**Simulation of a War Scene**

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**Technical Challenge:** Simulation of a high number of rigid body objects

We will simulate a war scene with the followings:

1- a destructible building like a tower or castle

2- weapons shooting projectiles (cannons or catapults depending on the availability of free assets)

3- particle effects

4- soldiers combatting

We will build a destructible building with thousands of bricks.

Cannons and catapults will be facing to the building and will fire projectiles periodically.

Particle effects like smoke, explosion, and fire will be displayed when the projectiles are shot.

High number of soldiers will be present in the battlefield.

**Parameters:**

1- number and size of bricks

2- size of the building

3- number of cannons or catapults

4- whether particle effects are active or not

5- number of soldiers

6- rigid body parameters such as freeze rotation

7- whether soldiers disappear when they die or not

8- whether bricks disappear when they displaced from their original position or not

This is the overall idea that we want to experiment.

Final product may be slightly different, but we will try to implement all of them.

We will monitor FPS, the load on CPU and GPU, and the memory usage.