Web Development final task

Module C
Intranet/maintenance tool implementation for the site

Competition time used for the task: 3h.

In this module, an intranet/maintenance tool is implemented for the previously created site, which utilizes the database. The website administrator can add, edit, and delete information that is used to produce the content of the service. All data must come from a database, and you must set up a safe and secure database connection. The intranet must be accessible from **%username%.taitaja2023.louhi.net/intra**

You must create all necessary database tables and keep security in mind, including encryption with e.g. Argon2 algorithm.

When producing the code, it must be considered high quality and suitable for further development. Code must be optimised, clean and contain techniques that make it easy to read, parse, and understand. Ensure you include clear instructions for using the intranet in the readme file.

Please note that this module is done simultaneously with the next module, and the results of this module will be delivered at the end of the competition day.

Logging in

The intranet site can only be accessed via the login page. If the URL of the intranet site is accessed without logging in, the user is redirected to the login page.

Once the user is logged in, the username and logout button will appear in the main menu.

Log in with the following credentials:
- **admin** and password **taitaja2023** and
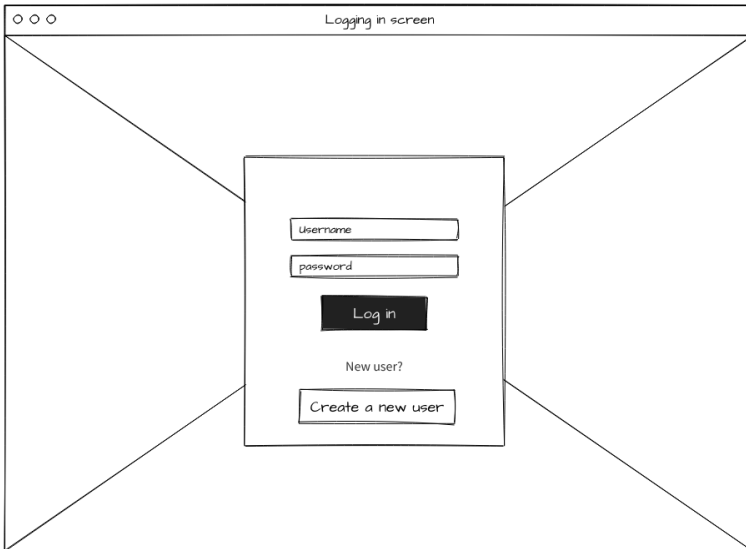- **player** and password **taitaja2023**

Image 1 – Logging in

Login form:
- Username
- Password
- Login button
- Create a new user button

The information on the login form is checked before sending the form.

Creating a new user

From the login page, new users can create a new user account. Users added from the login page always have a player role as a default role.
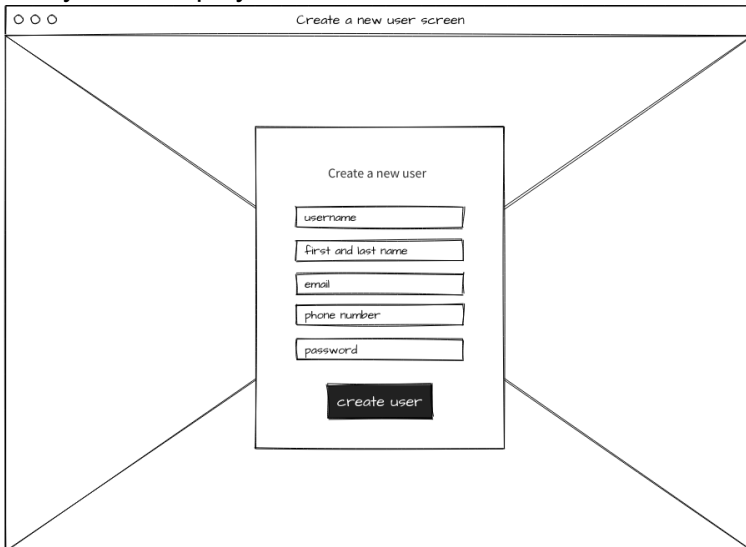

Image 2 – creating a new user

New user creation form:
- Username (required, unique, minimum length 4, maximum length 60)
- First and last name

- Email
- Phone number
- Password (required, minimum length 8, maximum length 2^16, must contain a number)
- Create user button

User roles

There are two types of users: **administrator** and **player**.

Administrator:
Can log in and out of the intranet and use all its functions:
- sees all registered users
- can print the data of registered users as a CSV file
- can ban and delete the player
- can see each game's scoreboard, player names and player scores in that game

Player:
Can log in and out of the intranet and use only limited functions on the intranet:
- can edit own username, e-mail address, phone number
- can see the results of the games played
- can delete own account (soft delete)

Games and results tables

Also create a database table for games and results:

Mandatory fields of the game:
- Id
- Title
- Thumbnail
- Class

Mandatory fields of the results:
- Id
- Game id
- Score
- Time stamp
- User id (zero when the player plays without logging in)

Marks

C1	Loggin in	7,00
C2	Creating a new user	2,50
C3	User roles	8,00
C4	Game and results tables	2,00
C5	Project management	0,50
		20,00

Module D
Interactive module

Competition time used for the task: 4h.

