

Game Design Document

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DO YOU KNOW BALL?



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Introduction

Do You Know Ball? (DYKB) is a mobile football trivia game that combines penalty shootouts with football knowledge. The goal of the game is to answer questions by shooting the ball at the correct answer panel. The better your football knowledge, the more goals you score.

The game is designed to be quick to pick up and play but still rewarding for players who know the sport. It offers an engaging mix of skill, timing, and trivia under pressure, making it stand out from other and more typical football, or trivia games.

Rough Plot

There's no traditional story or character arc in 'Do You Know Ball?'. Instead, the game is framed as a fictional football tournament where the player represents a national team of their choice. Every match is a high-stakes penalty shootout, but instead of testing shooting accuracy alone, the player must also prove their knowledge of football.

In Versus and Quick Play modes, the player's goal is to outscore the opponent in a classic five-shot penalty shootout, followed by sudden death if needed. In Endless Mode, each correct answer keeps the scoring going, pushing the player to beat their personal best and place on the leaderboards.

While there's no deep lore, the tournament-style framing and national team selection give the game a familiar and competitive feel to it, enough to keep players returning without needing a detailed plot.

Gameplay Description

The core of the game revolves around answering multiple-choice football trivia questions by "shooting" at the correct answer during a penalty shootout. Each question has four possible answers, and the player must aim at the correct one using a moving target mechanic.

The game has three main modes:

- Quick Play: The player selects a national team and faces off against an AI opponent. AI difficulty does not change and instead the question difficulty is based on team ranking (Easy, Medium, or Hard).
- Versus: Two players play on the same device in a local multiplayer participate in the penalty shootout, taking turns to answer questions and take penalties.
- Endless: A single-player mode where the player continues taking penalties until they answer incorrectly. The goal is to score as many correct answers in a row as possible.

There are also power-ups (like hints and 50/50s), unlockable ball cosmetics, and a coin-based reward system to add progression and incentive.

Monetisation

Monetisation is handled through in-game ads and a coin economy. Players earn coins by playing matches and can spend them on cosmetic ball skins or power-ups.

There are also three key points where ads can be watched:

- Revive: After failing in Endless Mode, players can watch an ad to remove the mistake and keep playing (once per run).
- Power-Ups: If a player tries to use a power-up they don't have, they can watch an ad to get it for free.
- Coins: If a player doesn't have enough coins to buy something, they can watch an ad to earn extra.

This system avoids forcing ads on the player and instead makes them optional and rewarding. There's also a daily login system with coin rewards that increase for each consecutive day played, encouraging return visits.

Target Audience

This game is aimed at a wide audience, but more specifically, it's designed for:

- Casual football fans who enjoy the sport but aren't necessarily hardcore gamers
- Mobile gamers aged roughly 12–30 who are looking for a light, engaging experience
- People who enjoy quick bursts of gameplay on the go (ideal for commuting or casual downtime)
- Fans of quiz/trivia games, especially those that benefit from themed settings like football

The game's visual style, controls, and structure have all been designed with this audience in mind, focusing on accessibility, replayability, and instant feedback.

Unique Selling Point

This game combines two genres in a way that's fresh but still familiar. Some of the game's key USPs include:

- Football-themed quiz gameplay that turns trivia into an interactive penalty shootout
- A penalty aiming and shooting mechanic that differs from most other penalty shootout games
- Team/Country based difficulty selection that allows users to play as their favourite teams
- Football themed reward systems and unlockables in order to keep the player engaged
- Core gameplay mechanics that allow for both long and short periods of play

Artistic Style and Design Choices

This section outlines the artistic inspiration behind 'Do You Know Ball?', covering visual game art, user interface design, planned menu layouts, and sound design. The goal is to create a vibrant and approachable style that suits the mobile platform while making the game fun, clear, and easy to engage with.

