# Design Document

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## Part One Design

1. Health System

Health system consists of a Widget to display the health value and health bar and the underlying logic to update the health value and health bar. The first thing is to initialize the current health value and max health value of BP_learning_kit_character. And the second task is to define the update health bar. The most important thing is to design the logic of reducing health when attacked by enemies and increasing health when picking up health packages. These logics are designed in the blueprint of each specific actor.

2. New Mechanic

A roll mechanic is added to the player character. In order to apply this new mechanic, some low obstacles are also added to this level. Therefore, the new mechanic is useful in the level in order to pass through these obstacles.

## Part Two Design

1. Pursuer Enemies Design

Pursuer enemy should satisfies these design requirements:
- It will run at our player when they get within a specific distance.
- It will reduce the player's health on collision with players.
- When they lose sight of players, they will stop chasing.

In the first level, one pursuer is placed among a plenty of collectibles. So **in order to pick up collectibles**, players will take the risk of being attacked by pursuers and run to the area of collectibles.

2. Flyer Enemies Design
- It will fly at a specific height above the player and move to a new location every 10 seconds.
- It will also launch projectiles which reduce the player's health on collision.

In the first level, a flyer is placed at a proper height. Many health packages are placed under its shooting area. After being attacked by a pursuer, the player will take the risk of shooting by flyer **in order to pick up health packages**..

3. Mortar Enemies Design
- They are launching projectiles which will reduce the players health.
- They will rotate to the direction where the player is in.

In the first level, two mortars are placed in **the only way to pass this level** and proceed to the next level. So the player has to move into the area of the shooting area of mortars.

## Part Three Design

1. Collectibles Design

Collectibles are floating up and down at a proper height. Collectibles are designed to increase the score of players. The goals of the player are both pass the level and collect more collectibles.

2. Level Completion Design

After the player overlaps the final door, the first level will end. When players click on the level completion button, they will enter the next level.