Game Design Document (GDD)

It Usually Takes a Crane

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Design History

1.0 Overview

Use a crane to complete objectives and score big by causing as much destruction as possible within the time limit. The player does this by picking up objects with a magnetic crane and throwing them at provided target objects. Different thrown objects have different effects when they collide with targets within a designated area. Targets each have a point value, some are worth more than others.

Players will be gradually introduced to new objects and challenges that increase in difficulty as they progress through multiple stages, while combining previously introduced concepts with the new ones. The player must use and build their skills to hit target objects to earn the highest score possible, within the respective time limit, in each stage.

2.0 Controllable Objects

2.1 The Crane

The crane is a rail mounted crane with four stationary legs and a movable trolley that holds a magnet by a chain/hoist system. Using the W, A, S, D keys, the trolley can move from left to right (A & D) and front to back(W & S). This is how players will manipulate and control the swing of the magnet to gain the momentum needed to hit targets with throwable objects.

2.2 The Magnet

The Magnet is what picks up objects for the player to throw. It is attached to the crane's hoist system by a chain, and can be swung around. Left-click turns the magnet on and off. When the magnet is on, throwable objects can be picked up, and they are released when the magnet is turned off.

The mouse wheel controls the hoist system to raise and lower the magnet. This is needed because it can affect the arc of the swing, and throwables can be retrieved if they are accidentally dropped.

3.0 Objects to throw

The player uses these objects to destroy objects in the yard. Each one has its own weight that can determine how high, fast and far it can be thrown. Each object also has a unique effect when it collides with an object in the yard. The player must use these objects wisely to earn the best score possible.

- Why is this here
- In what way does this add difficulty
- What does this add to level design

3.1 Exploding Barrel

A light and easy to control object; when it collides with a target object it explodes, causing damage to all nearby objects. This allows the player to have a much larger effect on a group of target objects.

3.2 Science Ball

A heavy object that bounces in random directions when it collides with a target, then destroying all targets within its path. This adds a bit of chance to the game that can be highly rewarding, or not helpful at all.

3.3 Septic Tanks
This object is large and heavy; with the right swing it can take down barriers, hard to destroy targets, or groups of many smaller targets. This item to will hide high value targets behind walls, rewarding players who try to knock down the barriers.

3.4 Bouncy Ball
This object is light and easy to control. It doesn't do much damage, but it can be thrown far. Players can use for precision target throwing. This is a skill based item which will allow us to make harder levels focused on aiming at targets.

3.5 Fireworks Crate
This object is light and easy to control; when it collides with a target object it explodes, spraying low damage dealing particles to all nearby objects with the potential to start fires.

3.6 Mech Crates
This object is large and heavy; with the right swing it can take down barriers, hard to destroy targets, or groups of many smaller targets. As one of the most basic items to thrown this will be used to teach the player the basics of the game.

3.7 Wooden Crates
This object is light and easy to control. It doesn't do much damage, but it can be thrown far. Players can use for precision target throwing. As one of the most basic items to thrown this will be used to teach the player the basics of the game.

4.0 Delivery system
Throwable objects are brought to the player through delivery system. Different levels will have different delivery systems to change how the player must think about what items they want to throw.

4.1 Stationary Boat
A boat will be stationed at the edge of the playfield with three lifts on the deck. The lifts will activate and bring an item up to the deck from the ship's hold. Once a player picks up an item, that lift will lower, and after a set amount of time the lift will come back up with another object.

4.1 Delivery Boats
Boats will drive by the edge of the yard with two objects on them. They will pause for a short time at the dock, and then sail off. The player must choose wisely, and manage time wisely to be effective on levels with this delivery system.

5.0 Target Objects

Players destroy target objects to earn points, different objects are worth different amounts. Each target object has different effects that can be observed when destroyed and identifying markings that the player can recognize to differentiate between similar looking objects (i.e. crates and barrels).

5.1 Wood Crates

Medium size objects with a low health and point values.

5.2 Mech Crates

Medium size objects with a medium health value and medium point value.

5.3 Barrels

small size objects with a low health value and low point value.

5.4 Shipping containers

large size objects with a high health value and large point value.