Game Art

The intended art direction for this game is simple, colourful, and low-poly. Rather than aiming for realism, the visuals should feel playful and light-hearted, helping the game appeal to a wide audience

while remaining readable on smaller screens. The use of vibrant colours and chunky 3D models will support this style and allow for fast performance on mobile devices.

Here are some games that could act as inspiration for this vibrant and low-poly style:

Alpaca Ball: Allstars



Do You Know Ball?

Stikbold! A Dodgeball Adventure



Sociable Soccer '25



User Interface (UI)

The UI for this game should be clean, accessible, and responsive. It needs to clearly communicate important information (like the current question, answers, and score) while not overwhelming the player or distracting from the core gameplay. Inspiration has been taken from both football and trivia games that strike a good balance between minimalism and visual appeal. Here are some of the inspirations:

Penalty Shooters 2:

Do You Know Ball?



Trivia Crack:

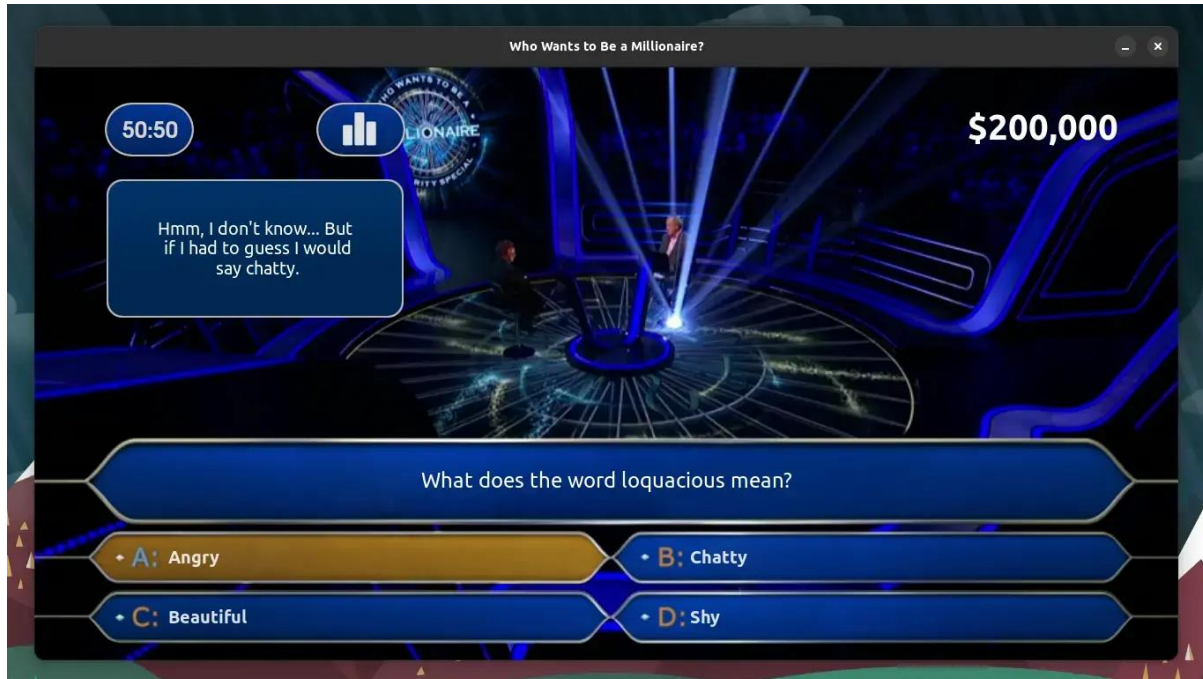


Buzz! Quiz TV:

