

Presentation Of The Lifecycle Architecture

Robotic Football Commentator

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01

Requirements gathering

- Brainstorming amongst ourselves
- Conversations with academic advisors
- Resources from the Moodle course page
- Research of the state of the art



02

Functional requirements

What the system is supposed to accomplish.



**Produce
commentary from
log file or
simulator output**



**Event
detection**



**Color
commentary**

Store data on game logistics and comment on them throughout the game.



**Play, pause,
forward and
rewind**



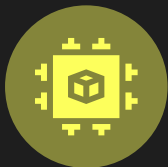
**Game
selection**

From a remote dataset.



**Commentator
personalization**

Gender, bias and emotional disposition.



Default personalities



Text-to-speech technology

Emotional shifts.



Register and login



Upload and save log files

For logged-in users.



Delete saved games

For logged-in users.



Toggle saved games as public or private

For logged-in users.



Forcefully make any game private

For administrators.



Graphic model

Tone and emotional
shifts.



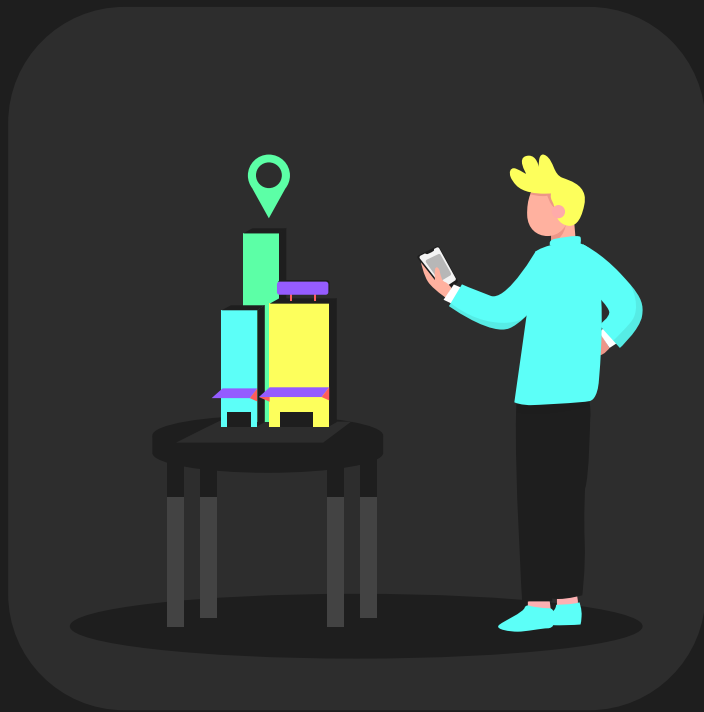
Game transcript



03

Context and State Of The Art

How the system is expected to be used and what
has been done in this context.



Cric-Talk

Cricket commentator

- By postgraduate students
- Trained neural network models
- Big dataset of cricket video footage
- Classified and named players, and classified shots



IBM's Trials AI

- Play-by-play, color commentary of human football games
- Identifies passes, crosses and shots on goal
- For pre-selected highlights, draws information from a database
- Single "end-to-end" model
- Player identification is done manually
- Automatic pulling of relevant statistics from a database in real time
- Work in progress
- Doesn't emote

Rocco: RoboCup commentator



- Based on a general conception for multimedia reporting systems
- Connected to a Soccer-Server through a standard TCP/IP
- Done with Java
- Runs on an Internet browser
- Contains a template-based verbalizing component
- Templates are transcribed from TV-soccer reports

Auto-tracking Camera

- Commercial product
- Zooms in and out of the game depending on game action
- AI algorithm that recognizes the action on the game court
- Accurately detects the position of the players





04

Actors

Our target audience for the application consists of robotic football enthusiasts. With this in mind, we identify two actors:

- User: someone interested in having their favorite robotic football match commented expressively to their taste.
- Admin: someone with elevated privileges, trusted by the website's owners to moderate game uploading on the platform.



05

Use cases

Describe the interaction between users and the system to achieve specific goals.

Time manipulation

Press 'play', 'pause', 'forward' and 'rewind', similarly to common video players.

