

# Tatedrez

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## 1 - Code architecture

Code architecture is based on Entities and it's splitted in three modules in order to keep isolated and centralized pure game logic (Core) from visual elements and player interactions (Client).

- Config
- Core
- Client

This way we can extract different modules such as game configuration and store it in cloud databases, or game core to run it in a remote Server instead in a local context.

### 1.1 - Architecture game flow

1. Config defines the game data structure using Scriptable Object classes.
2. Core populates its entities using specific configuration data sets.
3. Client includes visual components, manages player interactions and keeps updated via core events subscription.

Config ← Core ← Client

### 1.2 - Code Summary

Config	Core	Client
	Match, Match Builder	Match Manager
Player Config	Player (Human, AI Player)	
Board Config	Board	Board Behaviour
Piece Config	Piece (Knight, Rook, Bishop)	Piece Behaviour
		UI Manager (Screens, Pop Ups)
		Input Manager

### 1.2.1 Plugins

- Input System
- TextMesh Pro
- DoTween

## 2 - Cases workflow

### 2.1 - Match Workflow

1. [Client] Main Menu Screen - Start Match
2. [Client] Match Manager - Request Start
3. [Core] Match Builder - Build
4. [Core] Match - Start
5. *Game Match loop\**
6. [Core] Match - End
7. [Client] Match Manager - Display Result
8. [Client] Match Result Popup - Confirm

### 2.2 - Game Match Loop

1. [Core] Player - Open Turn
2. *Player interactions / AI Player interactions*
3. [Core] Player - Close Turn
4. [Core] Match - Check Player Victory

### 2.2 - UI Navigation

→ Main Menu Screen → Match Screen → Match Result Popup →

## 3 - Scalability

- User Interface
  - UI Manager allows the implementation of new UI components such as Screens and Popups easily.
- Content
  - New pieces and testing players can be added easily
- Cloud database:
  - Game Data can be migrated to cloud storages
- Multiplayer:
  - Architecture allows the implementation of an entity based network layer.

## 4 - Design suggestions

1. Prohibit to place Knight at center location
2. White player starts
3. Turn timeout