

Tallinn University of Technology
IT-College

SPRINT CANOE TRAINER'S APPLICATION

Home project in subject
“Web Applications with C#” (ICD0024)

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Declaration

I hereby certify that I am the sole author of this thesis. All the used materials, references to the literature and the work of others have been referred to. This thesis has not been presented for examination anywhere else.

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1. Application overview

1.1. Introduction

As a beginner sprint canoe training coach and a seasoned professional athlete with over a decade of paddling experience, the author has surfed the web in search of new techniques and exercises to enhance the efficiency of paddlers. However, the author found that much of this valuable information is scattered across various platforms, making it difficult for coaches and athletes to access a comprehensive resource in one place.

That's why the author decided to create the Sprint Canoe Helper Application — a centralized platform designed to help and improve coaches and athletes' training approach.

Canoe Sprint Trainer's Helper Application aims to consolidate theory, practical exercises, and training planning into one user-friendly interface, simplifying the process of enhancing paddling performance. That way, a coach could search for valuable information and various ready-to-use exercises in one place.

To fulfill this work, the author will create an ERD schema, create a database and build application layers respectively to the requirements of the assignment in JetBrains Rider IDE. The course work consists of the documentation (the given document), ERD schema, sketches of how the application would look like and its source code.

1.2. Analysis

The Sprint Canoe Helper Application will contain useful information about how to train paddlers all year round. There will also be detailed tables that show exactly what kind of training athletes should do at different times. Plus, there will be videos where experienced coaches talk about how to paddle better and how to train effectively. These resources are really helpful for improving skills and getting the best performance out of paddlers.

Additionally, the app will have lots of different gym and paddling exercises presented for coaches to do in order to improve athlete's technique and balance in a kayak and overall strength and endurance. Coaches will have the ability to add any exercises to their favorites in order to access them easier.

The Application will also offer a customizable training playlist feature, allowing you to integrate exercises into your training plans. Whether using existing exercises within the app or adding your own, coaches have the flexibility to design training programs that align with athletes' specific needs and goals.

Additionally, the app will make it easy for coaches and athletes to work together as a team. Coaches can make groups and give out training tasks. Athletes will get messages when they have new tasks and can tell coaches how their training went. It will help everyone work together better and support each other.

Since the time to work on this project is limited by the length of the course, the first important goal will be to finish a minimum viable product with its main functionality and if there is more time then start implementing features that would be nice to have but are not necessary for the application to work.

1.3. Initial stage

Application features in initial stage are following:

- Users can create a new account either as a coach or athlete and further login into the application
- Users can log out of their account