T

G

Game choice

See the available games to watch and choose one from the list.
Set custom parameters.

G

E

Gender option

Select the gender of the commentator's voice.

Emotion dials

Manipulate the commentator's emotions through two dials: aggressive/friendly and calm/energetic

Bias toggle

Manipulate the commentator's bias toward a specific team.



B



G

Commentator personalities

Several presets of commentators "personalities" to choose from.

Game transcript

Save a transcript of the game's commentary.



G



E

Create personality

Save a combination of personality options and save it as a new preset for future use

Register New Account

The user fills the form to register an account and has his account created,

T

G

Game Upload

The user uploads a valid robocup math log file for processing and chooses if he wants to save it in the account.

Log-In

The user fills the form to login and enters his account, if the data are correct

G

E

Saved Game Deletion

The user selects a game on "saved games" and deletes it



Game Visibility

The user can change the visibility of his saved games by clicking on the edit button and changing the setting



B



G

Game Moderation

The Admin moderates the user-uploaded videos and can set to private the least appropriate ones



06

Non-functional requirements

Describe how the system works.

Security

The system must be reliable and secure.

Accessibility

The system should be accessible for people with vision deficiency, and give subtitle for auditory deficiency.



Usability

The system should be easy to learn and use.

Reliability

The commentary must make sense and be relevant to the game events.

Portability

The web application should be accessible by different web browsers and operate in the same way for each of them.

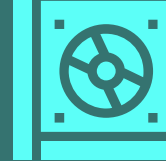


Efficiency

The system must be efficient enough to process the data and make the commentary without significant delays.

Documentation

Documentation must be moderately extensive in order to be helpful for a new user.



