CSE396 COMPUTER ENGINEERING PROJECT

2025 SPRING – GROUP 6 - Report 2

DiceForge

“Arcane Gambit”

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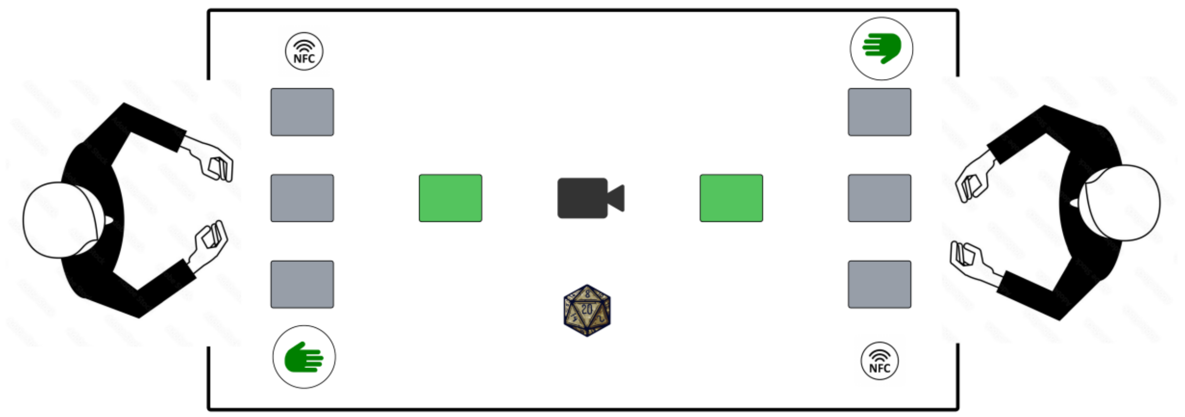

Modules
Backend

Computer Vision
Mobile Application
Augmented Reality

1 Unreal Engine: Game Logic and base	- sefa - hakan - baha
2 Mobile Application	- özlem - ibrahim - barış - zeynep
3 Computer Vision-	barış - Tarık - hakan
4 Backend server	hakan - tarık - ibrahim
5 AR -	Zeynep - baha - sefa - özlem

Backend Module

This module is used for managing the server-side operations of the game. It helps users to register,character creation, log in, and enter a game session. All information is stored in a MongoDB database, and the server is built using Express.js.

The main goal of this module is to create a flexible backend system. It allows users to create accounts with their username and password,create character by choosing a character, log in safely, and join a game session. When a user enters a session, the backend can save information like the user's ID and character and the time the session started.

Technologies Used:

- **Node.js** – JavaScript runtime environment
- **Express.js** – Server framework for Node.js
- **MongoDB** – For database

Main Features:

1. **Register**
   Users can create a new account by entering their username, password and choosing their character.
2. **Login**
   Users can log in using their username and password. If successful, then user can enter a game session.
3. **Enter Game Session**
   After logging in, users can join a game session with scanning NFC on game table. The backend saves information about the session, like the time and user ID.

Classes / Schemas

1. User Schema (models/User.js)

```
{
  username: String,       // Unique username
  password: String,        //password
  character: String,
}
```

- **Methods (Controller-side):**
  - registerUser(req, res)

    - loginUser(req, res)

2. Session Schema (models/Session.js)

```
{
  userId: Object ID,  // Reference to the user
  joinedAt: Date                          // Timestamp when session started
}
```

- **Methods (Controller-side):**
    - enterSession(req, res)

API Methods (Express Route Handlers)

1. POST /register – Register a new user

Method: registerUser(req, res)
Parameters:

- username: string
- password: string
  Returns: success message or error

2. POST /login – Log in an existing user

Method: loginUser(req, res)
Parameters:

- username: string
- password: string
  Returns: success message or error

3. POST /session – Enter a game session

Method: enterSession(req, res)
Headers:

- userId
  Returns: confirmation or error