Quick Introduction

We tried to make this game template in such way where even a non-technical folk also can modify and publish this game. But for the techie who wants to make a detailed modification or wants to add more features, below is few notes that may help you understand structure and workflow of this asset.

This game is entirely made with uGUI including gameplay.

Getting Started

- This sample game was tested using Unity 2022.3.7.f1.
- It was tested on Android but one should be able to port it to other platforms too.
- Safe Area Helper is required to be installed before installing this package.
  Safe Area Helper download link:
  https://assetstore.unity.com/packages/tools/gui/safe-area-helper-130488
- This game works only on a single scene which is **Game.**
- Open **PuzzleGame/Scenes/Game.unity** for main scene and click play to start.
- You can build the project on any platform.

Folders Organization and Structure

Folder structure of package is pretty self-explanatory.

- ***Animations*** – contains all animations used in this project. The subfolders are classified by the names of puzzle game modes. There are also animations for UI components here.
- ***Fonts*** – base font used in the game.
- ***Prefabs*** – contains gameplay and UI prefabs.
  - ***Bricks*** – contains brick objects for different puzzle game modes. They are categorized by using prefixes with game mode naming.
  - ***GameControllers*** – contains gameplay prefabs of each puzzle game mode.
- ***Resources*** – most of the content you are looking for is in in this folder group and it's subfolders. Here is where most of the magic happens. This content is needed to

setup the gameplay.

    - ***Boosters*** – contains configs for boosters.
    - ***Games*** – contains gameplay configs for each game mode. You can setup each game preset by changing: a price, a set of boosters, last chance type. ***GamePresetsList*** – collection of game preset. You can remove any game preset from the list or change their order. You can separate all game modes to different games. Delete all presets except the ones you want to keep.
    - ***SpritesCollections*** – contains collections of sprites used in color themes.
    - ***Themes*** – contains configs for color themes. You can customize existing themes or create and add your own to change game view. Each puzzle has its own collection of themes.
- ***Scenes*** – contains main scene.
- ***Scripts*** – all implementation and workflow. This section is described in more detail below.
    - **Ads** – contains scripts responsible for advertisement.
    - ***Boosters*** – contains the implementation of various bonuses.
    - ***Editor*** – contains extensions for unity editor.
    - ***Gameplay*** – contains all the core logic to run the gameplay.
    - ***Input*** – those scripts manage input logic used for 2048Bricks game modes.
    - ***Sounds*** – contains scripts responsible for sounds.
    - ***Themes*** – contains scripts responsible for color themes and game view.
    - ***UI*** – contains scripts responsible for UI elements.
- ***Sounds*** – contains audio clips and Audio Mixer Controller.
- ***Sprites*** – various of sprites used in the game.

Setup

- Make sure you replace the **Bundle ID** in the **File>Build Settings>*PlayerSettings*** to make this build a separate game.
- Setup your project for Unity services in the Services Dashboard.
- Copy monetization **GameIds** from your Unity Dashboard to

Scripts/Ads/AdsGameId.cs.