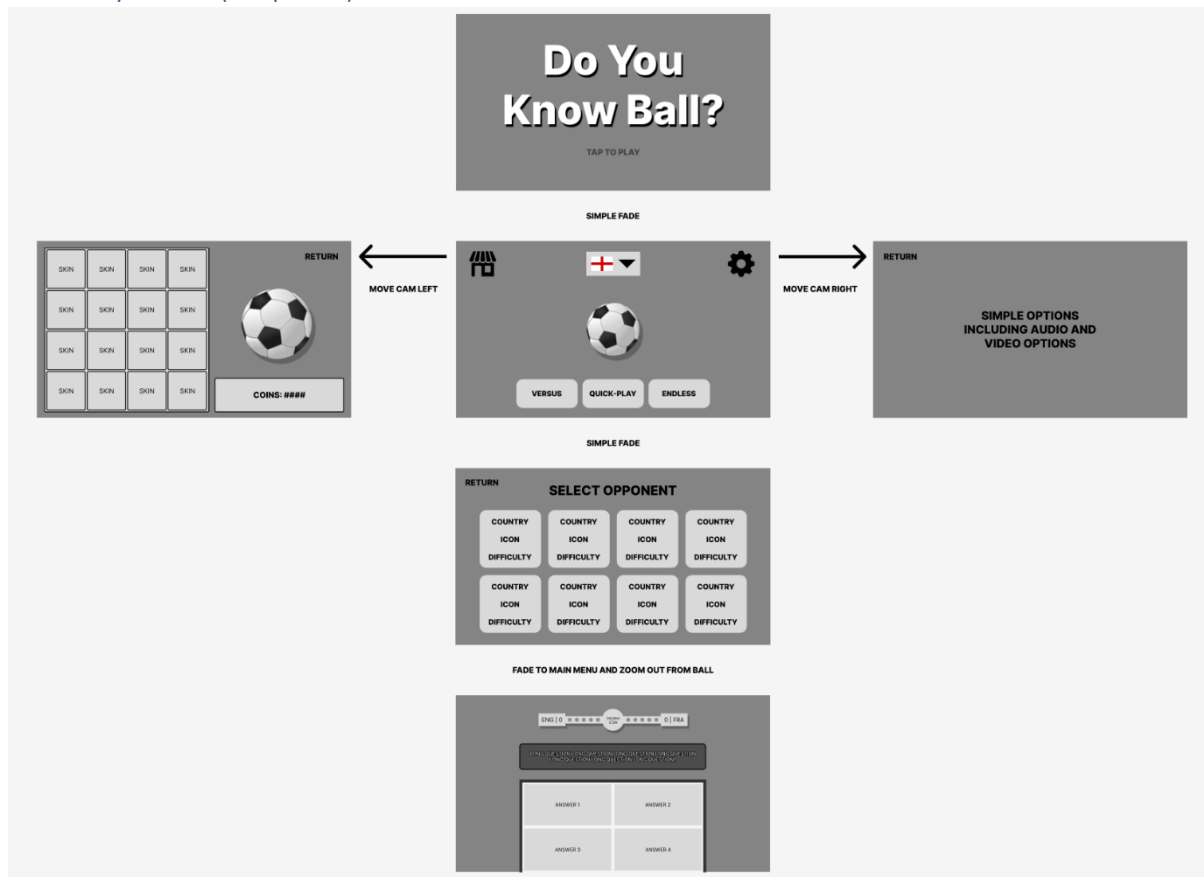


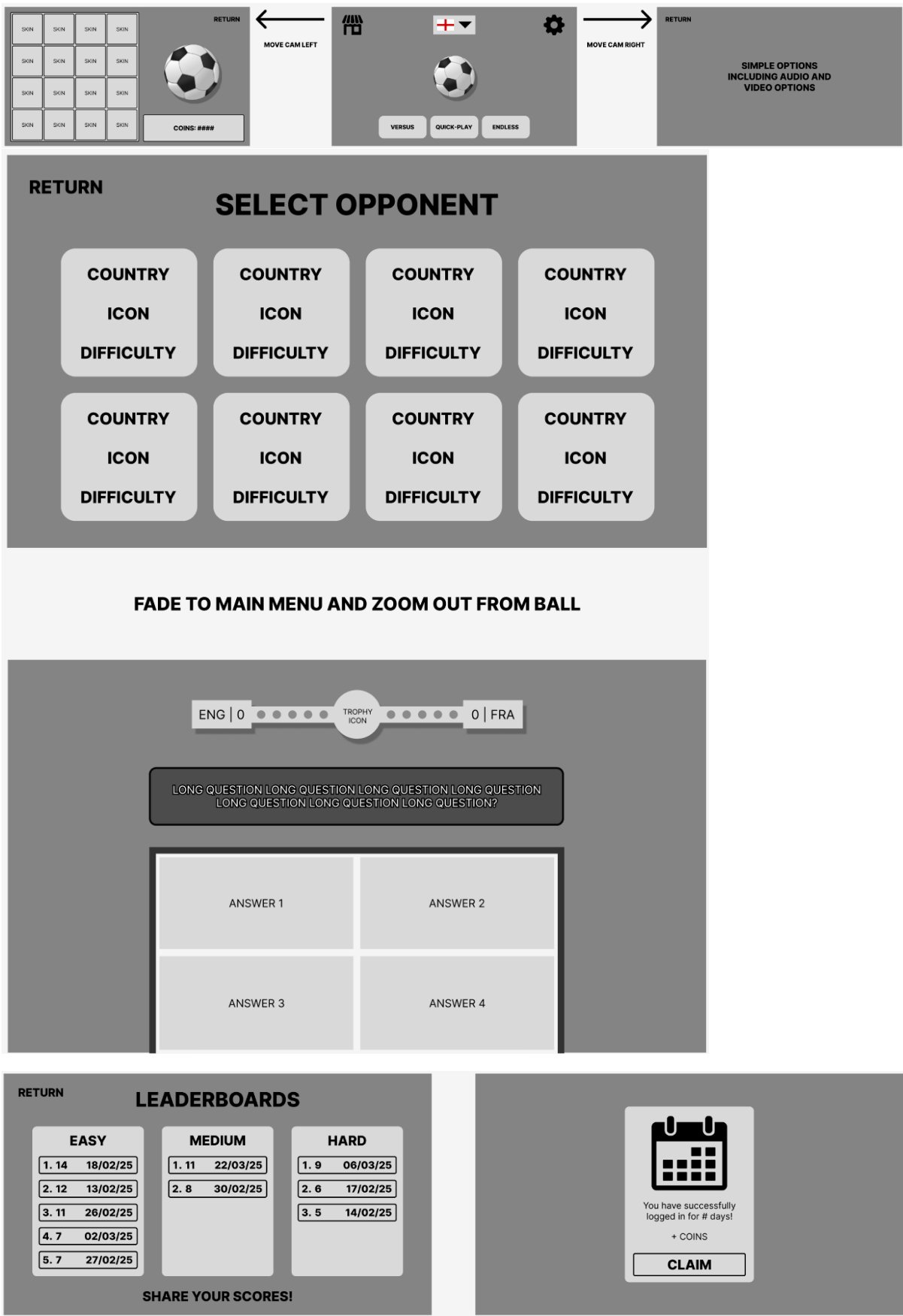
Do You Know Ball?

Who Wants To Be A Millionaire?:



Menu Systems (map out)





Sound design

The sound design for this can contain a multitude of different areas and assets including football related audio, as well more standard mobile audio aspects.

