Game Design Document

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Game Name: Press & Win

Description

Chance based 2D mini game where the player is presented with 3 mystery gifts. The game consists of the player pressing on the gifts in the order desired so a hidden symbol is revealed in each gift.
The round ends when all symbols are revealed and the possible prize is presented to the player, having a win whenever 2 symbols are the same and a big win whenever all 3 symbols are the same. The player then can press to play another round.

Specifications

Screen:
- **Reference resolution:** 1280px width and 720px height
- **Screen fill:** Cover and fill with black vignette beyond fixed frame until screen borders.

Symbols
- **Size:** 260px width by 250px height

Game Mechanics

1. **Preload Screen:** Assets for loading screen are being loaded
2. **Load Screen:**
   a. Game assets are loaded while a loading bar is being filled along the assets loading.
   b. A start button is shown whenever the load ends. Game is waiting for the player to press "Start", user context can be captured for audio to work.
3. **Game start:** After the player presses the Start button in Load Screen, the screen is swapped by the Game Screen, where the very first round is ready to be revealed in the center of the screen.
4. **Symbols revelation:** Symbols are revealed as soon as the player presses on the gifts elements. Reveal animation takes place after the player presses, changing the symbol's visual state.
5. **Win celebration:**
   a. Win: Player has revealed 2 equal symbols, or there is 1 wild, and so a win celebration animation takes place.
   b. Big win: Player has revealed 3 equal symbols, 2 equal symbols and a wild or 2 wilds, and so a big win celebration animation takes place.
   c. No prize: In case all 3 symbols are different and there is no Wild, nothing happens, just go to the next state. We avoid "negative" celebration animation taking place, we don't want to make the player feel bad about not winning.
6. **Round ended:** "Play new round" button appears on the screen.

7. **Round start:** Whenever the player presses the "Play new round" button a new round of symbols hidden into gifts elements appears on the screen with an animation
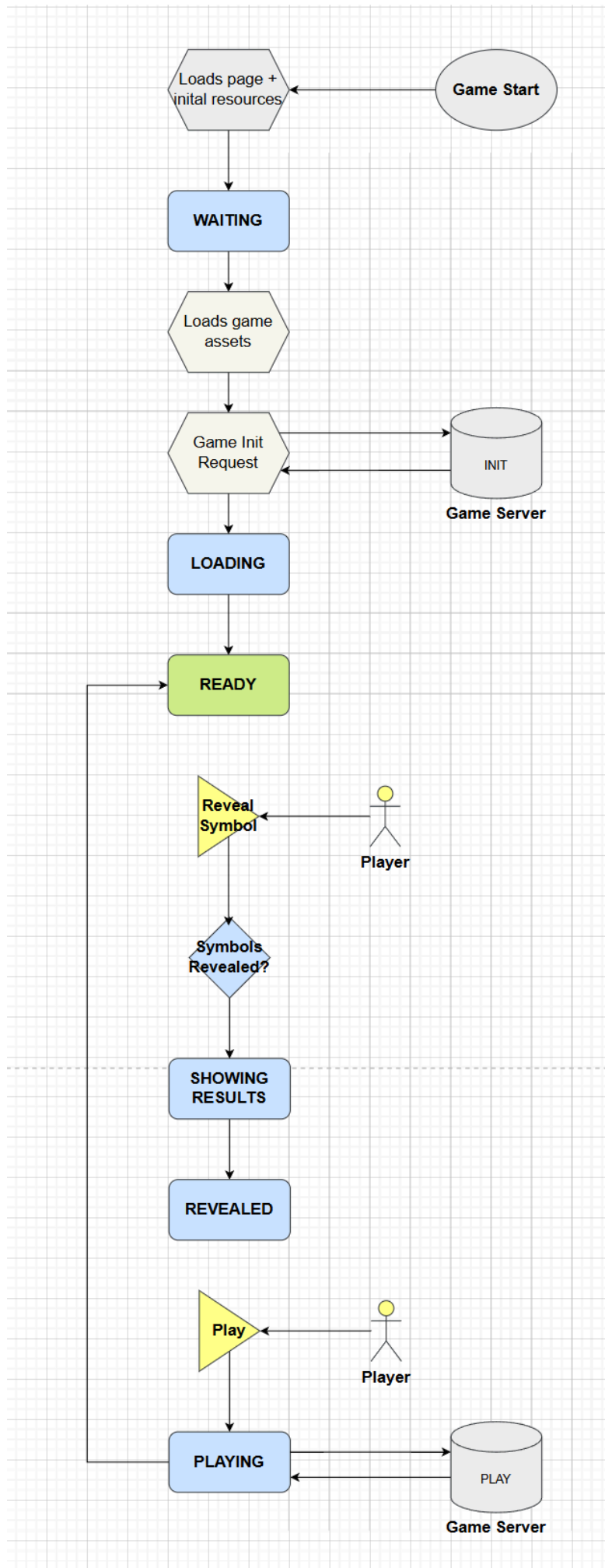
Features and Technology

