The goal of the thesis is to create a game engine based on entity component system. The game engine should include editor, which would allow developers to create their own components, link custom assets to these components, create world from these components, and have them visualized in the editor. Editor will also provide tools for real-time debugging. By default the engine should contain graphics system, input system, simple physics system, and user interface system. As a final step the engine should support exporting the project as a standalone game.