Lab 3 Team 4 – Design Rationale

Estus Flask – justification for design

Player has association with Estus Flask as it is in the player’s inventory at all times, it does not extend from the item class because it has no need to inherit functions such as drop item, pick up item, etc. Estus Flask also has an Action to heal the player, this is represented as the EstusFlaskAction class which inherits from the Action parent class. EstusFlaskAction does 1 thing before healing the player, that is to retrieve the Estus charges, if enough Estus charges are available the normal functionality of the Estus flask Is performed. This is illustrated as below:

Diagram

Description automatically generated

Opt fragment is used here because there is no alternative to this if statement.

Bonfire – justification for design

Application is dependent on Bonfire, as it is displayed in the game world. And because of this it is sensible for Bonfire to inherit from the Ground class. Since it provides an interaction to the player, a BonfireAction class which inherits from the Action is created. In this BonfireAction class heals the player to full health:

Diagram

Description automatically generated

It also uses the Reset Manager to remove undead using the cleanup() method and reset the positions of other enemies. Additionally Reset Manager also restores the charges of the estus flask

Diagram

Description automatically generated

Soft Reset / Dying – Justification for design

Upon death the player class calls the Reset Manager class, which runs and sets multiple aspects of the game to their original state. These include the position of enemies and the Estus Flask charge count and the player’s hit points and position .

Diagram

Description automatically generated

Additionally the reset manager also creates the TokenOfSouls class which is placed on the ground at the location of the player’s death. TokenOfSouls inherits from the Ground class because of this.