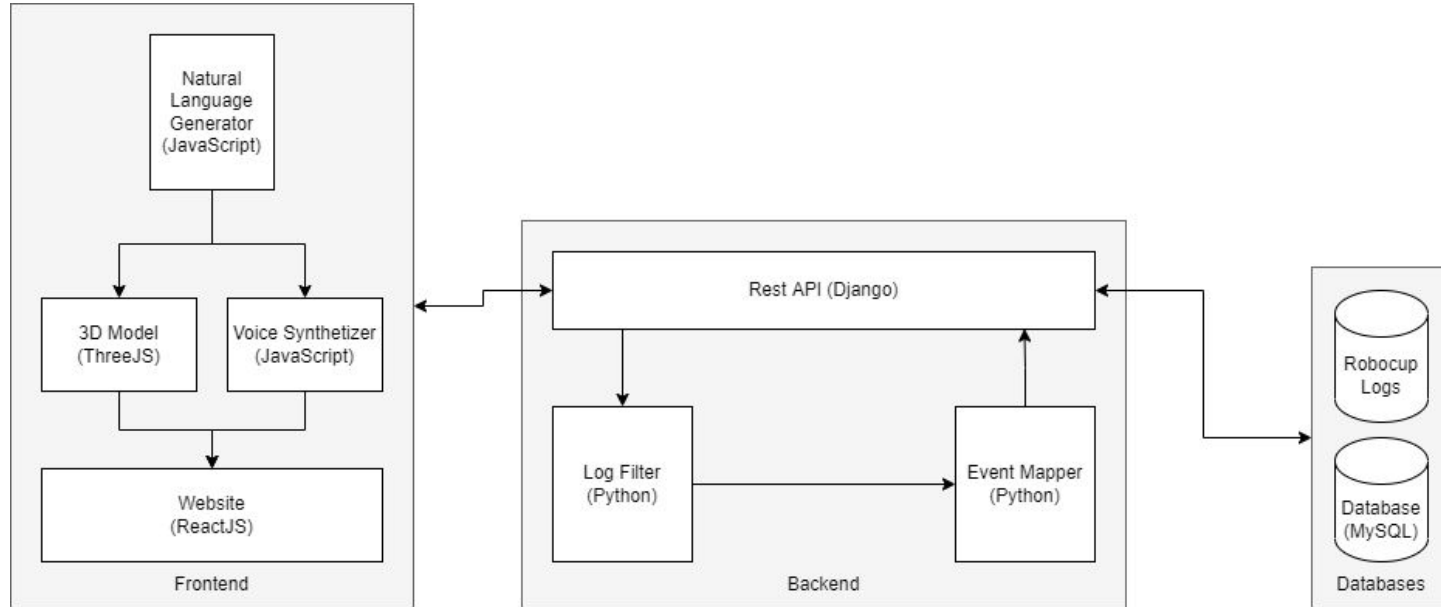


07

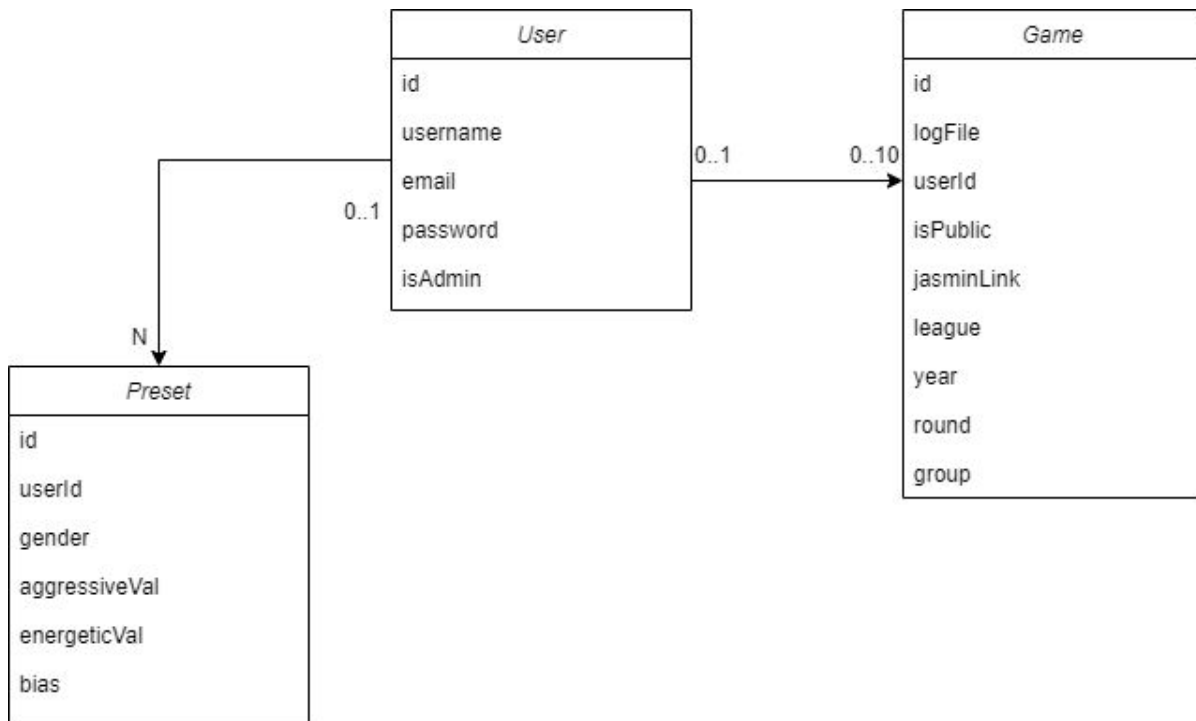
System Architecture

Describe the hardware, softwares, middlewares
and entity relations on the system.

Deployment Diagram



Model Diagram





08

Design mock-ups

User interaction.

