

Assignment 2

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The architecture for Assignment 1 is built on the base steering project. The project was already linked, and just needed to be recompiled (including external DeanLib).

Assignment 2 is built on Assignment 1.

Unit Management

I made a UnitManager class to handle all of the “enemy” units in the game. Units can be added and deleted dynamically, and they are referenced by pointers stored in a `std::map`, `mUnits`. This allows for easy organization as well as random access. The UnitManager works with no memory leaks, and integrates with the input/messaging system in order to create units.

Input Manager/Messaging

The InputManager handles all mouse and keyboard input. When a key press is detected, the manager sends a message of corresponding events (`ADD_UNIT_EVENT`, `DELETE_UNIT_EVENT`, etc.) to the message manager. This way the UnitManager knows when to add and delete units without having to be directly coupled to the input system. The `init` function for this system returns a `bool`—if true, everything installed properly. If false, the InputManager failed to install a component (mouse or keyboard). This was put in to help with debugging, as it is directly using Allegro syntax.

Steering Behaviors

The steering behaviors used are `WanderAndSeek` and `WanderAndFlee`. Both of these use the same class, as flee is just the opposite velocity of seek. Therefore, both are done with a `bool` included to determine whether fleeing or not. The behaviors are examples of arbitration: if the Unit is not seeking, it is wandering. The behavior also includes a method to avoid overlapping other units.

Properties

The Properties menu allows for manipulation of in-game values during play.