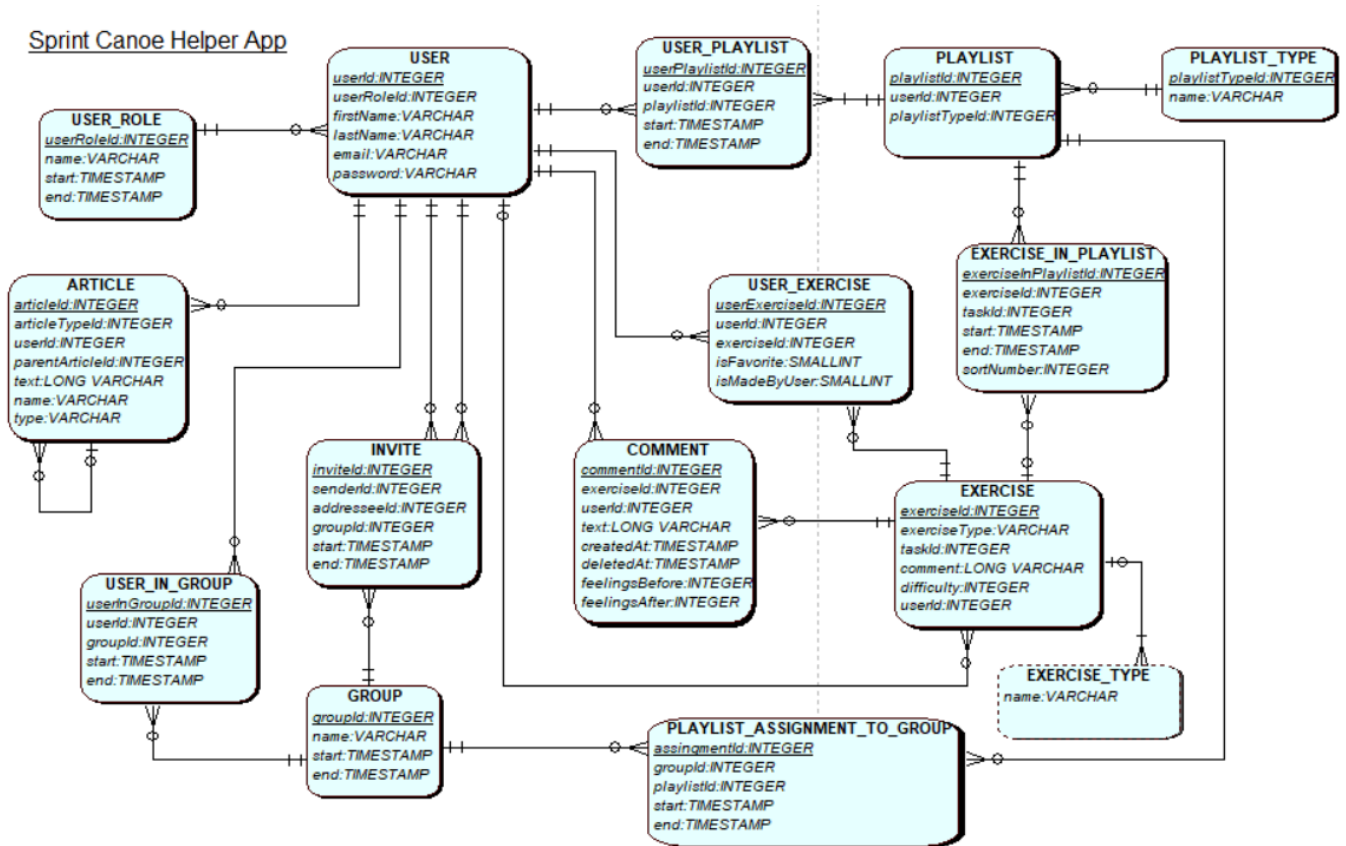
- Ready-to-use exercises can be filtered by difficulty level or type (pushing, pulling, explosive, rotation, balance, technique drills)
- Coach can add certain exercise to his/her list of favorites
- Coach can create a new exercise that will be added to “his/her exercises playlist”
- Coach can create different work playlists for athletes from the exercises provided or exercises created by the coach
- Coach can send invite requests to athletes in order them to join the group
- Coach can send certain work playlist to athletes from the group
- Athlete can accept the invite from the coach, but the athlete is only able to be a member of one group at a time.
- Athlete can mark the task as done
- Athlete can leave a review about the work he/she put in and write about the feelings after training

1.4. Further development

After the initial stage is implemented, following features are planned to be added. Due to the great amount of research and filming to be done, it may not be possible to add these in this course's time.

- Coach can read the theory book about paddler's right training cycles, load periodization, effective kayaking technique theory and physiology, eating etc.
- Coach can have a wide variety of ready-to-use exercises to be seen and implemented in their training program
- Each group have a chat between its' coaches and athletes
- Coach can have a chat with other user from the entire app community
- Users can switch between different languages provided in application, for example Estonian and Russian (English will be initial)