Without Login

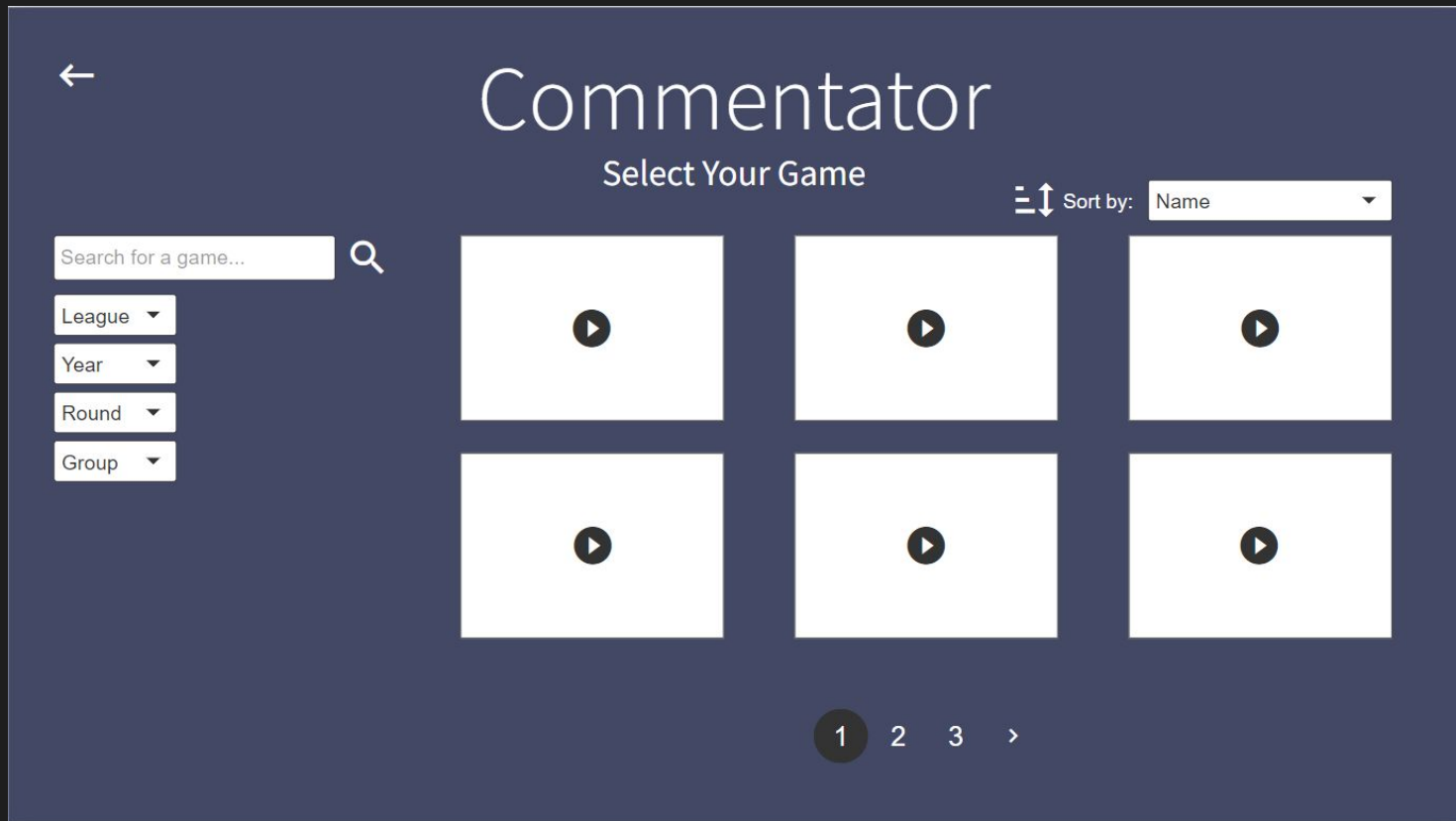
Commentator

[Login/Register](#)


Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nunc aliquam consequat nisi quis maximus. Morbi commodo eget justo a lacinia. Fusce euismod aliquet ornare. Aenean laoreet sem a neque lacinia iaculis. Suspendisse potenti. Mauris eu magna augue. Duis ac sapien eu lorem viverra eleifend cursus vitae purus.

[Start](#)

