Software project proposal

**system for administration the delegations
for the Prague Football Association (PFS)**

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Vision of the final project

In the first place, we need to identify the requirements from the customer, secondly technical environment behind customer. In our case, it is Prague football association. PFS, which manages football competitions in the capital of Czech Republic in all age categories, is an organizational component of the Football Association of the Czech Republic with its own legal subjectivity and a special statute. Unlike other regions, it is the only component that manages regional and district competitions together. In other regions, we always find a regional and district management component. PFS is also the largest regional football association in the Czech Republic.

 We could start with how this idea started and what is the motivation to use it in the future. PFS is divided into many various components, whose are responsible for its service. As an example, can be mentioned Executive Committee, Commission of referees, Disciplinary commission, Sports technical commission and Economic Commission. The initiative started with the people who are in charge of the delegations of referees to the matches. This section falls under the Commission of referees (previously mentioned as PFS component) and includes 3 people. These three people are further helped by about more 5 others, mostly referees.

The main problem was the tedious and complicated process of delegating every week. These inconveniences are based on the absence of some compact application that brings all the information together.

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Requirements

In this section I will describe the goals(these are sorted in some chronological order, so I cannot work in next goal without existing previous) that are relevant to me from the point of view of feasibility and required functionality, I will also list bonus goals that are not necessary, but facilitate administration, or improve the GUI, but in return require more time (so there is a potential to implement them after this project).

1. **Web application running on the domain, e.g. rozdcipraha.cz** with these is connected renting app hosting, buying the domain name, configurating all .
2. **Create database structure, models, controllers, views based on the requirements**
3. **Create admin side of web application, authorization of admins are necessary**
   create table where admin accounts and hashed passwords are stored
   +features: creation of new admin account by main admin
4. **Automatic filling the database table Referees, from the files used now by PFS**

   in the table are stored information about referee competitions levels. Parse the date from excel file (see Materials_used_by_pfs/Nomination_paper.xlsx)

   + features: promotion, degradation of referee level, overview of the referees on this level, adding new referee to the system

5. **Automatic filling the database table Previous Matches**
In the table are the records of how many times was referee delegated on the specific team (we distinguish home and away matches, if his role was assistant of referee or main referee). It can be done by parsing the downloaded file from facr.cz, so the admin must enter this file manually every week.

   +features: automate the process, elimination of manual input of file by API calls

6. **Automatic filling the database table Matches, from the files used now by PFS**

   in the table are stored information about matches planned next week. Parse the date from excel file (see Materials_used_by_pfs/ List_matches.xls)

   +features: admin can change the match data

7. **Connecting similar matches, these whose follow-up some other match on the same or near football field**
by algorithm, record this information about connected match in table
+features: admin can adjust the criteria when they are similar

8. **Creation of web app side, where referees can load their time options, vehicle availability.**
This side must contain some type of authorization of the specific referees, then preview of inserted possibilities by them
+features: place of embarkation for the game day, vetoes for the next weekend

9. ***Displaying all the information together, visually, it means displaying when the referee is time free throughout game***

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days, so he is not excused or he does not have a match in the moment, displaying actual information about the matches, who is delegated where, the possibility of adding referees to the match

main part, make simpler for the administrators whose delegate, can be divided into smaller steps

+features: showing the match history, who and when changed the match (delegate somebody, or change match data).

10. Planning the route between the matches, both possibilities, planning with API mapy.cz whose are free to use to some number of searches and provide car and public transport possibilities.

Basic account has free 250 000 credits per month, one search of transport (we suggest that we need only car or public transport) costs 4 credits, so the total searches we can do for free are 62500. Let's assume an average of 300 matches per week to fill, that's 1200 per month. In every match there are at worst 3 delegated referees. So, if we assume that we will need 10 searchers for each match (3 referees * 3 times of failure), we can safely fit the number of searches up to 62,000(12 000). So, in that case, that we will not generate more possibilities, only if we test if the referee can make it on time to match, we can use the regular account for free.

+features: the map, where are the transports showed. Optimization of delegations, reduction of time required for transfers, maybe the topic of future diploma thesis :) (exists account where we have 10 000 000 credits for free, but the

project has to fulfill mapy.cz conditions, for example "Users must not be restricted in any way in accessing the full width of the application".

11.   **Personal card of referee, displaying schedule of the weekend (matches, transports) and all the information for the specific person (league level, age, name)**

12.   **Suggesting admin, which referee is the best choice for the match based on the point system.**
visual representation of the first x best alternatives, along with the name and point evaluation and description of the points components.

+features: automatic generation of possible delegations based on the point system, we include also the length of transport

13.   **Testing**
14.   **Logs+ Documentation + Theoretical part**

Time proposal

Presumable start of bachelor thesis work:

17.2.2025 or earlier: based on the results in trial period

Presumable end of bachelor thesis work:

16.5.2025 (89 days, 2136 hours) or maybe 26. 6. 2025

Available time estimate (an average of 4 hours per day) – **356** hours

All the estimates are based on my small experiences, so it can be totally out of reality.

1. **Web application running on the domain, e.g. rozdcipraha.cz**

   40 + 114 kc monthly server + 400kc yearly domain

2. **Create database structure, models, controllers, views based on the requirements**

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3. **Create admin side of web application, authorization of admins are necessary**

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4. **Automatic filling the database table Referees, from the files used now by PFS**

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5. **Automatic filling the database table Previous Matches**

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6. **Automatic filling the database table Matches, from the files used now by PFS**

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7. **Connecting similar matches, these whose follow-up some other match on the same or near football field**

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8. **Creation of web app side, where referees can load their time options, vehicle availability.**

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9. *Displaying all the information together, visually, it means displaying when the referee is time free throughout game days, so he is not excused or he does not have a match in the moment, displaying actual information about the matches, who is delegated where, the possibility of adding referees to the match*

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10.   Planning the route between the matches, both possibilities, planning with API mapy.cz whose are free to use to some number of searches and provide car and public transport possibilities.

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11.   Personal card of referee, displaying schedule of the weekend (matches, transports) and all the information for the specific person (league level, age, name)

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12.   Suggesting admin, which referee is the best choice for the match based on the point system.

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13.   Testing

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14.   Logs+ Documentation + Theoretical part

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In total 370 hours approximately.

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