2. ERD Schema



Screenshot 1. Application's Entity-Relationship Diagram

3. Application UI sketches

Registration menu

Canoe Sprint 101

Create new account

First name

Last name

E-mail address

Create password

Confirm password

Register as

Athlete

or

Coach

Register

Screenshot 2. Registration menu abstract design

Login menu

Canoe Sprint 101

Log in

Username

Password

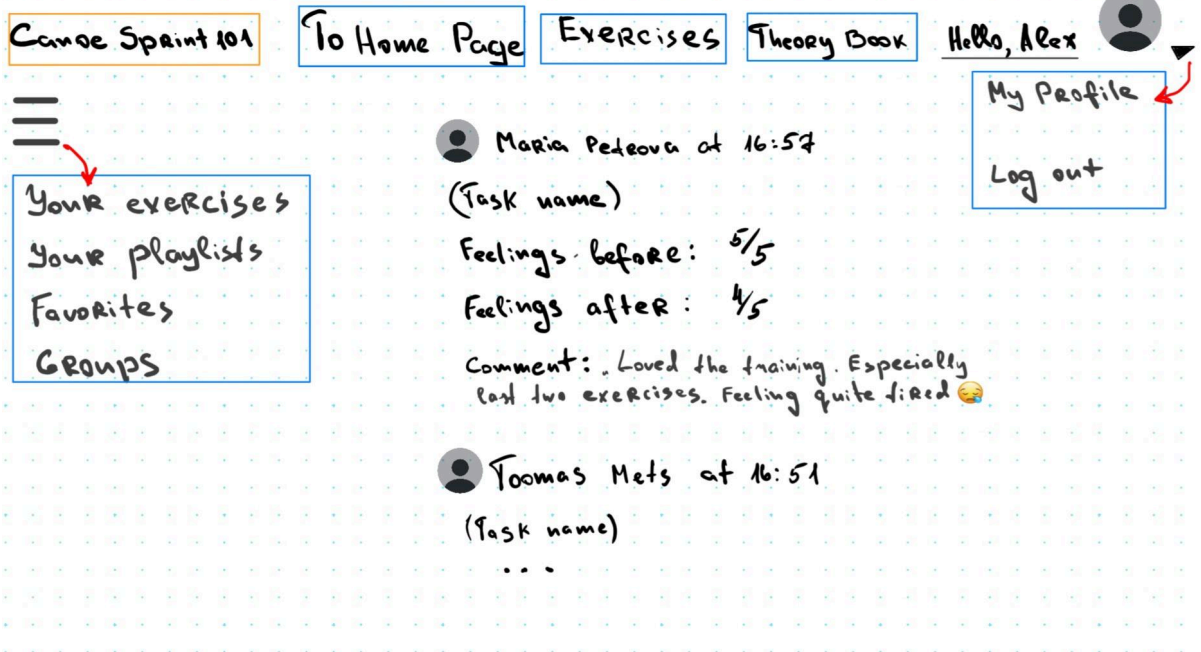
Forgot password?

Log in

Don't have an account?
Register

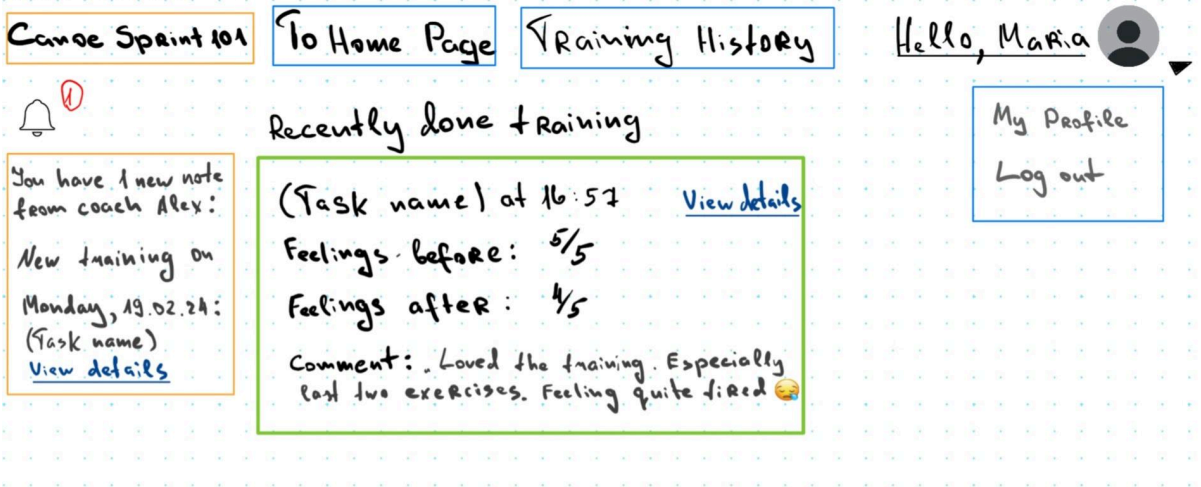
Screenshot 3. Login menu abstract design

Main menu (coach view)