In this module, you will create an interactive math game for children. The game is available from the URL **%username%.taitaja2023.louhi.net/peli_1** or the games page from the game card as a link to an individual game.

Follow the given wireframes and GUI instructions (the files are packed in *game-assets.zip*)
For the game, you get wireframes:
- game welcome screen (*game_welcome.png*)
- game login (*game_login.png*)
- game running screen (*game_ON.png*)
- game closing screen (*game_OFF.png*)

The game can be switched to full-screen mode without seeing the taskbar and browser interface (full-screen mode).

Game welcome screen

The player sees the introductory text (intro.txt) on the welcome screen and the "start game" button.
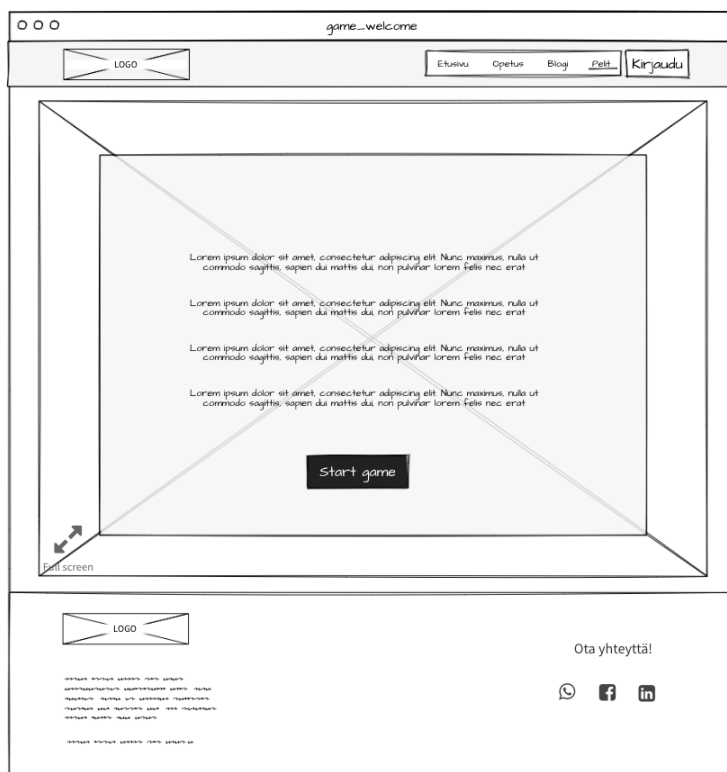

Image 3 – Game welcome screen

Logging in for the game

A logging-in view will appear if the player is not logged in. The player can ignore the login by clicking the "I don't want to log in" button.

All points are stored in the database. The results of non-logged-in users are stored in the database with user ID 0.
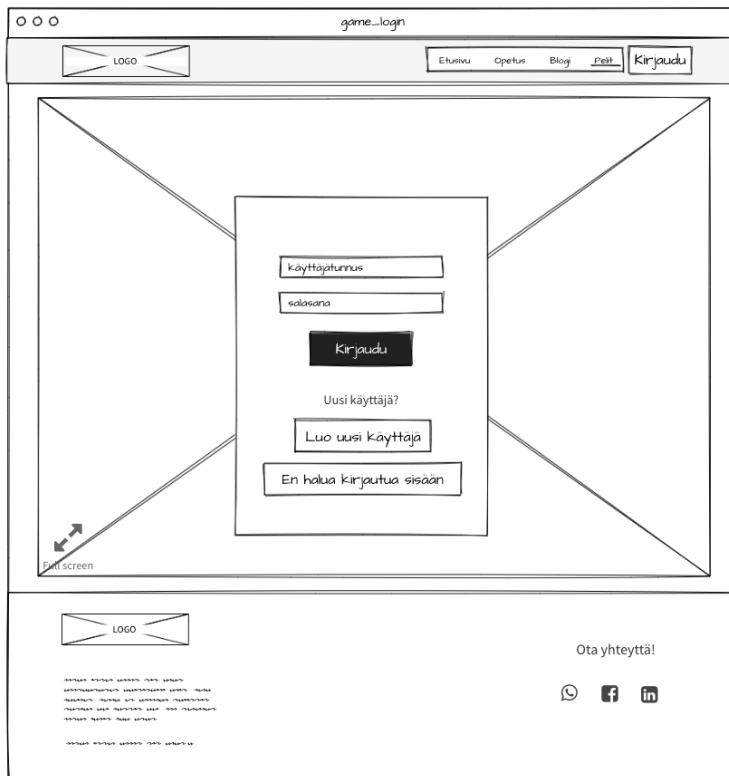

Image 4 – Logging in for the game

Game ON screen

The game is timed, and one session lasts one minute.

