

## Dice Duel: Duel of the Eights

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Dice Duels is a modern twist on Yahtzee using many-sided dice and multiplayer deception.

Summary of game concept:

- Multiplayer game modes
- Strategic re-rolls and scoring
- Raise/Fold mechanic adds psychological play

Design goals:

- Accessibility and clarity
- Tactical depth through simple mechanics
- Immersive tavern setting



Name: New Player

Roll, Select,  
Re-roll, Score

Raise Stakes &  
Fold option

Optional game  
modes

Dice types: d4,  
d6, d8, d12

Round: 1 / 2 Roll: 1 / 2

Angled

Top Down

Cinematic

Opponent Dice Rolls:

1 1 2 3 3 6 6 6



Asc

Desc

Freq

My Dice Rolls:

2 2 2 3 3 6 7 7

Scoreboard


3 of a Kind	Select
4 of a Kind	Select
5 of a Kind	Select
6 of a Kind	Select
7 of a Kind	Select
8 of a Kind	Select
Bonus	0
Chance	Select
Full House (2, 2)	Select
Full House (3, 2)	Select
Total:	

Roll Selected

Pass

Scoring Guide





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Cosmetic Customization

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Demo

Play Online Standard Game

Play Online Bluff Game

Play Online Blitz Game

Play Online Custom Game

Exit Game

## Tools & Technologies:

- Engine: Godot 4 (GDScript)
- Networking: Godot Multiplayer API + AWS EC2 server
- 3D Assets: Blender (models)
- Audio: Godot's AudioStream, SFX integration
- Debugging: Custom logging/debugger module

## Architecture:

- Multiplayer Host/Client with room code system
- Modular scripts for dice, score calculation, game settings





### Challenges & Solutions:

- Networking synchronization -  
Solved with RPCs & room separation
- Dice physics & scoring detection -  
Raycasting & ScoreCalc. module
- Bluff mechanic design -  
UX & UI with visual/audio feedback
- Debugging multiplayer -  
Log system for tracking states



### Highlights from Usability Testing:

- Clear improvement in UI and enjoyment
- Bluffing mechanic was praised

### Adjustments made:

- Chat visibility fixed
- Connection clarity improved
- Bonus thresholds clarified





### Post-capstone Ideas:

- Matchmaking & Public Lobbies
- Cosmetic unlocks & player progression
- Expanded solo play modes
- Voice enhancements & background NPC activity

### What we Learned:

- Managing a real-time multiplayer game
- Designing mechanics around bluffing and feedback
- Creating and polishing a complete experience



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Thank you

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