SCIENCE FICTION • 88677-UE2088 • (CANADA $3.95) • U.S. $3.50

DAW SUPERSTAR

HUGO NOVELIST

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SCIENCE FICTION BOOK CLUB SELECTION

SERPENT'S REACH

NORTHERN ARIZONA UNIVERSITY | School of Informatics, Computing, and Cyber Systems

SS

Sej Online

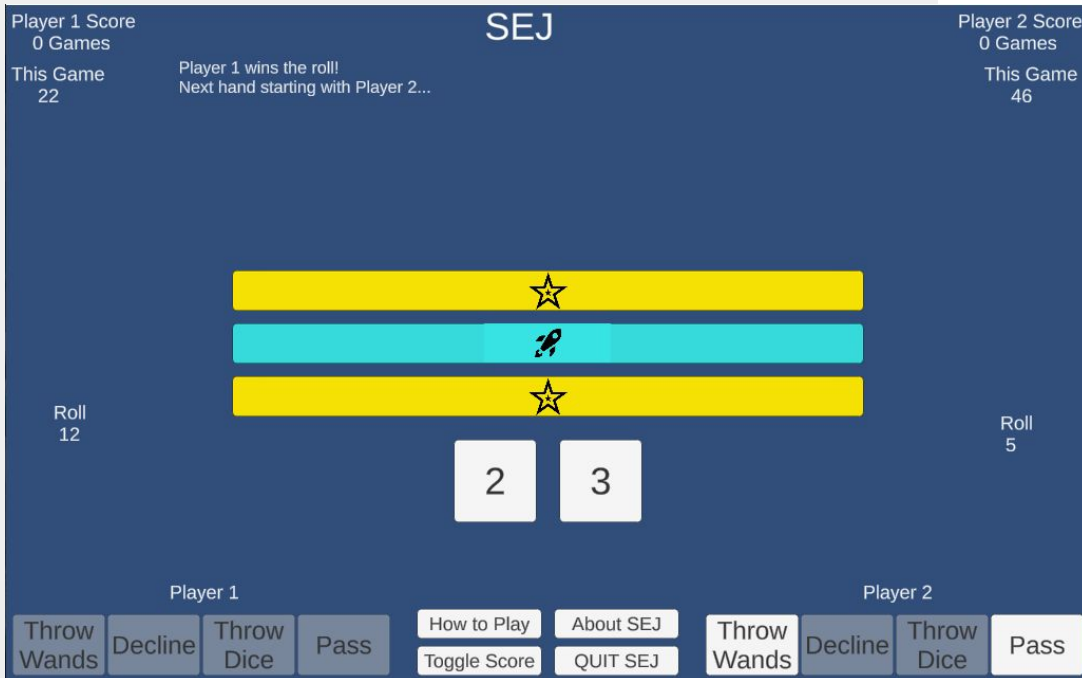## Adapting a Table-Top Dice-Rolling Game into a Digital Online Multiplayer Format

David Hermann, Johnathan Ray, Nickolas Maxwell,

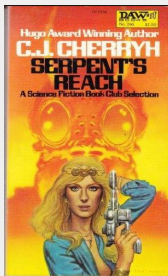Tyler Morales, Nick Shugrue

Mentor: Italo Santos

The Problem

- UI lacks critical game information
- No persistent scorekeeping
- Only supports local multiplayer

1. Implement Sej Rules

- Author Defined Rules
- Developer Written Algorithms

2. Improve Graphics and UI

3. Network Connected Two-Player Mode

4. Persistent User Data

Requirements

MVP

- **Sej Rules Implemented**
- **Network Connected two-player mode**
- **Simple but attractive UI**
- **Persistent cumulative score-keeping for opponents**

Performance

- **Engine Capabilities**
- **Network Search times**
- **Security**

Stretch Goals

- **Tournament Play**
- **Side-by-side play**
- **AI opponents**
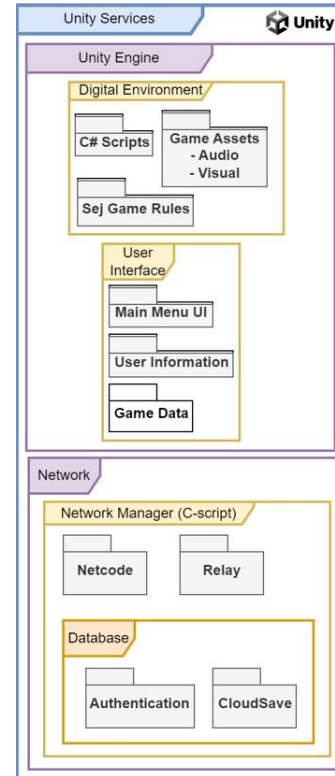- **3D game graphics & animation**
- **Audio**
- **Multi-platform**

