Flow Game Documentation

This game is created with instructions and png files of Dream Games

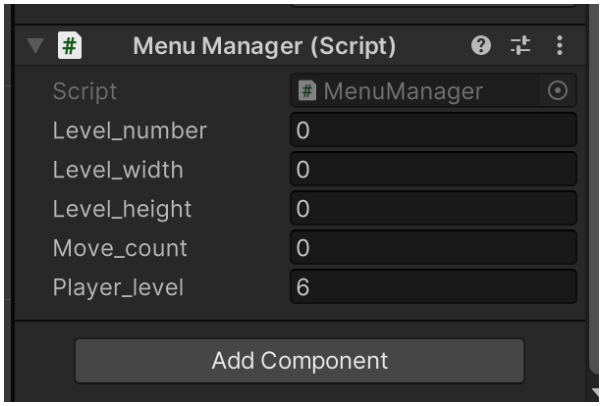
Flow is a 2D blast game similar to match 3 of a kind games. The aim is to destroy all Obstacles on the level within given move counts. Destroying all objects within a given amount of moves will unlock the next level. Otherwise, the level should be played again. There are 10 levels in total. Completing all levels will show “Finished!” text button on both scenes.

The game uses singleton pattern and saves the players data, and loads later on to continue whichever level the player was on, keeping persistence data both in-game and after-game. Loading the GameScene will not destroy the MenuManager gameobject created on MenuScene. OOP is used to manage data easier ie. objects, obstacles. Encapsulation is used for keeping data private. Inheritance is used to keep the code non-repetitive and easier access.

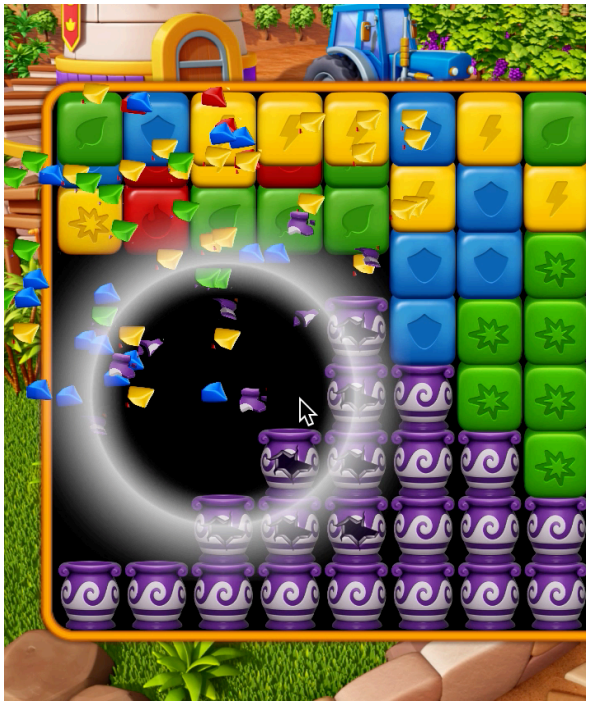
When the player starts the game, a button with the current level text appears on MenuScene. Clicking the button will switch to the GameScene. The board will be filled initially based on the text files given. Each text file contains level width, level height, level number and an array of initials of objects. These objects can be RED GEM, GREEN GEM, BLUE GEM, YELLOW GEM, BOX, STONE, VASE, TNT and RANDOM. Random implies any gem could be randomly generated. Clicking on gem groups, at least 2 adjacent gems, will create a gem blast with a particle system, destroying all gems in the match and damage obstacles if adjacent. Gem groups with 5 or more of the same type will change the sprites to blast sprites. This sprites are a hint to creating TNT’s. If the match does not contain 5 or more gems, the sprite will be changed to initial state sprites. Clicking on gem groups with 5 or more gems will create a TNT on the clicked tile. Each click with a valid move will decrease the move count. If clicked on a single gem with no same gem type adjacent to or an obstacle, move count will not decrease. Clearing each obstacle will decrease the number of respected obstacle numbers. Clearing a type of obstacle will put a green mark on HUD. clearing all obstacles or reaching move limit will prevent the player making any moves. If successful, a star animation will play with a tilted background. A banner UI will show up with current level text at top and next level text at the bottom on the button. The player can use the red X button to go to MenuScene or use the green button to either repeat or go to the next level.

There are 3 types of obstacles, Box, stone and vase. Box and vase falls down when no object is under. Stone doesn’t fall and can only be blasted with TNT. Vase has 2 health, changing sprites in each health state. TNT blasts in a 5x5 area and can be chained when other TNT’s are near. With a TNT match, a 7x7 area is blasted, creating a bigger blast. The bigger blast and chained blasts still damage the vase no more than once.

To play a specific level in for testing, selecting canvas object in MenuScene before starting will show the inspector module. In the inspector module, you can adjust the player level to any number between 1 to 10. To play normally, player level must be set back to 0 after stopping the game in editor mode.



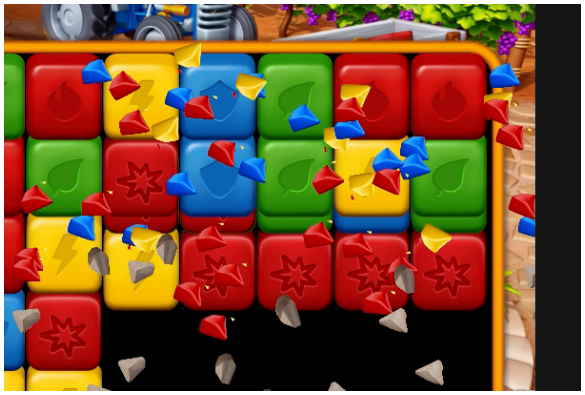
Player level in MenuScene Canvas object for editing purposes



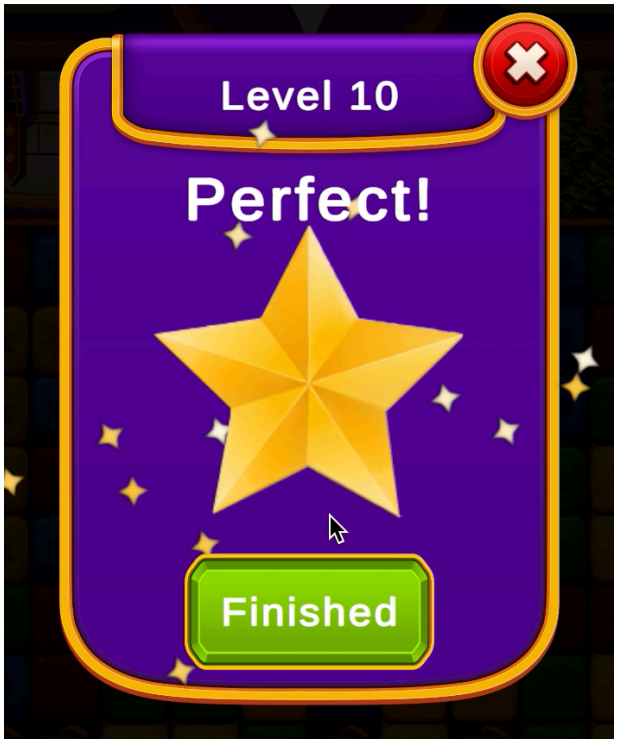
TNT damages gems and objects

Group of TNT’s damaging 7x7 area

TNT hint when a group of gems have at least 5 members



Gems and objects using particle systems. Obstacles randomly use 3 types of sprites



Star animation, banner and finishing all 10 levels shows “Finished!” text in both scenes.

After failing the level, clicking red X button returns the player to MenuScene. Clicking the green button restarts the level.