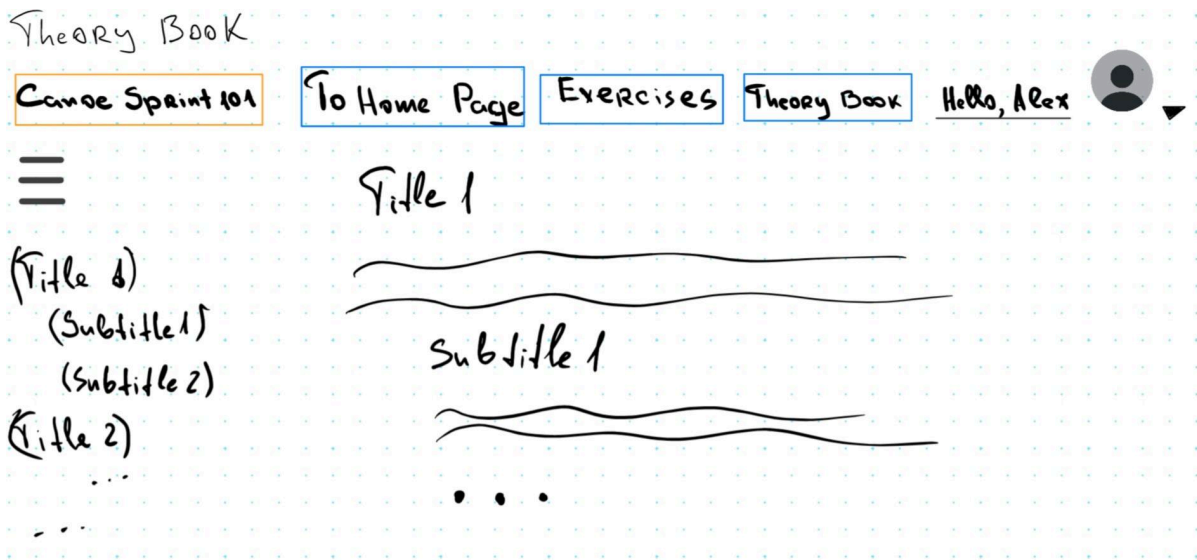


Screenshot 4. Coach side Home page

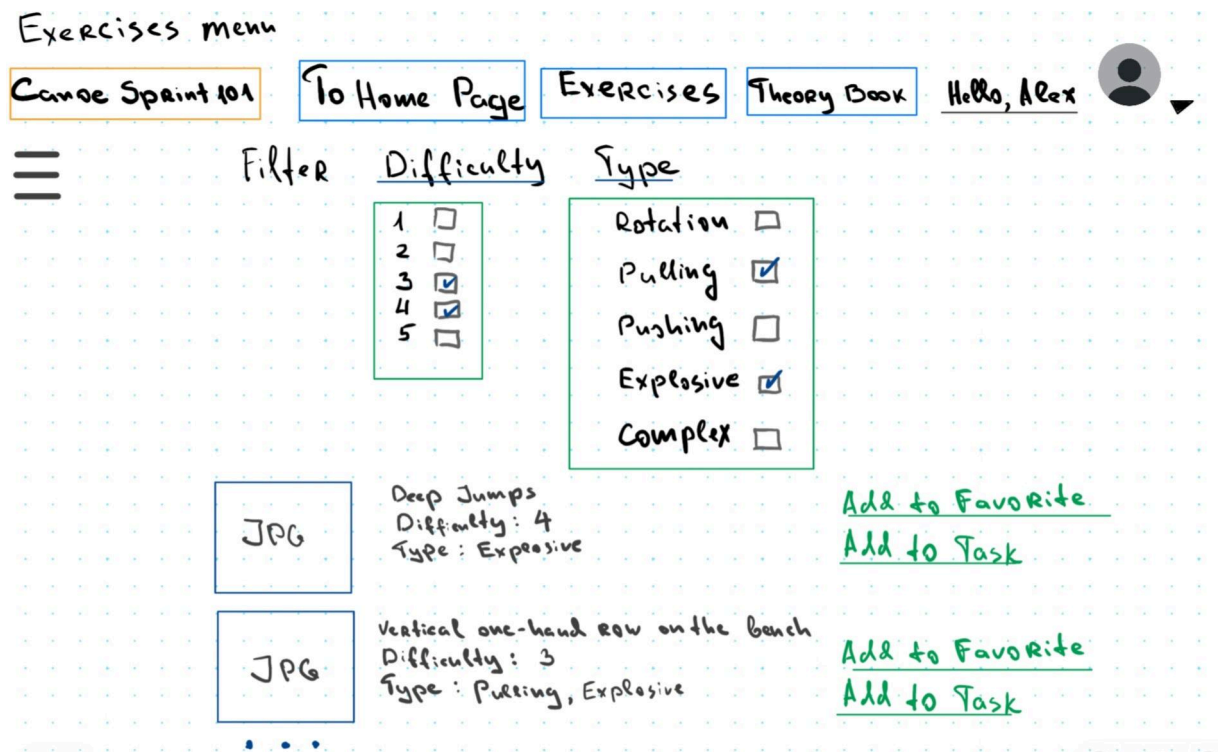
Main menu (Athlete view)



Screenshot 5. Athlete side Home page



Screenshot 6. Coach's theory book view



Screenshot 7. Coach's ready-to-use exercises menu

Screenshots

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References

1. akaver.com, "Web Applications with C#" – [Web Applications with C# - Web Applications with C# \(akaver.com\)](#), 22.02.2024