General Audio (Menus, Buttons, Etc)

The general audio for this game could consist of:

- Menu Audio - Can be standard stadium ambience
- Button Sounds - Whistle blowing for starting a game
- Shop Button Sounds – Purchase noises for cosmetics like a cash register
- Options Button Sounds – Possible standard button click audio
- Transition Sounds – A woosh sound for moving between the menu elements

Gameplay Audio

- Cheering For Goal Scoring
- Booing For Missing
- Winning Sounds
- Generic Chanting Audio
- Ball Kicking / Swooshing

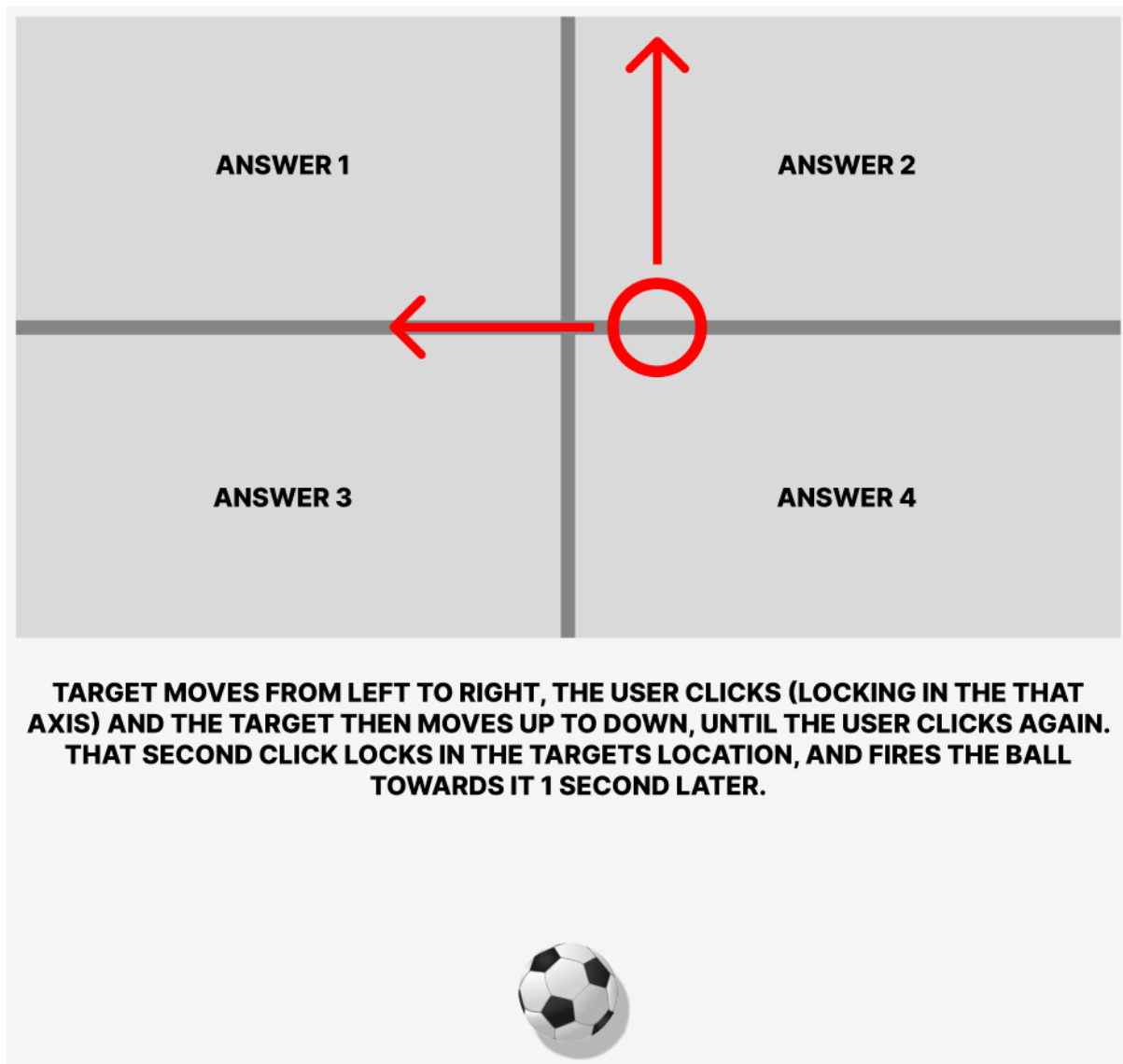
Components

The game will rely on a number of core systems working together to deliver an engaging and smooth football trivia experience. Below is a breakdown of the major components planned for development:

Ball Shooting Mechanic

This system will simulate a penalty shootout where players take shots at the goal by aiming at answer panels. A two-phase targeting system is planned: the target will move horizontally across the goal and once tapped, will then move vertically. When the second tap is made, the shot will be taken, and the game will determine whether it hits a correct or incorrect panel. This mechanic will form the primary method of answering questions.

