**Christmas Tree decoration**

**Purpose**

The season of Christmas is coming. Everyone wants a dreamed Christmas tree but not everyone has a chance to have one. The Christmas tree decoration app allow users to decorate a virtual Christmas tree inside their house. The user can manipulate the mechanical arm (lower arm, upper arm and hand) to grab ornaments and put them on tips of the tree.

# **Project Requirements**

The following section shows how the application fills the requirements of the project for the class.

### Working with graphical objects

There will be 3 categories of objects (Christmas tree, mechanical arm and ornaments) that can be worked with. The Christmas tree has several specific spots which are spheres. These spots are the locations where the ornaments can put. The mechanical arm has 4 levels of scene hierarchy which are base, lower arm, upper arm and hand. The user is able to control each scene node to manipulate the mechanical arm to grab an ornament object and put it on a spot of the Christmas tree.

### Interaction of objects

Besides the scene node hierarchy, our project has a Christmas tree and number of ornament objects. The tree has set up several specific points as hangers where the ornaments can hang on. The specific spots are originally white, after hang on an ornament it turns to red. Head of the scene node hierarchy can grab an ornament object when these two objects touch each other. And put it on the tree when the ornament touches the specific points on the tree.

### Two different views and camera manipulation

The main camera located at user’s eye position. The small camera located at the head so a detailed view can show the specific spots on the tree.

**Timeline**

|  |  |  |
| --- | --- | --- |
| Milestone | schedule | Status |
| proposal | Nov. 15 - 19 | In process |
| Setting up prefab | Nov.20- 26 |  |
| Controlling scripts | Nov. 27 – Dec 3 |  |
| Testing | Dec. 4 -10 |  |

