**Team Project Proposal**

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**Title:** Implement various camera view in the game.

**Abstract**

**Background:** In game, there is many view like top-view, quarter-view, shoulder-view, side-view, first-person perspective etc. Depending on the point of view, even if you are in the same position, the feeling changes because you see different things. And what determines this point of view is the position of the camera and the field of view.

**Goals:** We implement top-view, quarter-view, shoulder-view, side-view and first-person perspective. And we will make program that change this perspective freely. And also implement moving camera and arrange the objects(basic polygons like cube, pyramid etc.…) for comparing other view.

**Additional parts:**

At this time, the camera rotates according to the movement of the mouse in the case of shoulder view or quarter view(third-person view) or first-person view. When this rotation occurs, if you look at it from the third-person perspective, you'll see the camera movement from the first-person perspective. To show difference rotation, we will make the player's head like a pyramid that we can see rotate. We will make it into something that we have and check it out.

In our implementation, **we need to implement two cameras (first person, third person) at the same time.**

**Approach:** At first we make the map(i.e. arrange objects). Next make player for moving and first-person perspective. Last implement third-person perspective(top-view, quarter-view, shoulder-view, side-view).

**Additional parts:**

And implement the third-person camera’s rotation with first-person’s rotation(we can see how to moving first-person’s rotation). And implement player’s moving.

**Expected outcomes**: A program that allows you to move freely and change the view of the camera in the map.

**Environment:** Using python with OpenGL and Ursina(using for making 3D games) libraries