

IMS - Project Documentation

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For this project we have tried to work as a group as much as possible. We managed to work singularly and together and all the choices reflect the group decisions.

1 User Stories

1.1 The new student

A new student of the Free University of Bolzano arrives in the city. He does not have any friends, and neither has been in South Tyrol before. However, he wants to discover the beauty of the villages and the environment in which he will live for some years. He does not want to visit alone and does not have any information regarding what to see and how to get there.

1.2 The existing student

A student of Free University of Bolzano that wants to travel around South Tyrol. He does not want to travel alone, does not want to have all the stress and put in all the effort for the organization of every event.

1.3 Not a student of Free University of Bolzano

Someone outside of the Free University of Bolzano is interested in visiting South Tyrol. The best example in this case would be a friend or relative of a student that comes in the region to visit the student. Since Uniscout organizes trips for everyone, they would be allowed to participate.

2 Implementation and Technologies

In the implementation of this website the technologies that we use are: Bootstrap, HTML5, CSS, JavaScript, AJAX, JQuery, PHP, MySQL.

We used also some external libraries like: Lightbox, PHPMailer, Mail Scheduler (by Chintan Patel).

2.1 Front-end

We choose to use Bootstrap in development of the front of our website since we wanted it to be the most responsive possible in different screen sizes. We found Bootstrap to be very useful mostly for its grid system. We also found useful some other features of Bootstrap like pre-defined classes with a certain style, or other elements that we used like the collapsing navbar menu in the mobile version.

Lightbox was another choice of ours for the front end. We made this choice since we have a lot of photos which can make the event clearer to the user, and we thought that having the possibility to view the photos on a larger version would be a nice-to-have feature. It is used on the home page, so on the upcoming events and also on the gallery where all the photos of the past and oncoming event are shown.

2.2 Back-end

Our choice of the back-end technology was made accordingly to our previous experience with these tools during the course. The main functions that use the back end, need almost all the technologies that we use. For example, the event loading procedure uses AJAX, so JavaScript invokes a PHP file, that then executes a query on the database, that is consequently returned as a JSON file which gets processed using JQuery.

The external libraries of the back end, PHPMailer and Mail Scheduler, are used for sending emails to the users when they get enrolled to an event and to schedule an email that is sent the day before the event as a reminder for the participants.

3 Development Process

We can divide our development process in some milestones. Firstly, we tried to create a database representing our design choice. Then, we set up the connection between the server and the database through PHP. After that, we tried to develop some wireframes of our website. Having those, we managed to create the website in its main parts. When we had an idea of what were the actions we wanted our pages to perform, we managed the client-server interaction to retrieve the information from the database. At this point we had our least viable product. Next, we started adding more features: a gallery to see all the images, a scheduler for the emails and we cured more the front-end. Next, we started testing all the features of our system. When the website was ready, we made our friends test it and we collected feedback to improve it. Lastly, another round of testing was done to check the corrections.

3.1 The Database

The creation of the database was a long process: we first added the tables that were going to be there for sure, but we had to change it many times to satisfy the changes to our website. The final database is composed of four tables: events, participants, articles and album.

The events table contains all the information about a certain event: an id, its name, the date and time, the location, the description and a link to a photo describing the place.

The articles table is where the posts written about past events are saved. We imagine that in our association the admins will need to write a nice comment and add some picture about the event that has just passed; so that they can show to possible how an event works and why they should join. The articles table has the following fields: an id, the title, the id of the event to which it corresponds, the date and time of its publication and the description.

The participants table holds information about the people who decided to join us on a certain event. It has contact information about the user (name, surname, phone number and email) and also an id and the id of reference of the event.

The album table was the lastly added, since we figured we needed another place to store all the images that were going to be in the gallery. Each image in album has its own id, the id of the event to which it refers, a title and the link to the photo.

3.2 PHP and MySQL

After our first database was ready, we created straight away a connection to PHP. We started querying the posts to retrieve information about the events.

3.3 Wireframes

To understand the functionalities and the features we wanted our website to have, we tried to sketch some wireframes of our final product. We agreed on a modern design, with many large images to attract users with the beauties of this region.

3.4 First Steps towards the Front-End

We started creating the home page. The first step was obviously to create the layout of the page and then the template for the posts. Then, the layout for about and contact were created.

Next, we created our logo (from <https://goo.gl/yTRScL>) and chose the main colours for the website.

3.5 Connection Front-End - Back-End

4 Testing

The main focus feature that we tested the most was the responsive design, since we wanted our website to be responsive in any environment. After having tested all the methods of the back-end and we were sure that they would respond with the result that we wanted to, we focused on the responsive front-end. After a lot of testing, we can say that we achieved our goal since our website is responsive to any size of screen and it works on all the main web browsers such as: Google Chrome, Mozilla Firefox, Safari, Microsoft Edge and even on Internet Explorer.

To add value to our final product, we decided to do some user-testing. In this way, we managed to collect feedback from our colleagues on the most important features, and to refine some others according to their preferences.

After those feedbacks, we run more rounds of testing, which resulted into a stable website that is not affected by common errors, such as SQL Injection. In fact, we worked towards the goal to make it more secure.