Here is a diagram that has been created to showcase how this mechanic will work:



Question System

A question database will be created and sorted into three difficulty categories: Easy, Medium, and Hard. The game will randomly select questions from the appropriate category depending on the player's chosen difficulty or opponent team. The system will need to ensure questions are not repeated during a single game session and that answer positions are shuffled to avoid patterns. This system will also handle the logic for checking if answers are correct and updating the game state accordingly.

Game Modes

Three game modes are planned:

- Quick Play: A single-player mode where the user selects their own team and an AI-controlled opponent. The AI will simulate difficulty by adjusting its success rate based on the opponent's rank.
- Versus: Local multiplayer on the same device. Each player will take turns answering questions and taking penalties, with standard shootout rules (including sudden death).

- Endless: A high-score survival mode where players take continuous penalties until they answer a question incorrectly. This mode will be used for leaderboard tracking.

Each mode will use the same core gameplay systems but with slight variations in logic and UI based on context.

Difficulty System and Selection

The difficulty system will control the question content presented to the player during gameplay. It will have no impact on AI behaviour, which will remain consistent across all game modes with a 75% chance of answering correctly.

Difficulty will be broken into three levels:

- Easy
- Medium
- Hard

Each question in the database will be given a corresponding difficulty level, and only questions from the selected category will be used during a given game session.

Difficulty Selection by Mode

- Endless Mode: Players will be shown a difficulty selection screen before beginning their run. This screen will present all three difficulties as options, and the selected difficulty will remain fixed for that session.
- Quick Play & Versus Modes: Instead of selecting a difficulty directly, players will choose an opposing team from a list of international teams (excluding the one they've selected). These teams will be visually tagged with their difficulty tier:
 - Top 15 Teams = Hard
 - Ranks 16–30 = Medium
 - Ranks 31–46 = Easy

Once an opponent is chosen, the question pool used for that match will match the team's assigned difficulty. This system ensures consistency in question challenge without altering the AI's answer accuracy.

AI Answering Logic

Although the AI will not be affected by the question difficulty, the correct logic must be implemented in order to ensure that they correctly aim and shoot at a target. When the AIs turn commences, they will need to target an answer panel in order to shoot. The AI will have a 75% chance of choosing the panel with the correct answer on it. Once a panel is selected, a random location on the panel will be chosen and that will determine the AIs shoot location.

Power-Ups

Two power-ups will be available during gameplay:

- Hint: Displays a clue to help the player answer the question.
- 50/50: Removes two incorrect answers.

These power-ups can either be purchased in the shop or unlocked by watching adverts. The system will need to manage the usage, cost, and availability of each power-up within a match.

Shop and Currency System

A coin-based shop will allow players to purchase power-ups and cosmetic ball skins. Coins will be earned by completing and winning penalty shootouts, or through daily login rewards. The shop will also offer advert-based currency rewards when the player lacks funds. The currency system will need to track earnings, purchases, and savings across sessions.

Cosmetic System

Players will be able to unlock and equip different football skins. Once unlocked through the shop, a cosmetic skin will remain available permanently and be reflected in all gameplay modes. A simple toggle or equip system will be implemented within the shop interface.

Daily Login Rewards

A streak-based reward system will track consecutive logins and provide escalating coin rewards from Day 1 to Day 7, where on each day beyond day 7, the maximum reward will be given. If a day is missed, the streak will reset. The system will also display a pop-up each day for the player to claim their reward.