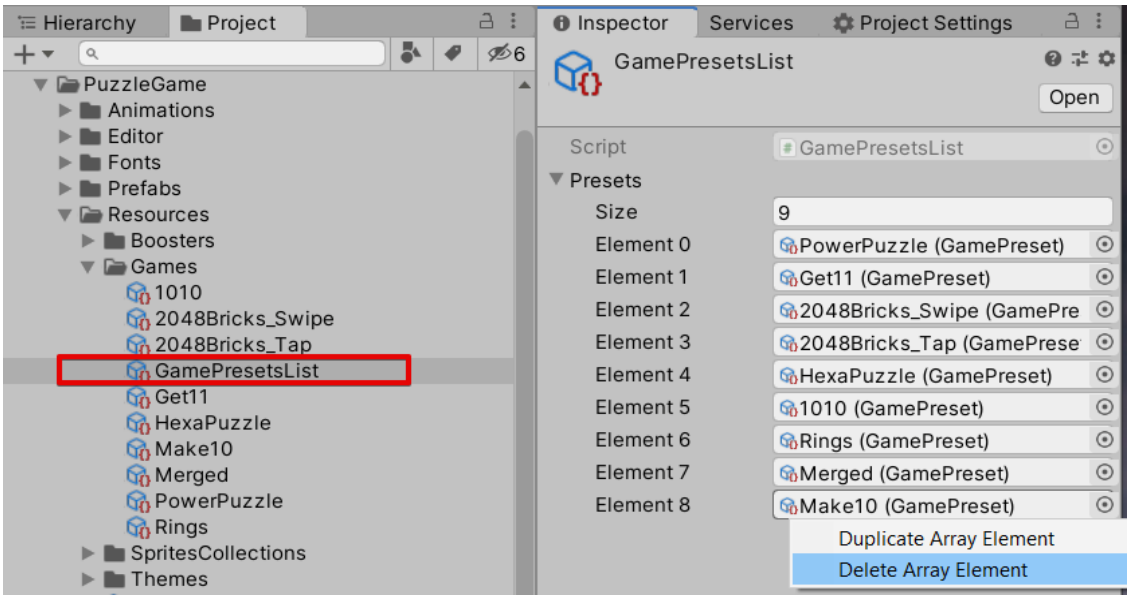
- Change **GameId** in ***AdsGameId.cs***.

```
public static class AdsGameId
{

    public const string iOS = "3177521";
    public const string android = "3177520";
    public const string other = "3177520";
}
```

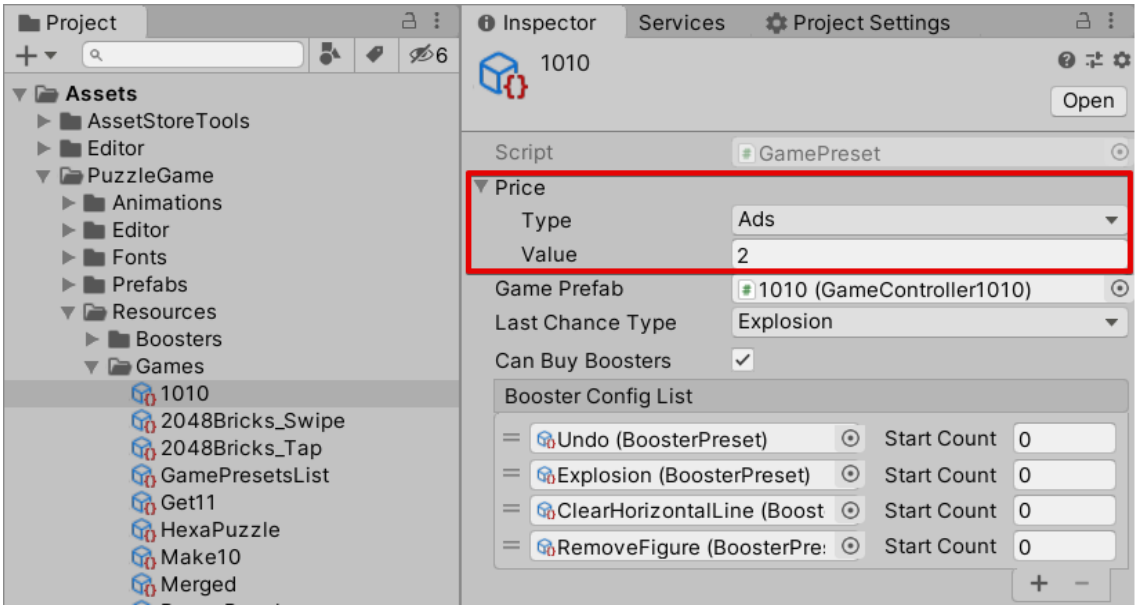
- Setup Ads placement Id in ***PlacementId.cs***.

```
public static class PlacementId
{

    public const string Video = "video";
    public const string RewardedVideo = "rewardedVideo";
    public const string Banner = "banner";
}
```

- You can separate all game modes to different games.
  - Modify **Resources/Games/GamePresetsList** file. Delete all presets except the ones you want to leave.



