DuelSys inc.
Sport Tournament Manager

Project Plan

Lex de Kort

April 2022

Contents

1 Contact

Developer contact information:

- **Name:** Lex de Kort
- **Student Number:** 4572726
- **Email:** lex.dekort@student.fontys.nl
- **Phone:** +31 06 51131466

2 Introduction

For a while the company *DuelSys inc.* has done most of its business offline. The tracking of tournaments, its attendants, staff members, etc. has all been done on paper and by hand. However, as the clientele of DuelSys inc. grew, this has become harder and harder to do within a reasonable timeframe.

As such, *DuelSys inc.* has decided that they would like a digital solution to offload this pressure and help with managing the many aspects of their business. The purpose of this switch is to help streamline the process and reduce the amount of time it takes to accomplish certain goals. Another aspect is that it will also allow their customers (*sports associations*) to handle the registration of certain aspects on their own without having to contact *DuelSys inc.* to handle these matters. It would also allow the participants of these tournaments to have an easy-to-access portal online through which they can sign up and register for these tournaments.

To that end, they have contacted me to help develop a solution for them. The end goal is a solution that solves these many needs by automatizing several administrative aspects and reduce the overhead on the company itself, allowing for a quicker and more streamlined process that will benefit the clientele.

3 Problem Description

As of right now, *DuelSys inc.* has absolutely no digital infrastructure in place. One can safely assume then that as of now, most if not all business is done by hand and perhaps even on paper. The growing clientele has thus facilitated the need of a digital solution to handle and streamline the necessary processes.

3.1 Current Situation

Since *DuelSys inc.* has no digital infrastructure in place that tracks all the important aspects of the business (e.g. player registrations, tournament registrations, staff, etc.), a lot of the day-to-day work involves handling the incoming requests by hand. This is very time consuming and this will only worsen as the clientele grows.

3.2 Goals

Because of these identified problems and the current situation, it is imperative that the solution tackles these issues and helps offload some of the pressure the client is currently facing. As such, after reviewing the situation and client's needs and wants, several goals have been established that the solution must achieve.

- Allow customers (sport associations) to manage their own sport tournaments. This involves the registering (and potential deregistering) of sport tournaments. As of right now, the top priority is to support a round-robin tournament system for badminton. However, the client has specified that the software must have the potential to support other types of tournament systems and sports. The specifics of supporting other tournament systems will be decided upon later.

- Allow players to get an overview of tournaments of (specific) sport associations and allow players to register themselves for a tournament. Note that registration for a tournament is only possible if there are any open spots and there is more than a week left before the start of the tournament.

- Generate a tournament schedule based on the entrants. The generation of a schedule should be done automatically. In the event that there are not enough players for a tournament, the tournament won't start and will be marked as cancelled.

- When a match is finished, the results must be registered by a staff member in the system.

- Tournament information should be available and retrievable for anyone, including non-registered accounts. The information shown should include information about the tournament itself, tournament schedule with all the matches / games, and, if applicable, the results of any played game.

- Any ongoing tournament should also have a leader board that gives a list of players of which the order is based upon their position / rank within the tournament. This information should be readily available and retrievable for anyone, including non-registered accounts.

3.3 Deliverables

By the end of the project, the following will be delivered:

- A C# desktop application for Windows machines

- A website for modern browsers (e.g. Edge, Chrome, Firefox)

- A database structure that accommodates the developed solutions

3.4 Non-deliverables

What will **not** be delivered:

- No dedicated mobile phone app shall be developed

- No training shall be given on the workings of the delivered solutions

- No future support, updates, and maintenance

- No webhosting services / equipment shall be provided

4 Constraints

In terms of constraints, the biggest limit is time: there are only six weeks available to work on a solution, so time is of the essence. Expectations are high so delivering on the promised features is of the utmost importance.

Since my weakest point is managing the scope of my project. Every week I intend to evaluate what my progess is. After these evaluation moments I can determine what my planning is for the upcoming week. Since these will be important milestones, it is important to stay on track. These milestones will be explained in more detail in the section Phasing.

The project will be made in the C# language, with the solutions being a Windows Forms application and an ASP.NET Razor Core website on the .NET 6.0 framework. Both these solutions will not share every functionality; which solution gets which functionality will be more properly detailed in the URS document and the Phasing section of this document.

Currently, the Windows Forms application is planned to be back-end related, and is not intended to be used by players and customers. Instead, the Razor Core website will function as the front-end for players, customers, and non-registered users.

5 Phasing

Multiple phases are planned during the six weeks development time. The given development time does not take the holiday in May into account.

- In the first two weeks the scope of the project and its functionalities will be established. Communication with the tutor is key in establishing these parameters and boundaries. It will also ensure the continued health of the project whilst also preserving the expectancies of the clients. The agreements made will be documented within the project plan and the URS. Once the project plan and URS are finished, the contents of both will be discussed ideally sometime in week two for green-lighting of the project. While waiting for the green-light, a database will also be set up and UML diagrams (activity, use-case, class diagram) will be produced.

- During week three I will be focusing on developing the first set of unit tests to work out base functionality for the project. These will be done on a per functional requirement basis. A first setup for classes will also be made with the help of the class diagram that was prepared a week before.

- During week four I will continue the implementation of features on a per functional requirement basis. Ideally, by the end of week four and five the data layer and logic layer should be finished.

- Week five will center around continued development of the Windows application and the website. The class diagram will be updated as the project continues.

- Week six will consist of finishing up the project and fixing bugs. Any issues remaining will be looked at and handled. The UML will be updated to the final version.