Environmental

- **Legality**
- **Accessibility**

Unity

- Unity as the game development engine for better graphics/UI
- Database integration for persistent scorekeeping
- Unity Netcode library implements network functionality
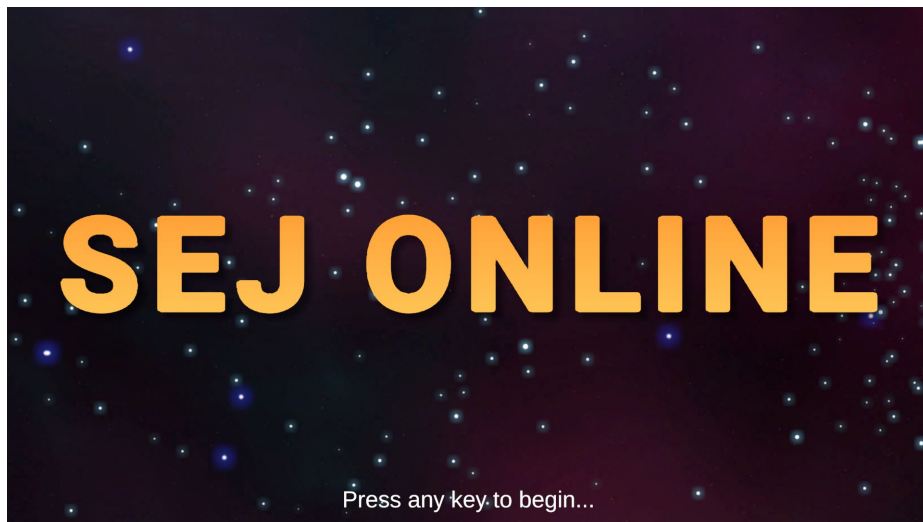
Start Menu
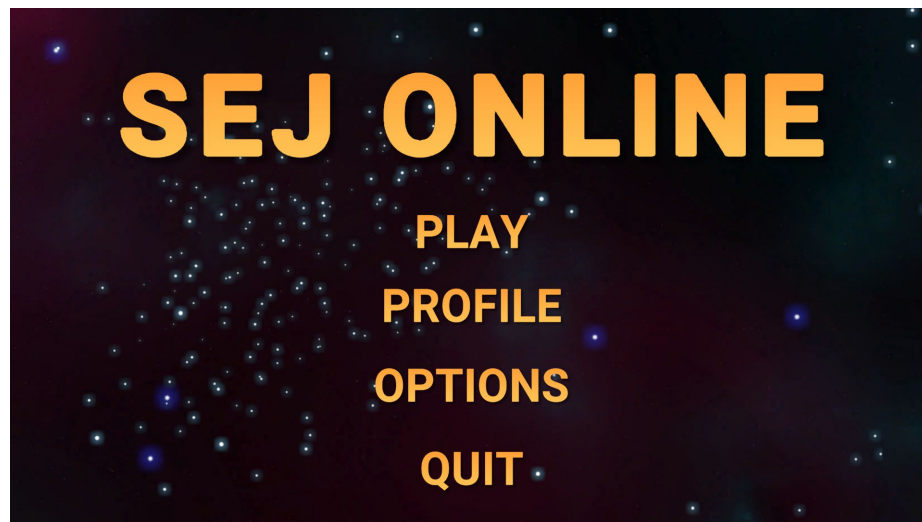
Main Menu

Player: temp

Games:
0

Win Rate:
N/A

Wins:
0

Losses:
0

Change
Username

Enter text...

Submit

BACK

Profile Menu

OPTIONS

RESOLUTION   1920 x 1080 @ 144Hz ▾

FULLSCREEN ☑

QUALITY   HIGH ▾

VOLUME

MUSIC

BACK

Options Menu

ONLINE

JOIN   **HOST**

BACK

Play Menu

After Selecting "HOST"

Host's Turn

Match has begun...
Host should begin by throwing the wands.

White	1
White	
White	1

Quit   How to Play   About SEJ   Throw Wands   Throw Dice   Decline   Pass   Join Code: PB7WN7