Leaderboards

Endless Mode will feature three separate local leaderboards, one for each difficulty level. Each leaderboard will store the top 5 scores along with the date they were achieved. Players will be able to view these scores from the main menu.

Sharing Feature

A sharing system will allow players to post their high scores from Endless Mode to social media platforms. Players will be able to select a difficulty and share a formatted message or image showing their top score, encouraging friendly competition and helping promote the game more naturally.

Settings Menu

An options panel will allow players to adjust game settings such as sound, vibration, and other preferences such as graphical settings. These settings will be saved between sessions and accessible from the main menu.

Analytics

A detailed analytics system will be used to track important user data such as game modes played, playtime, and ad data. This system can be used to ensure that many of the games features allow for the best experience by comparing the results with expected outcomes.

Local Save Persistence

A local save persistence mechanic will be implemented to allow for the saving of important user data such as coins, scores, daily login, settings, and analytics. This ensures a more positive experience for players as progress is not limited to one session.

Asset Breakdown

Here is a detailed list of each asset required in the game. This section outlines all the visual, textual, and audio elements needed for the development of 'Do You Know Ball?':

Art Assets

UI Buttons

Goal 3D Model

Ball 3D Model

Stadium/Environment Models

Ball Materials and Customisation Materials

Grass and Ground Materials

Menu Map

Hint Icons

Button Icons

Game Map

Text Assets

Title Font – Title Screen and Pause Menu Text

Header Font – Question Text, Button Text, Answer Text, Menus, Confirmation Screen

Sub-text Font – Description text (e.g. hints, 5050s, tooltips)

Sound Assets

Title and Menu Music

Game Music

Ball Kicking Sounds

Goal Being Hit Sound

Panel Breaking Sound

Ball Bouncing Sound

Crowd Ambience Sounds

Crowd Celebration Sounds

Crowd Booing Sounds

Button Clicking Sounds

Platform choice

The primary platform is mobile, with support for both iOS and Android devices. The game could also work well on PC or console with minor tweaks to the UI and input, but the core audience is mobile players looking for short, engaging gameplay sessions.

Mobile makes the most sense for this project because the game is built for tap-based interaction, quick play sessions, and casual progression, all of which are perfect for the mobile market.

Platform Development Costs

To publish on mobile platforms, there are some essential costs:

- Google Play Store: Requires a one-time developer registration fee of around £25.
- Apple App Store: Requires an annual developer licence costing roughly £80 per year.

Additional costs could include cloud storage or analytics tools if used later in development, but the base costs are just for platform access. These fees are necessary to make the game publicly downloadable through official app stores.

Icon Design

Three icon concepts were explored for the final app design. Icon Idea 1 was chosen as it most effectively captures the game's theme, combining a football and a question mark with a vibrant, eye-catching glass smashing effect that reflects the energy and core elements of the trivia shootout gameplay.

Icon Idea 1:



Icon Idea 2:



Icon Idea 3:



Game Name

The chosen name for this game is 'Do You Know Ball?'.

Some of the other name ideas for this game included:

- Top Bins Trivia
- Football IQ
- Ball Knowledge
- Know The Game

Development Timeline

Below is a rough breakdown of how development is planned across the 8-week project window:

Week 1 – Planning & Design: Initial concepting, wireframing, menu mockups, and design documentation.

Weeks 2–3 – Core Gameplay Loop: Implementation of question handling, answer checking, shooting mechanics, and UI interaction.

Weeks 4–6 – Gameplay Systems & Visuals: Completion and polish of all core mechanics, development of shop system and cosmetics.

Week 7 – Extra Features: Daily login rewards, revive ads, sharing screen, leaderboards.

Week 8 – Final Polish & Submission: Fixing bugs, adjusting values, smoothing UI flow, and implementing remaining assets.