# Design Document for Catapult!

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## Intro

Defeat the enemy king by skillfully launching your puck across the battlefield!

## Gameplay description

This game uses “golf” mechanics to implement a crossbows and catapults/angry birds style castle destruction objective.

## Artistic style outline

Initial development will be with primitive meshes. If there is time the primitives may be replaced with free meshes and textured with free textures.

## Components

Gameplay Screen

## Asset & Object breakdown

| Name | Type | Description/Picture |
| --- | --- | --- |
| Puck | GameObject/Cylinder Mesh | Player controlled puck |
| Brick | GameObject/Cube Mesh | Bricks making up wall protecting enemy king |
| Pedestal | GameObject/Cube Mesh | Pedestal is stack of 2 bricks |
| King | GameObject/Capsule Mesh | Player’s objective is to use the puck to knock the king off the pedestal, physics object with box collider so it can stand upright |
| Wall | Script generated object collection | Collection of bricks stacked in front of the king’s pedestal |
| Battlefield | GameObject/Cube Mesh | The “Green” of the game, currently 3 battlefield meshes put together making a zigzag green |
| Aim Camera | GameObject/Camera | Camera behind puck to during aim mode |
| Shot Follow Camera | GameObject/Camera | Camera following puck during a shot |
| Aim Arrow | GameObject/LineRenderer Component | Shows direction of fire in aim mode |
| Power display | GUI Box | Displays shot “power”, holding down mouse increases power |
| Enemy King Indicator | GUI graphic | Graphical indication of where enemy king is located, shows up during aim mode |
| Settings Icon | GUI graphic | Clicking brings up settings window, game-icons.net |
| Settings Window | GUI control | Pauses game and gives player option to quit |
| Reset Icon | GUI Graphic | Clicking moves the puck back to start in case you get stuck, game-icons.net |
| Battlefield Texture | Texture | From Unity Terrain Assets package |
| Brick Texture | Texture + normal | Opengameart.org |
| Damage Brick Texture | Texture + normal | Made by compositing damage and brick texture in gimp |
| Dust | Particle system | Dust from puck hitting ground |
| Brick chips | Particle system | Chips from bricks being broken |
| Warrior puck texture | texture |  |
| Cleric puck texture | texture |  |
| Wizard puck texture | texture |  |
| Rogue puck texture | texture |  |
| Wizard explosion | Particle system | Wizard hitting bricks causes explosion |
| Brick fragments | GameObject/series of sphere meshes | Multiple spheres in a single prefab replace a brick that is broken |
| Intro music | Sound |  |
| Gameplay music | sound |  |
| Game start sound | sound |  |
| Puck fire sound | sound | Different sounds for each engine? |
| Puck hit ground sound | sound | Different sound for each class? |
| Puck hit brick sound | sound | Different sound for each class? |
| Puck hit king sound | sound | Different sound for each class? |
| Brick break sound | sound |  |
| Splash sound | sound |  |
| Wizard explosion sound | sound |  |
| Priest explosion sound | sound |  |
| Game Over Music | sound | Different music for quit and game over |
| GUI item mouseover sound | sound |  |
| GUI item selected sound | sound |  |
| Power charge sound | sound |  |

## Suggested Game Flow Diagram

Game Screen (title page display, start button)🡪(start button pressed) Game Play 🡪 (enemy king knocked down or quit button pressed) Game Over Display

## Suggested Project Timeline

| Milestone | Date | Description | Done |
| --- | --- | --- | --- |
| Catapult Gamefragment 1 successfully implemented | 9/08/13 |  |  |
| Catapult Gamefragment 2 successfully implemented | 9/11/13 |  |  |
| Catapult Gamefragment 3 successfully implemented | 9/19/13 |  |  |
| repository | 9/23/13 |  |  |
| Create Unity Project | 9/23/13 |  |  |
| Visual indicator of shot angle on aim page |  |  |  |
| Visual indicator of puck trajectory |  |  |  |
| Chip/shard effect for puck hitting bricks, bricks hitting each other and bricks hitting ground |  |  |  |
| Visual indicator when puck is reset by castle |  |  |  |
| Intro music |  | Just having rotating game music for now |  |
| Gameplay music | 9/23/13 | 4 rotating randomly playing songs when game starts |  |
| Game start sound | 9/24/13 |  |  |
| Puck fire sound | 9/24/13 |  |  |
| Puck hit ground sound | 10/2/13 |  |  |
| Puck hit king sound | 10/2/13 |  |  |
| Puck hit brick sound | 10/2/13 |  |  |
| Brick break sound | 10/2/13 |  |  |
| Splash Sound | 10/2/13 |  |  |
| Wizard explosion sound | 10/2/13 | Need to redo |  |
| Priest explosion sound | 10/2/13 |  |  |
| Game over music |  |  |  |
| GUI item mouseover sound |  |  |  |
| GUI item selected sound |  |  |  |
| Power charge sound |  |  |  |
| Sound configuration in settings |  |  |  |
| Brick fragments |  |  |  |

## Additional Ideas and Possibilities

* Online high scoring
* Multiple “courses”
* Different castle layouts
* Boss fight
* Multiple objectives (enemy castle has magic shield that is brought down by destroying the magic crystal mine, or enemy bricks are made of steel and can’t be hurt/moved unless the puck goes to the blacksmith first to get “armor”)
* Castle builder