li><li>• Password below minimum length of four characters: the system doesn't allow the registration, and the user is notified</li><li>• 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</li><li>• Username already in use by another account: the system doesn't allow the registration, and the user is notified</li></ul>



### 2.1.2 Log in

<i>Goal</i>	Log in
<i>Environment</i>	Index page
<i>Input</i>	Username and password for a registered account on the database
<i>Expected output</i>	The log in is confirmed, and the user gets access to all the functionalities the system offers to registered users
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	The user gets redirected to his personal calendar
<i>Possible errors</i>	<ul style="list-style-type: none"><li>• Empty mandatory fields: the system doesn't allow the log in</li><li>• Username not associated with any account on the database: the system doesn't allow the log in</li><li>• 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</li></ul>

## **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**

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

### **2.2.1.2 Edit settings**

<i>Goal</i>	Edit personal settings
<i>Environment</i>	Edit settings page
<i>Input</i>	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
<i>Expected output</i>	The user settings are updated with the new values
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	The user is redirected to the settings page
<i>Possible errors</i>	<ul style="list-style-type: none"><li>• The user enters invalid data: the system doesn't allow the operation</li><li>• 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</li><li>• 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</li><li>• The inserted email doesn't match our regular expression: the system doesn't allow the operation</li></ul>

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**

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

## **2.2.2 Personal Calendar**

### **2.2.2.1 Access**

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

### **2.2.2.2 Visualization**

<i>Goal</i>	Visualize personal calendar, and see scheduled events
<i>Environment</i>	User home: personal calendar page
<i>Input</i>	The user changes visualization mode for his calendar between month, week and day
<i>Expected output</i>	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
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	
<i>Possible errors</i>	

### **2.2.2.3 Access events**

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

### 2.2.3 Search

#### 2.2.3.1 Search

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

## 2.2.4 Event lifecycle

### 2.2.4.1 Creation

<i>Goal</i>	Event creation
<i>Environment</i>	Create event, accessed from the top bar
<i>Input</i>	Valid event information
<i>Expected output</i>	A new event is created on the system using the provided data
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	<p>The event creator is actually the user that created the event. The invited users in the creation phase receive an invitation to the event.</p> <p>Note: the users to invite are separated by commas (e.g. "User1, User2, User3")</p> <p>The weather forecasts and suggested changes for the event are updated as soon as possible.</p>
<i>Possible errors</i>	<ul style="list-style-type: none"><li>• Empty mandatory fields: the system doesn't allow the operation</li><li>• Event name below minimum length of four characters: the system doesn't allow the operation</li></ul>

### 2.2.4.2 Visualization

<i>Goal</i>	Event visualization
<i>Environment</i>	Event page
<i>Input</i>	The user gets to the page of an event
<i>Expected output</i>	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.
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	The event data displayed are coherent with the ones stored in the database. Weather conditions are also shown if forecasts are available.
<i>Possible errors</i>	<ul style="list-style-type: none"><li>• The requested event doesn't exist and the user is sent to an error page.</li></ul>

#### **2.2.4.3 Edit event**

<i>Goal</i>	Edit event data
<i>Environment</i>	Edit event page, accessed by event page
<i>Input</i>	Valid event information
<i>Expected output</i>	The event data is updated
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	The weather forecasts and suggested changes for the event are updated as soon as possible.
<i>Possible errors</i>	<ul style="list-style-type: none"><li>• Empty mandatory fields: the system doesn't allow the operation</li><li>• Event name below minimum length of four characters: the system doesn't allow the operation</li></ul>

#### **2.2.4.4 Invite more users**

<i>Goal</i>	Invite users
<i>Environment</i>	Event page (event creator only)
<i>Input</i>	The username of the user to be invited
<i>Expected output</i>	The user gets invited to the event and receives an invitation
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	
<i>Possible errors</i>	<ul style="list-style-type: none"><li>• The inserted username is not associated to any user on the database: no user gets invited</li><li>• The inserted username is associated to a user already invited to the event: no user gets invited</li></ul>

#### **2.2.4.5 Manage events**

<i>Goal</i>	Manage personal events
<i>Environment</i>	Event management page
<i>Input</i>	The user gets to the page from the top bar menu
<i>Expected output</i>	The event management page is shown
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	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**

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

#### **2.2.4.7 Cancel participation**

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

#### **2.2.4.8 Check suggested change**

<i>Goal</i>	Edit event schedule, following a suggested change
<i>Environment</i>	Suggested change page
<i>Input</i>	The user press the “Available changes” button on the event page (rendered only when a suggested change is available)
<i>Expected output</i>	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.
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	The weather forecasts and suggested changes for the event are updated as soon as possible.
<i>Possible errors</i>	



## **2.2.5 Invitation management**

### **2.2.5.1 Visualization**

<i>Goal</i>	Invitation visualization
<i>Environment</i>	Invitation management page
<i>Input</i>	The user gets to the page from the top bar menu
<i>Expected output</i>	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.
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	
<i>Possible errors</i>	

### **2.2.5.2 Join**

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

### **2.2.5.3 Discard**

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

#### **2.2.5.4 Unseen invitation count**

##### **2.2.5.4.1 Unseen invitation count increase**

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

##### **2.2.5.4.2 Unseen invitation count decrease**

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

## **2.2.6 Notification management**

### **2.2.6.1 Visualization**

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

### **2.2.6.2 Unseen notification count**

#### **2.2.6.2.1 Unseen notification count increase**

<i>Goal</i>	Check notification count increase
<i>Environment</i>	Any page with a top bar. Namely all the ones the user can access after login
<i>Input</i>	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
<i>Expected output</i>	The unseen notifications count in the top bar is increased by a number equal to the new notifications produced by the system
<i>Actual output</i>	The expected output is confirmed
<i>Other post-conditions</i>	
<i>Possible errors</i>	

#### **2.2.6.2.1 Unseen notification count decrease**

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

## 2.2.7 User Calendar

### 2.2.7.1 Visualization

<i>Goal</i>	Access the calendar of another user, and see his scheduled events
<i>Environment</i>	Any page with a top bar. Namely all the ones the user can access after login
<i>Input</i>	The user access this page by clicking on a result offered by our search functionalities
<i>Expected output</i>	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.
<i>Actual output</i>	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, and 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 these sources.

Secondly, since we cover such an extended geographic range we didn't have enough time to work on these 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 allow for example to see the personal pages as another 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.