GDD and TDD of the game 'Cast Away'

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Game Design:

It is a single player Platform Game which can also be considered as a 'jump and run game'. The player is casted away in a 2D world where s/he needs to look for pearls and tesseracts. When the player finds all the tesseracts for a level, s/he goes to the wizard. The wizard makes a portal out of those tesseracts that takes the player to the next level. There are poisonous thorns and arrows, black holes and quick sands. If the player comes to contact on those, s/he will lose and have to start the level again.

The poisonous thorns and quick sands are attached to the terrain, while the black holes appear in the air. The arrow moves from left to right and right to left. There can be gap from a piece of terrain to another.

The pearls help the player to get powerups. There will be two basic powerups. One is 'Hyper Jump', two is 'Thrust Shoes'. Hyper Jump helps the player to jump higher by pressing 'down+jump' key. 'Thrust Shoes' allows user to jump in the air. The number of jumps in air depends on the power bar of the shoe.

After finishing all the levels, the player can go home.

To be decided for next versions:

An infinite level might be introduced where the terrain to jump on, obstacles, tesseracts and pearls will be generated randomly. Then the player may choose to explore the infinite level instead of going home. The player might break different objects like rocks, boxes with hammer where pearls and tesseract might be hidden.

Technical Design:

The player is a rigid object with gravity. It has the ability to move forward, backward, sit down and jump. Moving forward and backward gives the player a velocity that takes a little time to reach its full speed and stop. The jump thrust of the player will be more if the player holds the down key while jumping (having 'hyper jump' power). If the player has 'Thrust Shoe' powerup, it allows the user to jump multiple times (1 to 10 times based on the power bar).

The terrains, arrows, thrones and black holes are rigid body and those objects collide with the player. But those do not have gravity. The tesseracts, pearls and wizards do not have gravity also. The arrow has a velocity that changes for different levels.

The camera moves along with the user. Every level has boundaries of rigid object terrain except the infinite level. In the infinite level the left frame may have boundary, and the bottom frame may have boundary with thorns (to be decided for later versions).