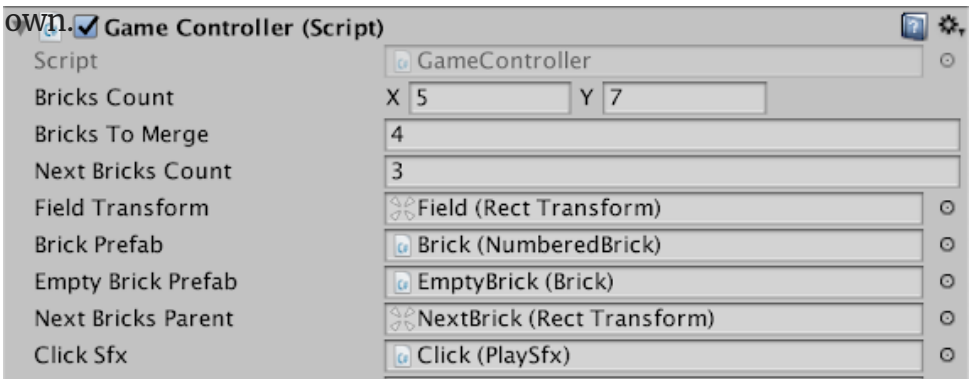
  - Update price for each puzzle game at the **Resources/Games/*...game preset***. To make game available set ***Price Value*** to 0.



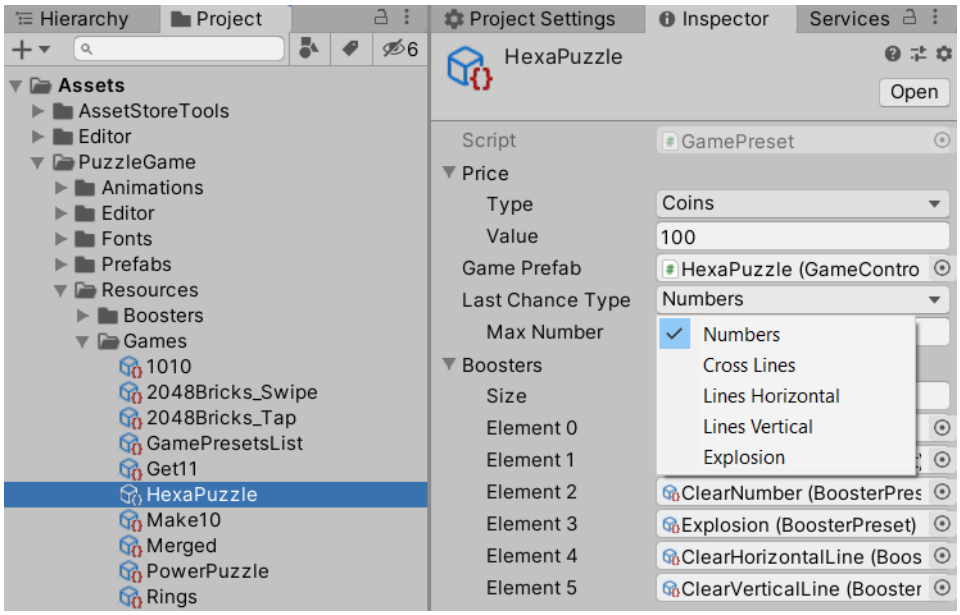
  - **Can Buy Boosters** – if it's ***false***, new boosters can't be purchased during the game.
  - **Start Count** – number of boosters available at start of the game.
- Build the game for any platform.

