INTRODUCTION

“**Set-A-Game**” is a web-based software,regarding the amateur world of tennis, thought and tested by a group of students from Politecnico di Milano.

We started from the feasibility study, and then we went through the specifications , the development and through the testing and validation of the software created.

The requirements were implemented in a modular way with the aim of

creating a flexible system that can be further expanded.

At the end of the to the implementation discussion, we supply a testing part in which the features implemented are validated, stressing every exception that may arise in a daily use of the application.

We divided the entire work in the following chapters:

• FEASIBILITY STUDY

• REQUIREMENTS ANALYSIS AND SPECIFICATIONS

• DESIGN AND DEVELOPMENT

• TESTING AND VALIDATION

FEASIBILITY STUDY

Problem description

The world of the sport deals a huge part in everyone’s life. Mostly in the last years , the world of the healty, the welfare and the sport activities is more and more followed, also at an amateur level.

Simultaneously there was a big development in the digital world and we can say that everything is almost connected .

In fact there are increasily present and are more and more downloaded and followed application or pages related to the world of the sport.

A lot of Apps exist in which everyone can read results or rankings of a certain competition , deepen some news, or App in which are published live results of a contest or in which is described the live progress of a match or of a race.

All these stuff are development not only in the world of the professional sport but also at amateur level.

In particular, our interest cover the world on the amateur tennis, that is an hobby for us, but done with a certain diligence, seriousness and organization.

For this reason we though to a solution that might be a support for amateur players in the organization of a match, a support to read results of other matches, to know the statistics of the opponents and their position in the ranking of the federation ,with the final aim to make them more interested and involved in their sport activities.

Due to this reason, the project is entirely based on the creation of a web application for the amateur world of tennis in which every player can look at the clubs nearby, can find the field on which play the match, can book the field (if available ),can select some services as the rent of rackets,tennis balls, a referee, can see the statistics of the other players, can insert the points and the final result of the matches and have a confirmation from the opponent.

This can bring benefits not only for the amateur players ,but also for the managers of the different clubs that in this way might plan and handle in a better way the different requests from the clients.

Social Campaign

The feasibility of the project was studied also through a social campaign, with

the aim of catching opinions about the different services we want to

offer with our application. Indeed, we shared our idea with most of our friends that are involved in the amateur tennis world to get to know what they think about it.

We then created a survey and the questions were:

1. Do you think might be usefull an app that allow you to organize tennis match ?

2. How would you rate the possibility of knowing in advance the number of available clubs and fields nearby you?

3. What to you think about the idea of inserting the result of the matches and modifying automatically your ranking position and your opponents’ ranking position?

4. How would you rate the possibility of being able to know the statistics of your opponents and their ranking position?

5. How would you rate the possibility to book services such as the rent of tennis balls, tennis rackets or the possibility to request the presence of a referee?

We got a positive feedback from the 92% of our friends.

The most interesting point, for the players, is the the possibility to insert results of the matches and the fact that there is the modification of the ranking position in an automatic way.

Benefits

To sum up the overall idea, here are listed the main benefits for both players and tennis clubs.

For the players:

• The possibility of booking a field and organize a match, requiring in advance,if necessary, some services;

• The possibility of inserting the points and the final results of the matches (and wait the confirmation by the opponent);

• The automatic modification of the ranking position depending on the result of the disputed match;

While for the clubs side:

• Reduction of management costs due to a platform able to organize the matches in the available fields, able to manage the points and the results of the different matches and able to verify if the players are registered with a certain type of card (accepted or not by the club itself);

REQUIREMENTS ANALYSIS AND

SPECIFICATIONS

This part of the report gives a description of the features involved in the predevelopment stage of our Web Application project. Therefore, it will emphasize the specifications and how they have been integrated inside the app’s flows, with the use of UML diagrams.

The requirements of the application can be summarize in this way:

• Amateur tennis players need to view the tennis clubs nearby them and their available fields. Also the cards accepted by the clubs.

• The players can insert the points and the results of the matches in the app, or check the results inserted by their opponents.

• The application is a resource not only for the players but also for the clubs, that might manage in a better way their activities.

Stakeholder identification

|  |  |  |  |
| --- | --- | --- | --- |
| Stakeholder | Number | Role in the project | Subgroup |
| Amateur tennis players  (members of a federation) | 2K | Active users of the application | Client |
| External guests | 300 | Active users of the application | Client |
| Tennis clubs |  |  | Providers |
| Developers | 3 | Owner of the idea  and responsible for  the design | Majority stakholder |

Software specifications

All the specifications are discussed in detail in the following section:

§ In the application, each user will be characterized by a username and

password. The application should allow Sign up and Login either through

a valid e-mail.

§ The application will collect the credentials of each user in a database not

to allow the duplication of usernames.

§ The application will allow to remember the passwords for subsequent

sessions.

§ The application will display the username and a Logout option.

§ The application will use the user’s geographic position in order to suggest

the nearest tennis club based on the distance. If there will be multiple

clubs in the neighbourhood, it will display both.

§ Each registered user will be characterized by its number of card,its type of card, with the release and expiration date of the card itself, and with the ranking position in the federation to which he/she belongs.

§ Each clubs will be characterized by the name of its referring,its telephone number, the type of cards that are accepted in that club, the number and the type of the fields present.

§ The user will access to a section to book a field for a match in a selected club.

§ The app will present to the user the different fields present in the selected club, listing which of them are available.

§ Once the field and the available time echelon are selected, the user will be able to insert its name and the name of the opponent/s (single/double match) .

§ The players will be able to select some additional services (rental of tennis rackets, tennis balls, the presence of a referee).

§ One of the player will be able to insert the points for every set and the final result of the match, the opponent will be able to confirm and check that result, before that it is registered by the system.

§ The application provides an automatic calculation of the new ranking position of the players involved in that match.

§ The not-registered users will be able to read results of past matches, read the statistics of the players registered and the features of the tennis clubs registered.

§ The application will give to the user real time information on the

other live matches.

§ The application will send the complete match informations to the clubs’ database and to the players’database.

