Software Design – Assignment 1

Develop an application that can be used to organize a tennis tournament. The application will have *3 user types*: tennis player, referee, and administrator.

All users must be able to:

❖ register and log into the application.

❖ update its account information.

Tennis player users can perform the following operations:

❖ Tournament registration

❖ Viewing the tour schedule for matches.

❖ Viewing the score of each tennis match.

Referee users can perform the following operations:

❖ Visualization of own program

❖ Managing the score of the match he referees.

Administrator users can perform the following operations:

❖ Read/Update/Delete operations for information related to application users.

❖ Viewing the list of all users.

❖ Save filtered lists with match information in several formats: csv and txt.

Technical constraints:

- Client-server application (Web)
- Connectivity to **relational database**
  - Each table in the database must contain at least 5 entries.
- Implement using **JPA Repository**
- **Documentation**
- **Validations** of the input on specific flows (valid dates, non-negative values, unique username/email etc).

Deliverables:

Create a *GitHub repository* with **documentation**, **source code**, **and SQL script.** Provide a link to the repository.

Documentation:

- Database diagram.

- Use-case diagram.

- Class diagram (show how the classes are placed inside each layer and the relationship between them – to denote Layered Architecture).

Grading:

Grade	Requirement
5	Documentation + Backend & Frontend for: • Login&Register for all users • **Administrator** (Read/Update/Delete for account information)
+1	Backend & Frontend for: • **Tennis player** (Tournament registration, viewing tour schedule for matches) • **Administrator** (Viewing the list of users) • **Referee** (View own program)
+1	Backend & Frontend for: • **Tennis player** (View score for each tennis match). • **Administrator** (Save filtered lists with match information in CSV and TXT files) • **Referee** (Managing score match he referees)
+0.5	Encode the password in the database
+1.5	Usage of two design patterns of your choice
+1	Clean Code + validations