Game is developed with Typescript and bundled with Vite

Feature	Technology
Game is rendered in browser canvas as 2D game	● 2D Engine for graphic implementation: **pixi.js**
Time based animations (tween)	● Tween: **GSAP**
Game loads optimized image files containing atlases of images grouped by characteristics	● Atlases and image optimization: **Texture Packer**
Game texts has localized texts for different possible languages	● Locale text handling: i18next
Browser environment detection	● User agent parser: ua-parser-js

Game Design - Mechanic and Flow

The game flows with the following states:

1. WAITING
   a. Page and code resources to be loaded
   b. Load preload screen assets
2. LOADING
   a. Load game assets
   b. Init game request from server
3. READY
   a. Game is ready and waiting to be played
   b. Symbols are set and ready but "hidden" behind the boxes
4. SHOWING_RESULTS:
   a. All symbol are shown after player reveal each one of them
   b. If a win, celebration animation is performed, showing the results
5. REVEALED
   a. All symbols are revealed and the game
   b. Game is waiting for the user to press play and request data
6. PLAYING:
   a. Game is performing the play action and server request.
   b. After this game goes to 3. READY step again.

```mermaid
flowchart TD
    GameStart([Game Start]) --> LoadsPage[/Loads page +<br/>inital resources/]
    LoadsPage --> WAITING[WAITING]
    WAITING --> LoadsAssets[/Loads game<br/>assets/]
    LoadsAssets --> GameInit[/Game Init<br/>Request/]
    GameInit <--> INIT[(INIT<br/>Game Server)]
    GameInit --> LOADING[LOADING]
    LOADING --> READY[READY]
    READY --> RevealSymbol[Reveal<br/>Symbol]
    Player1((Player)) --> RevealSymbol
    RevealSymbol --> SymbolsRevealed{Symbols<br/>Revealed?}
    SymbolsRevealed --> SHOWINGRESULTS[SHOWING<br/>RESULTS]
    SHOWINGRESULTS --> REVEALED[REVEALED]
    REVEALED --> Play[Play]
    Player2((Player)) --> Play
    Play --> PLAYING[PLAYING]
    PLAYING <--> PLAY[(PLAY<br/>Game Server)]
    PLAYING --> READY
```

Game Start

Loads page +
inital resources

WAITING

Loads game
assets

Game Init
Request

INIT

Game Server

LOADING

READY

Reveal
Symbol

Player

Symbols
Revealed?