Advanced setup

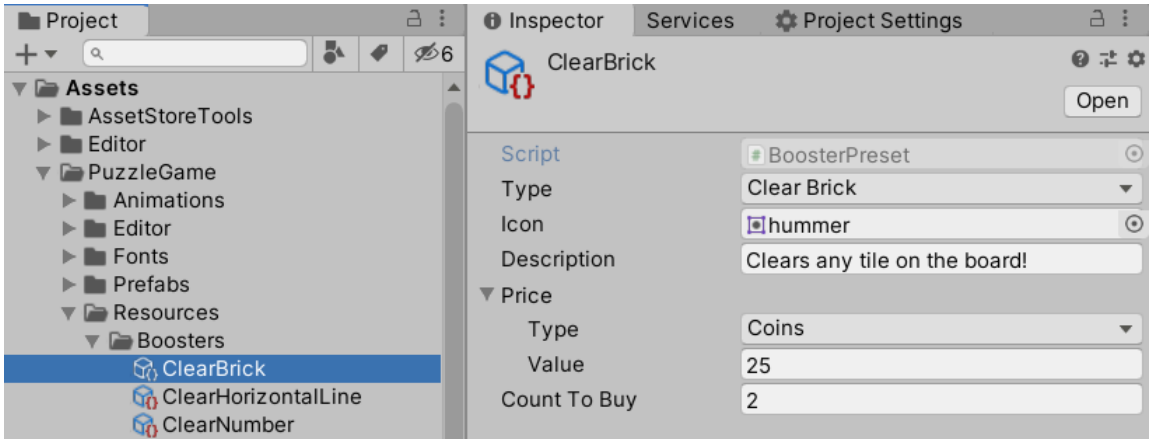
- **Prefabs/Bricks/Brick.prefab** – modify it to change font, color or sprite of a tile.
- **Prefabs/Bricks/EmptyBrick.prefab** – modify it to change color or sprite of empty tile.
- **Prefabs/GameControllers/*...game prefab*** – modify fields in inspector to change gameplay:
  - **Bricks Count (X, Y)** – defines how many tiles contains field.
  - **Bricks To Merge** – defines how many tiles with similar number will be merged.
  - **Next Bricks Count** – defines how many tiles will be spawned each turn.
- You can replace audio clips on **Click**, **Landing** and **Merging** Game Objects with your own.



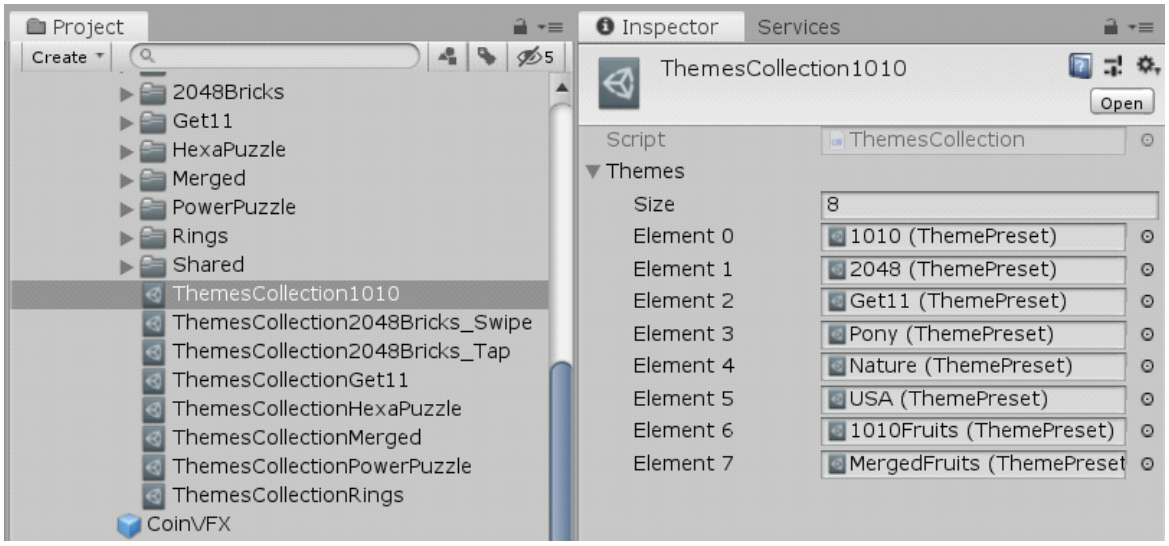
- **Resources/Games/... game preset** has a parameter **Last Chance Type**. Modify **Last Chance** in the inspector to change game bonus after losing. There are few different types of this bonus. For each puzzle you can select different types and parameters.