Without Login






Without Login




Commentator


Personality Settings




Gender


FemaleMale




Energetic  Calm

Aggressive  Friendly

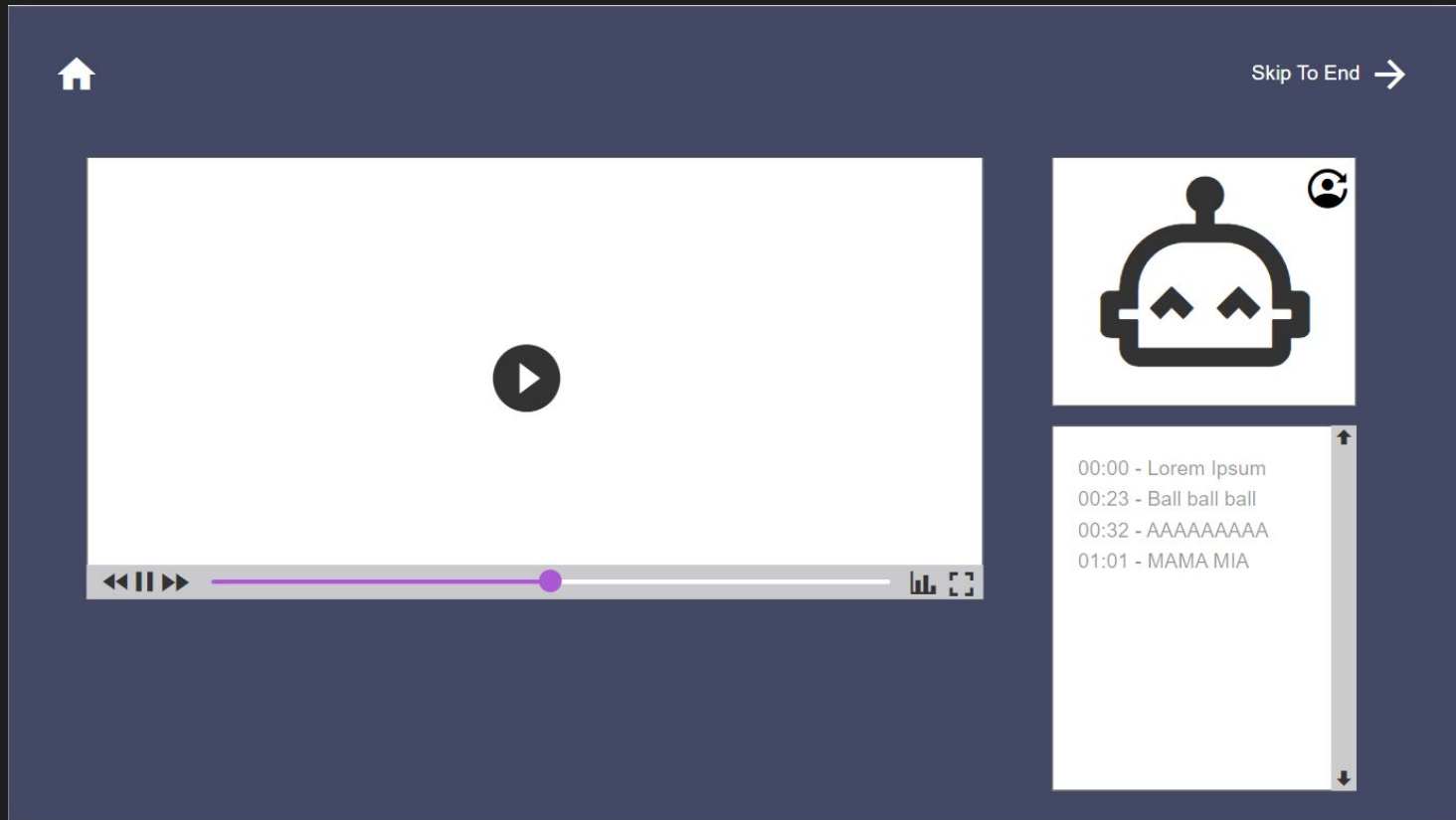
Bias

Team A  Team B

Start 



Without Login



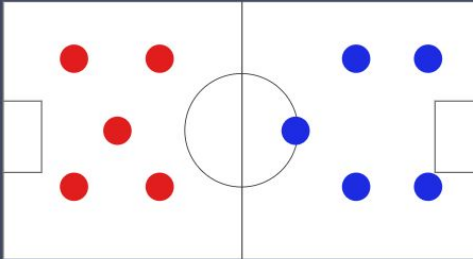
Without Login



Commentator

Game Statistics

Team Formation



Team A

14

...

No. Attempted
Shots At Goal

(...)

Team B

23

...