Process of Joining

ONLINE

JOIN   HOST

Enter a join code: PB7WN7   Submit   Cancel

BACK
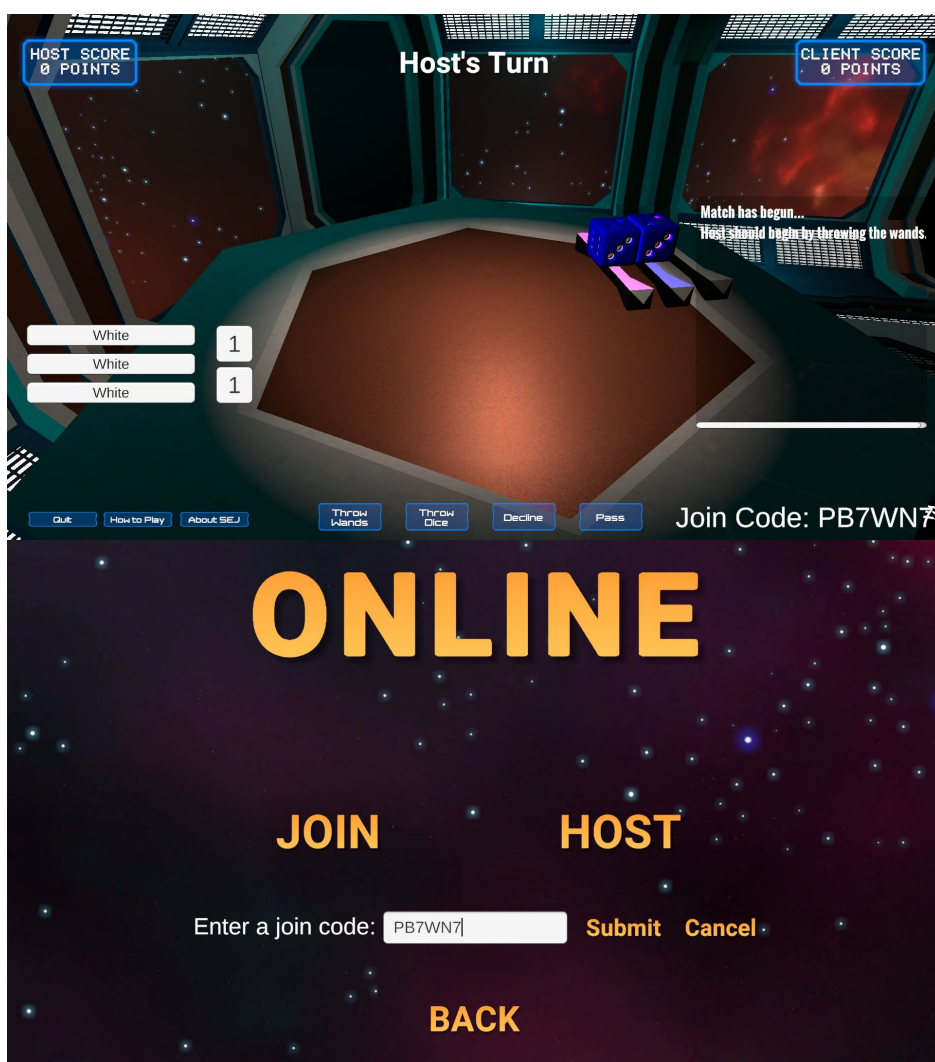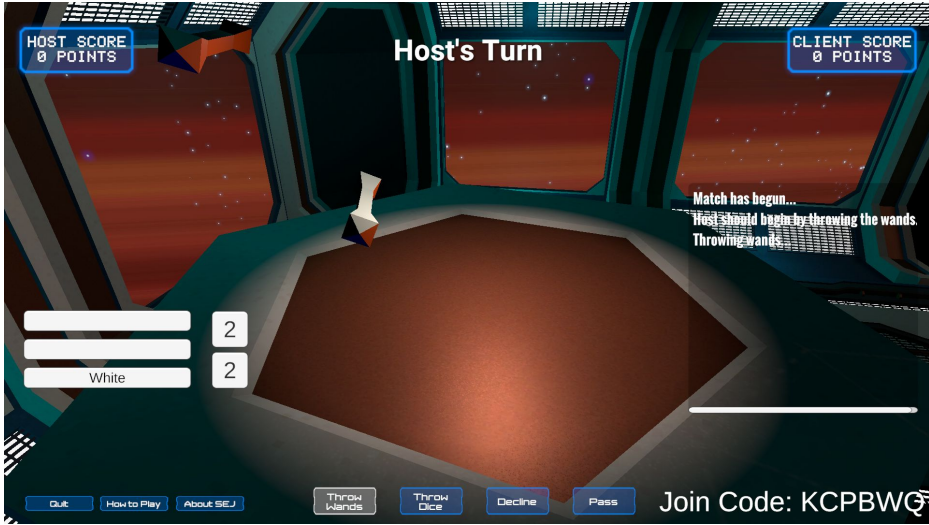
Rolling Wands