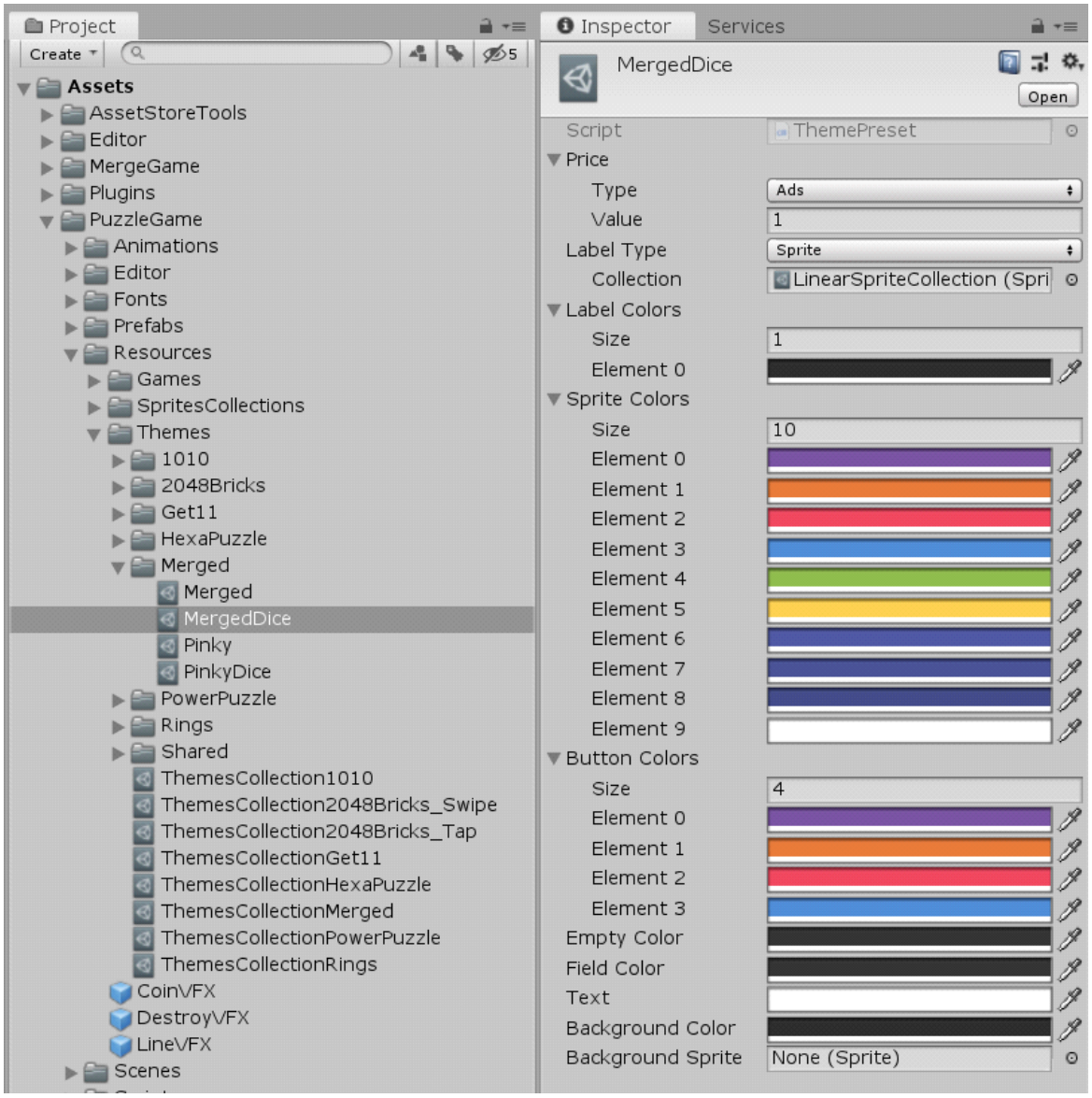
- **Resources/Games/... game preset** has list of boosters. Modify Boosters in the inspector to set up game mode with any amount and types of boosters you want. Each puzzle supports 5-7 booster types. You can combine them and set up by your own. Customize icons, description, price etc. of each booster at **Resources/Boosters**.



