Phillip Edwards

Testing

Testing

1. Identify all the verification activities that occur in the Requirements, Design, and Implementation phases of the SE Lifecycle
   1. Requirement Phase
      1. Requirement Analysis
   2. Design
      1. Design Review
      2. Traceability Matrix Generation (and making sure it is hitting everything)
   3. Implementation
      1. Unit Tests
      2. Code Reviews
      3. Updating Traceability Matrix
2. Identify all the validation activities that occur in the Requirements, Design, and Implementation phases of the SE Lifecycle
   1. Requirement Phase
      1. Customer/User approved SRS
   2. Design
      1. Design that maps to SRS \*\* I’m not sure, but wouldn’t this be design review?\*\*
      2. might just be design review but with only high levels and the customers doing the reviewing (no details but the general systems)
   3. Implementation
      1. Acceptance testing that maps solution to the requirements
         1. Customers must sign off that it passed
         2. This can happen at the end of implementation and/or during testing as per how I understand the testing
3. Solution: a game where the player shoots a missile at ships passing across the screen (like the one I showed you using raptor).
   * + 1. Solution must support missiles launched by user
          1. The solution must initiate a missile launch when the user clicks the right mouse button

Precondition: User has control of sprite/entity

Action: User clicks the right mouse button, fires a missile

Postcondition: Missile files from entity

Missing Requirements?

Direction of shot

Multiple missiles? Multiple clicks?

* + - * 1. The solution must initiate a missile launch when the user clicks the space bar

Precondition: User has control of sprite/entity

Action: User presses the space bar, fires a missile

Postcondition: Missile files from entity

Unhappy Path

What happens when player clicks both space bar and right clicks?

Missing Requirements?

Direction of shot

Multiple missiles? Multiple clicks?

* + - * 1. The solution must limit the number of active missiles on the screen to no more than five (5) at any given time. (an “active missile” is any missile currently being displayed on the screen)

Precondition: User has fired five missiles and is firing another

Action: User fires another missile and the oldest active missile gets removed

Postcondition: 5 missiles are still on the screen, but the latest missile is shot

Missing Requirements

Nothing I can think of

Questions?

Does this fail validation?

* + - * 1. The solution must remove the missile from being active if it goes off the screen

Precondition: Missile crosses edge of the screen

Action: Missile gets becomes inactive (removed?)

Postcondition: Missile is no longer active (is removed) and off the screen

Unhappy Path

When do you remove the missile? After it touches the edge? Passes the edge?

Missing Requirements?

Nothing I can think of

* + - * 1. The solution must maintain same constant speed for all missiles

Precondition: Missiles are fired (present in game)

Action: Missile gets a speed to travel. This is static for all missiles.

Postcondition: Missile travels that speed.

Unhappy Path

Acceleration? Multiple missile?

Missing Requirements?

Acceleration? It only says maintain the constant speed, not that there can’t be a un-constant speed until it reaches the constant?

* + - * 1. The solution must launch missiles from the center of the bottom of the screen when a launch is initiated

Precondition: User has started missile launch

Action: Missile is positioned at center of the bottom of the screen then given a speed

Postcondition: Missile leaves spot at given speed.

Unhappy Path

All missiles from a single location?

Missing Requirements?

None

* + - * 1. The solution must maintain the same constant direction for all missiles to be vertically straight up from the launched position.

Precondition: User has fired missile and missile is moving

Action: Missile travels in a straight, vertical line from bottom to top of screen (or until collision)

Postcondition: Missile leaves screen or has a collision

Unhappy Path

Missiles fired at the same time?

* + - * 1. The solution must detect when a missile “hits” a ship

Precondition: Missile collides with ship

Action: Event that alerts game missile has collided with a ship. Missile and ship get exploded (effect)

Postcondition: Explosion at collision site and no more missile or the hit ship

Unhappy Path

Multiple missiles hitting same ship?

Missing Requirements?

Are ships 1 HP only? Any shields? This could effect behavior