Mohamad Ziad Alkabakibi

KDE community:

Note : this is a draft

The Game Engine Idea (should change the name)

Introduction

There are many software and apps which teach kids how to program and build a small app but they only teach them how programmer's way of thinking. Furthermore, many youth programmers learn math in school and they do not know its applications. Making a non-programmer friendly game engine can motivate and teach them the points listed above.

Project goals

1. **Providing a simple User Interface and 2D level editor**
2. **Simple physical + Collision system**
3. **Ability to add simple motions (such as bullets/laser/legs walking)**
4. **Creating a simple character/actor with some logic about its behaviour**
5. **Particle system and multithreading optimization (can be added in future)**

Implementation:

- **Using OpenGL API with C++ to create a game engine (User interface can be done in GLFW (mostly) or Qt.**
- **Documentation will be delivered with each milestone in markdown format**
- **Testing can be done on the collision and physics system mostly by trying to place objects in different places and try all simple actions possible**
-

Timeline: (divided by weeks)

1. **Designing the engine in general and planning the event system**
2. **Finishing planning the event system and implementing it**
3. **Planning the windows and abstractions with GLFW and starting to code it with mouse and keyboard inputs events (as you can see the tasks are simple for 4 weeks but extra time added for debugging and in case of getting lost)**

4. **Starting to add rendering to the engine and planning the abstraction of rendering classes**
5. **Adding textures and Coding our rendering classes such as drawing a shape given its vertices**
6. **Adding transformations such as rotation, movement.. Etc**
7. **Adding the feature of scripting the object's movement**
8. **Adding collision and physics**
9. **Making the user interface friendly to the user with hints for teaching learners**