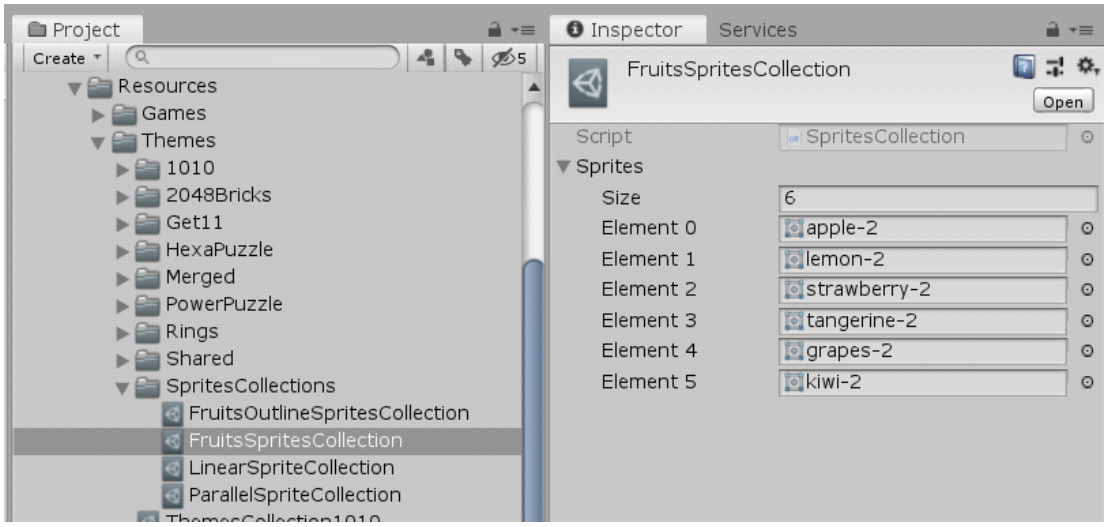
- Modify **Resources/Themes/Themes Collection**. You can customize existing themes or create and add your own.



- Modify color **Themes** in inspector to change game view. Each puzzle has its own collection of themes.
  - Modify **Price** for each theme. It can be unlocked by **Coins** or **Ads**. If you want to make it free, set **Price Value** by 0.
  - **Label Colors** list is used for text of numbers on bricks.
  - **Sprites Colors** list is used to set the color of a tile by a numerical value.
  - **Buttons Colors** is used to make UI elements match the theme.
  - **Empty Color** is a color of the empty tiles on the grid.
  - **Field Color** is a color of the game field.
  - **Text** color is used for UI text.
  - Modify **Background Canvas/Background** on **Game** scene to change color or sprite of background. You can remove **SetThemeBackground.cs** from **Background** gameobject if you don't want it to change for each theme. Otherwise, you can set BackgroundColor or BackgroundSprite in themes.



- **Resources/Themes/Shared/** folder contains themes that are used in various collections. You can also create your unique themes for each puzzle. There were presented several types of customization for different puzzles.
- **Resources/Themes/1010AndDoku/** Here`s an example of how to set up your puzzle by using custom sprites. Use **Sprites Collection**, edit it or create your own collection by clicking in Project view **Create/ Sprites Collection**.



- **Resources/Themes/Rings/** This puzzle game is a unique and does not use such settings like **Label** and **Label Color.**

Technical Implementation and Workflow

- **Game Controller** – This controller is responsible for all gameplay. Any gameplay behavior and events can be modified in this controller.
- **NumberedBrick** – This script controls appearance, animation and movement of tile.
- **UserProgress** – This controller handles Current Score, Top Score and Game State. Mostly you won't need to touch this controller unless you want to add any more user data and save it.
- **UnityAdsController** – This controller is responsible for advertisement.
- **MonetizeButton** – This script controls the purchase of in-game content such as game modes, themes and bonuses.
- **SfxButton** – This script sets Audio Mixer Snapshots and saves them.