With Login

Login

Username:

Password:

☒ Remember me

Login

Register

Username:

E-mail:

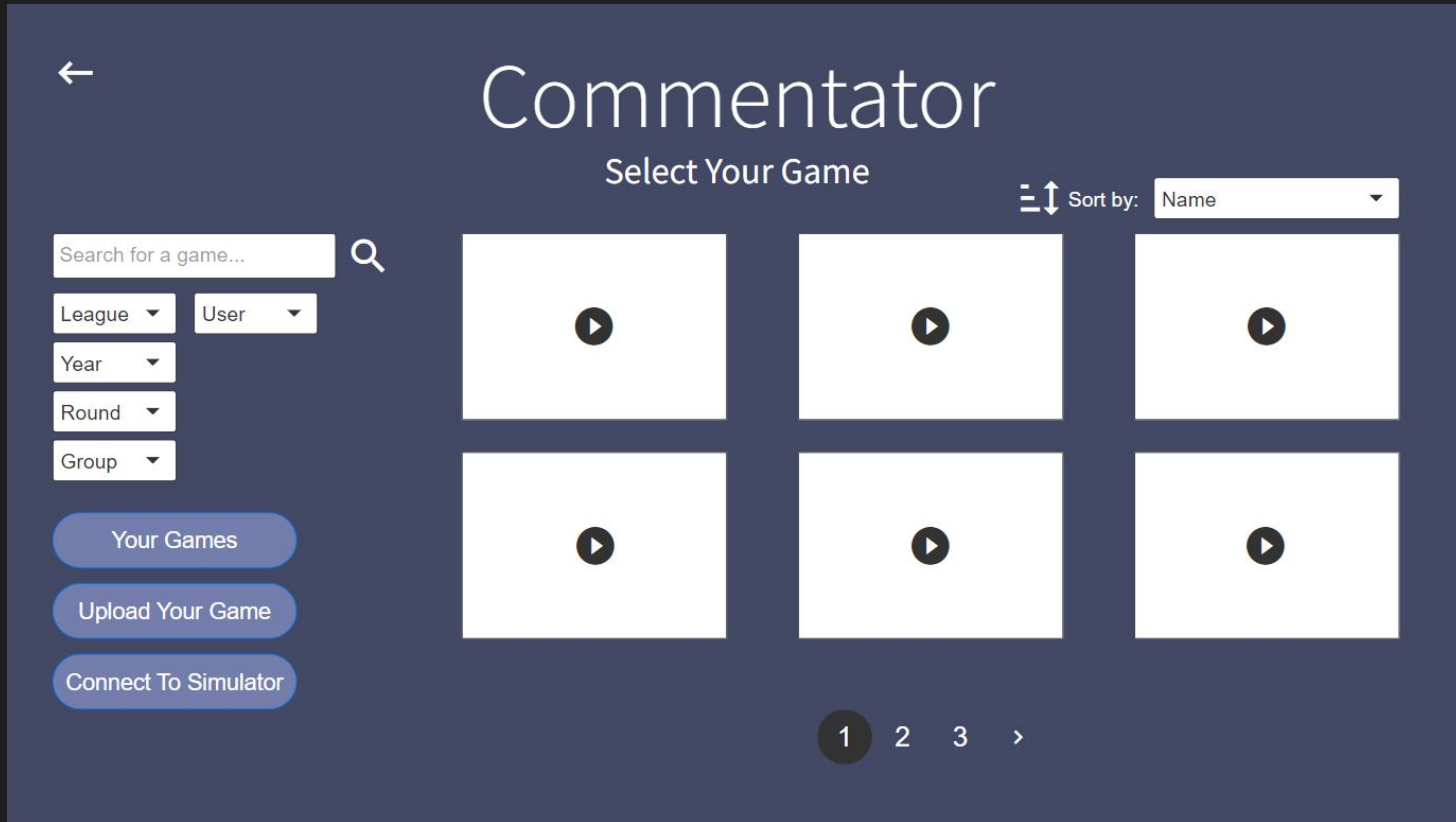
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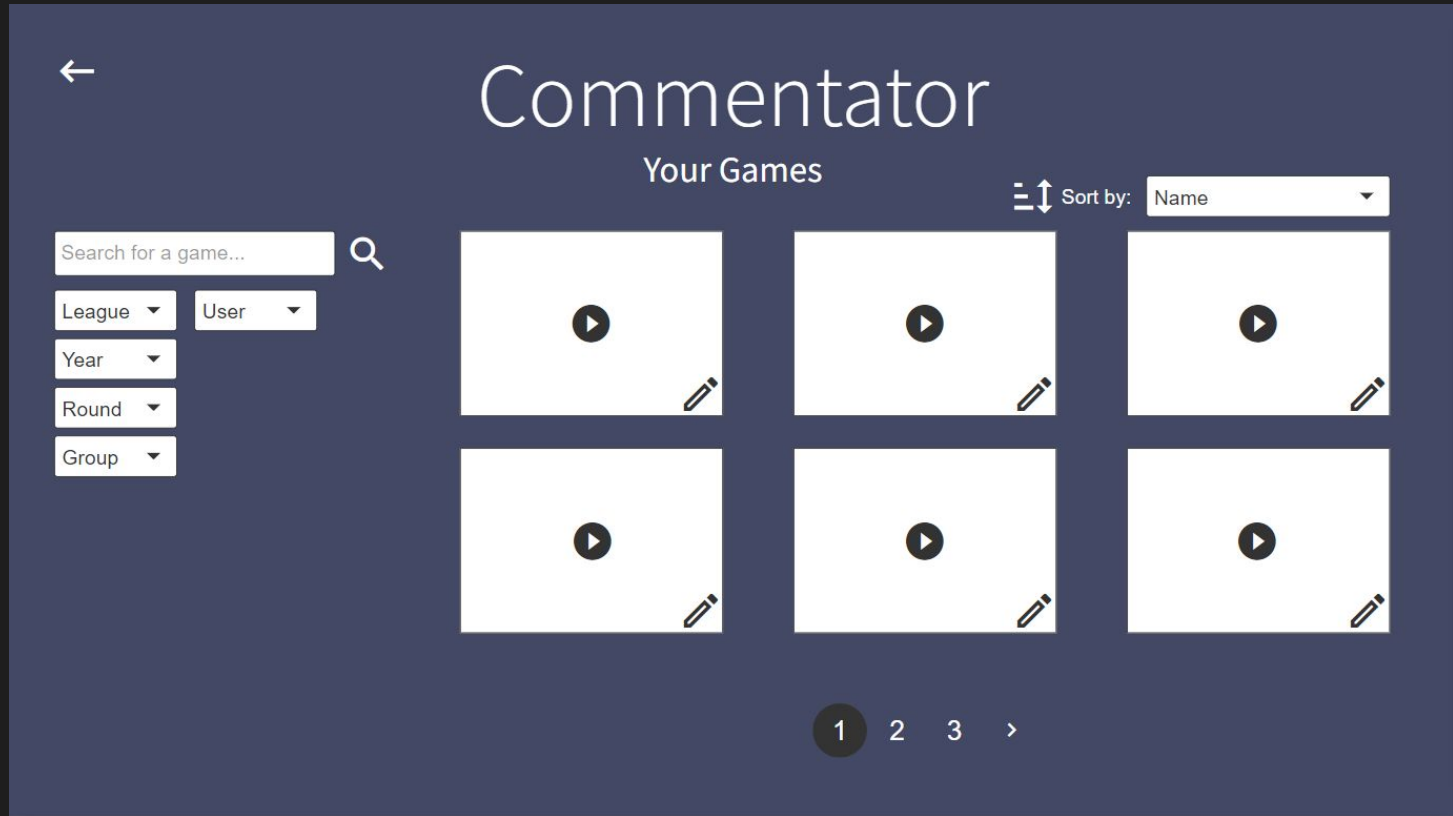
☒ Remember me

Register

With Login



With Login



With Login

Commentator

Upload Your Log File



Drag your file here...

Load

With Login

Commentator


Connect To Simulator

IP address:

Port:

Connect



With Login







Commentator

Personality Settings

Ready-made Presets







Gender

FemaleMale

Energetic

Calm


Aggressive

Friendly

Bias

Team ATeam B

Start



Your Presets