Rolling Dice

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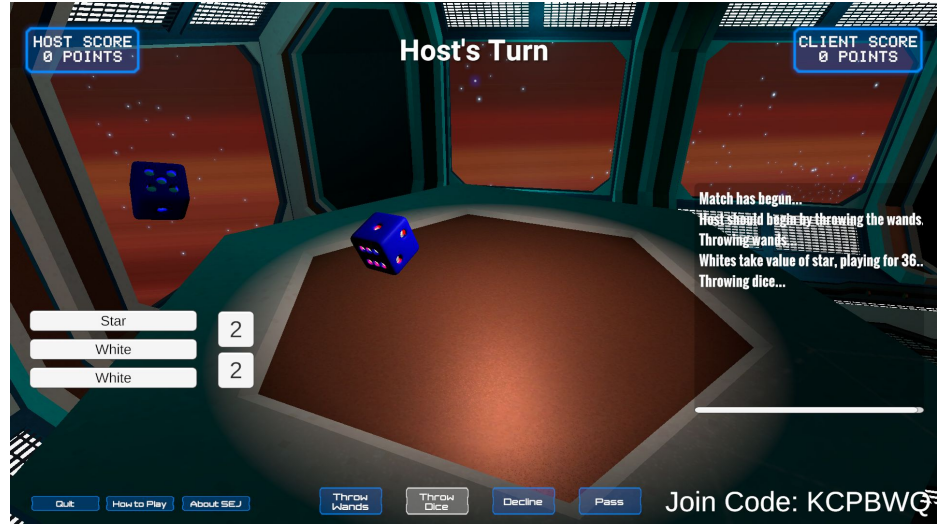
- Melding projects
- Collision issues
- Syncing data
- Controlling UI
- Designing assets
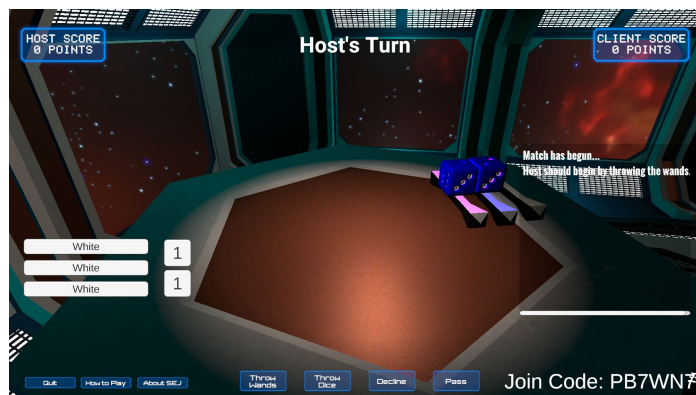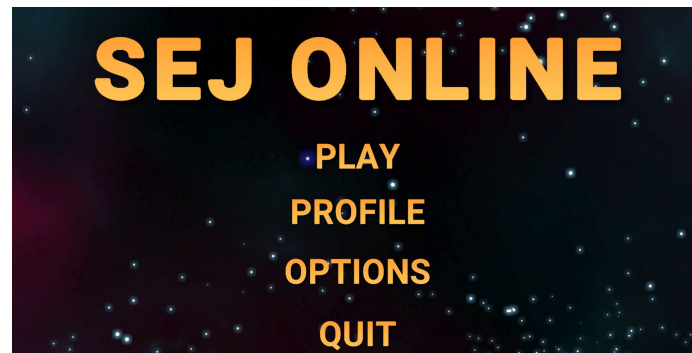
- Ensuring that each individual part of the modules work properly with unit testing
- Check that the interactions between modules functions as intended with integration testing
- Observing how our users interact with the different modules with usability testing

Schedule

ID	Name	Feb, 2023				Mar, 2023				Apr, 2023				May, 2023	
		31 ...	05 Feb	12 Feb	19 Feb	26 Feb	05 Mar	12 Mar	19 Mar	26 Mar	02 Apr	09 Apr	16 Apr	23 Apr	30 Apr	07 May	1
1	▼ Sej Rule Implementation														
10	Animation & Physics														
11	UI Design														
12	Coding of Rules														
30	Merge w/ networking & database														
27	Rule Implementation Bug Fixes														
5	▼ Multiplayer Networking														
13	Allow users to set up LAN server														
17	Allow users to play from different networks														
14	Meld w/ database														
15	Meld w/ dice rolling														
16	Meld w/ Sej rule implementation														
24	Networking bug fixes														
6	▼ Database & User Account														
18	Allow user to register information														
19	Record scores from game & store in DB														
20	Meld w/ networking														
21	Meld w/ Sej rule implementation														
25	Database bug fixes														
7	▼ Level Design														
8	Main Game Space														
9	Main Menu														
26	Asset design & implementation														
28	"Big picture" bug fixes														
22	Show current build to client														
23	Alpha build complete														
29	FINAL GAME DELIVERY														

Now

- Sej Online achieved its four main goals set in the previous design review
  - Sej rules revamped and implemented
  - Improved graphics and UI
  - Network connected two-player mode
  - User accounts for persistent scorekeeping
- For the rest of the semester, we will focus on user testing and fix any remaining bugs