SHOWING
RESULTS

REVEALED

Play

Player
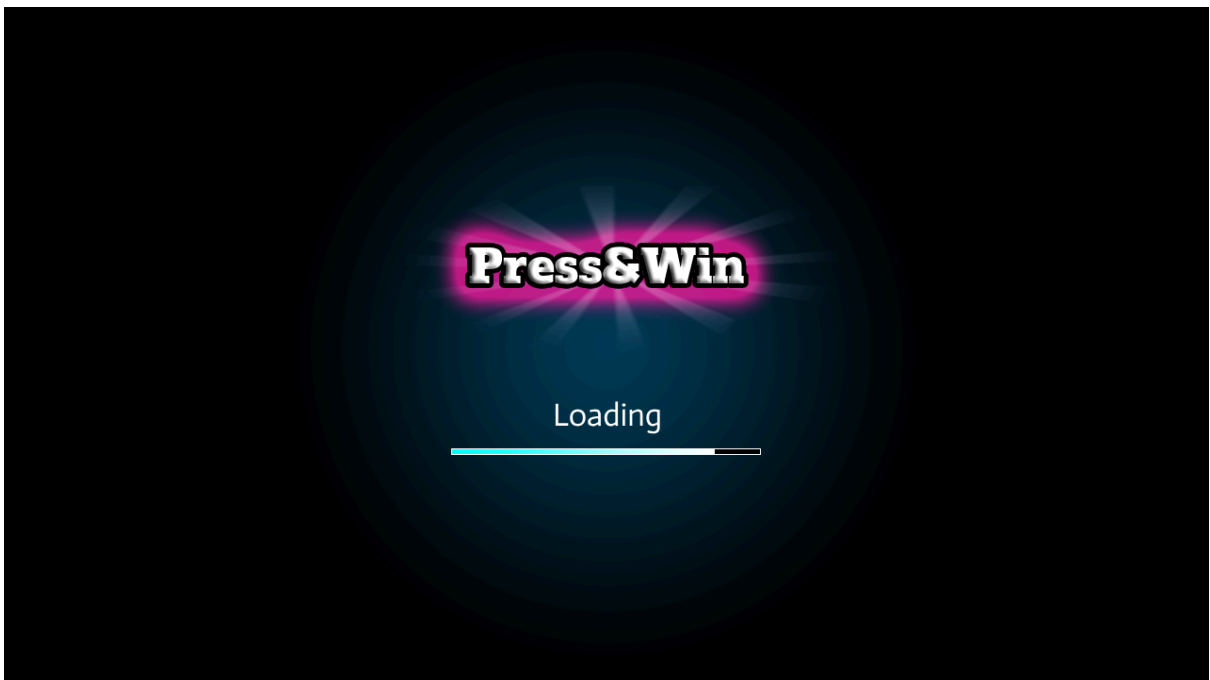
PLAYING

PLAY

Game Server

Game Design - Screens and States

Before starting the development these are the screens visually designed to see the elements organization, sizes and positioning into the scenes by their states.
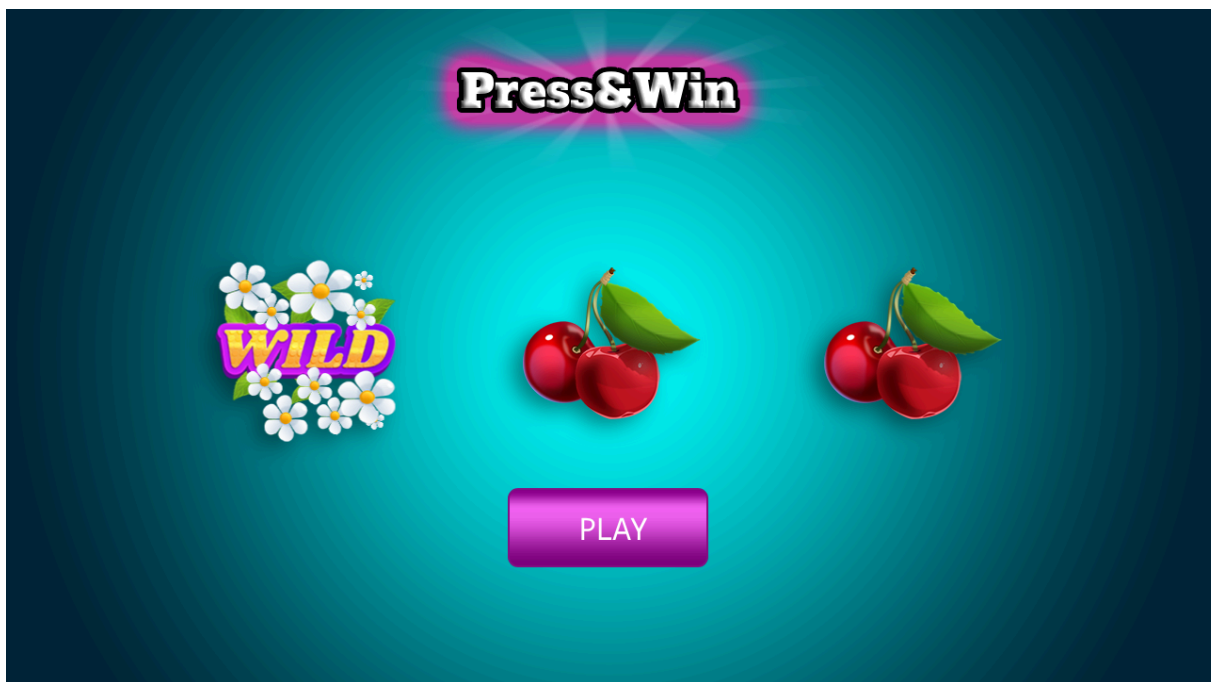
Preloading

Loading

Game Start

Symbol Reveal

Win Celebration

Round Ended

Round Start