The player is presented with any number from one to ten, and the player has to guess the different additions that will give the correct result. On the right side of the game, the player can see all answered variations with indicators for correct and incorrect answers, remaining time and a "stop game" button.
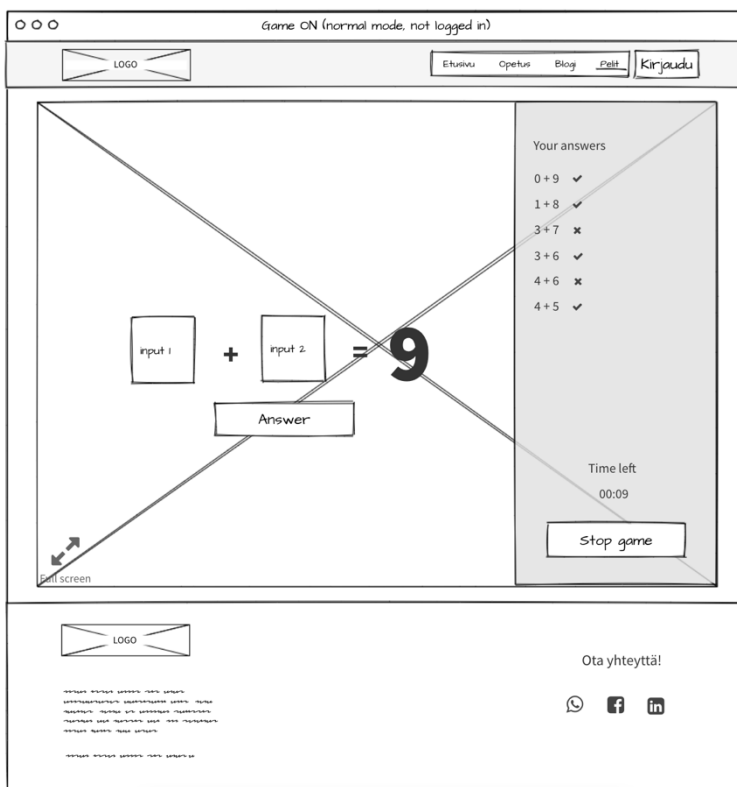
Image 5 – Game ON screen

Game OFF screen

At the end of the game, all possible options are shown, and the accuracy of the answers is calculated as the ratio of correct answers to possible options. For example, if it is possible to make a total of 10 additions and the player guessed 3 of them, the player's accuracy is 70%. Each wrong answer reduces the accuracy by 1%.

The score of the game is calculated by multiplying accuracy and time (by default the game is 60 seconds).

Examples:
- The random number is 7; there are eight possible correct answers in the game (variations of zero are also counted). The player answered correctly five (63%) times and incorrectly three (3%) times and did not cancel the game time (60 s). The player gets 36 points ((63%–3%) * 60).
- The random number is 4; the game has five possible correct answers. The player answered correctly three (60%) times and incorrectly zero (0%) times but interrupted the game time (42s). The player gets 25 points ((60–0) * 42).

In the game area, you can see the top 10 results of this game. If the player is logged in, the player's results are highlighted.

The "Play again" button opens the login module again if the player is not logged in. The "Back to games" button takes the user to the games page.
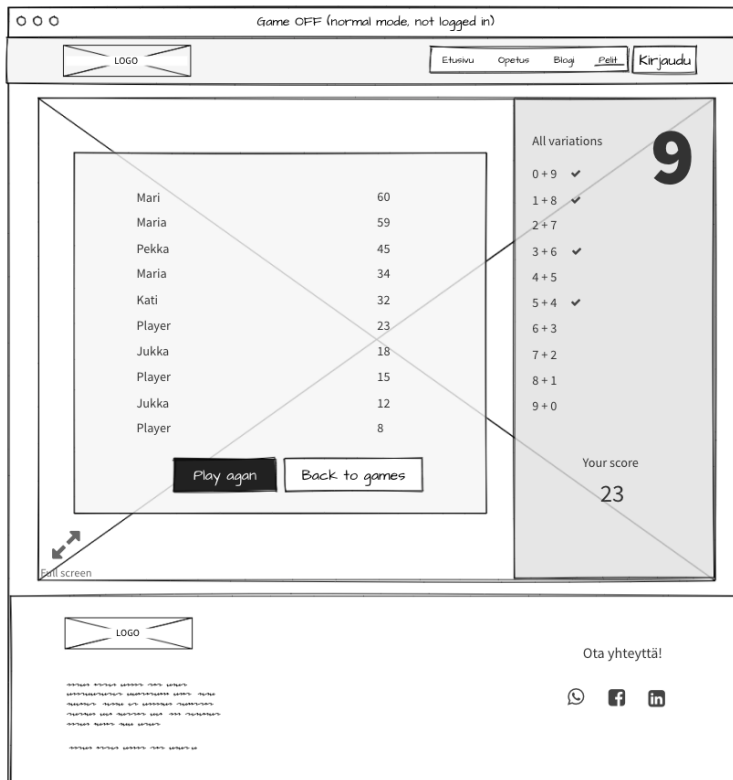
Image 6 – Game OFF screen

At the end of the day, you must submit the C and D modules at the same time:

  a) a functioning website that uses a database (login, intranet and game)
  b) final Github repository and README.md file

Marks

D1	Game functionality	12,50
D2	Game welcome screen	2,00
D3	Game end screen	3,50
D4	Results table	5,00
D5	Project management	2,00
		25,00