

UNO Web Game – Milestone 3

API Design

Team Z-G (Editable)

UNO Web Game – API Overview

- Multiplayer turn-based UNO game
- Real-time updates with Socket.io
- Server enforces all rules

Endpoints Overview

- POST /api/games – Create Game
- POST /api/games/:id/join – Join Game
- POST /api/games/:id/start – Start Game
- GET /api/games/:id – Game State
- POST /api/games/:id/play-card – Play
- POST /api/games/:id/draw-card – Draw
- POST /api/games/:id/call-uno – Call UNO

Deep Dive: Play Card

- Checks: card ownership, turn order, legal move
- Updates: discard, apply effect, advance turn
- Events Fired: state update, hand update, turn changed

Deep Dive: Draw Card

- Checks: must be turn or penalty case, deck not empty
- Updates: add card to hand, possible turn advance
- Events: hand update, state update

Socket.io Events Summary

- Public: player joined, state update, turn change
- Private: hand update, join confirmation
- game:ended when winner is determined

Security & Validation

- Server = Single Source of Truth
- Strict validation to prevent cheating
- Clients never determine game state
- Private info never broadcast publicly

Public vs Private State

- Public: discard pile, turn order, card counts
- Private: each player's hand
- Server controls visibility + event targeting

API Flow Diagram

Client UI
(Frontend)

Express API
(Server)

Game Logic
(Validation)

PostgreSQL
(Database)