6.0 Other Objects

Objects that challenge the player's ability to hit target objects with their throwable objects.

6.1 Gaseous containers

When this container is hit, the gas inside it escapes, producing a haze effect over the map. This adds difficulty to the player's ability to see their targets. The player will learn that this is target that should be avoided with caution.

6.2 Weapons of Mass Destruction

When this container is hit and destroyed, you automatically fail. The player will learn that this is a target that should be avoided with caution. This will add a sense of danger to certain maps besides just the time limit.

6.3 Barriers/Obstacles/Obstructions

Encourages players to weigh the options of going through or avoiding barriers blocking higher valued targets.

6.4 People

People will be walking around the yards on set paths. If the player hits a person, they lose points. This will make the player have to time their shots carefully.

7.0 HUD

The HUD displayed all the important information the player needs to know during gameplay.
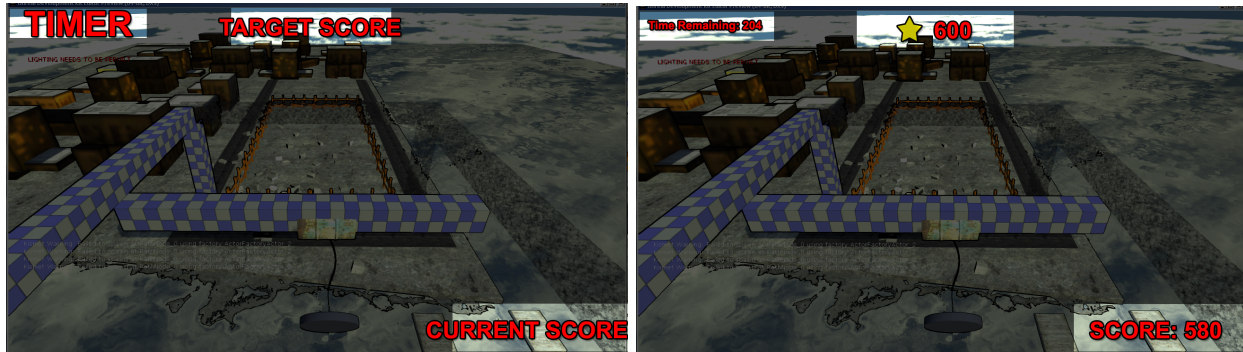
Example Layout   **Example Display**

7.1 Timer

The timer shows how much time the player has to complete a level

7.2 Target Score

The target score is displayed so the player has a goal

7.3 Current Score

Displays points the player has earned during the level

8.0 Score

Each level the player must meet a target score/goal in order to progress. The player must obtain at least the bronze star to move on to the next level.

Bronze Star Rating - Met the minimums (goal and/or points) to progress through the level.
Silver Star Rating - Met the minimums (goal and/or points) plus additional points beyond progression goals.
Gold Star Rating – Met the minimum goals and caused the most expected damage value.

8.1 Earning Points

Points are earned by player destruction. Some assets are worth more than others depending on the object. Points appear above objects as they are destroyed, and then totaled and displayed on the screen.

8.2 Losing Points

Points can be lost by hitting people in certain levels. Negative points will appear above people as they are killed and then subtracted from the total points. Points CAN go into the negatives.

9.0 Camera

The player can switch between camera perspectives using the space bar. This helps with picking things up with the magnet.
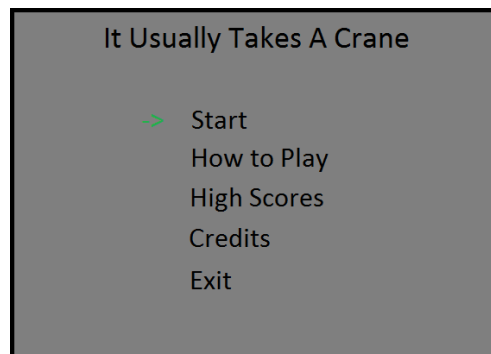
- o Helps when picking up stuff with the magnet
- o Aerial view could be nice for bigger maps and seeing past obstacles/barriers

10.0 Menus

All menus have the same controls. The arrow keys are used to navigate, and the Enter key selects an option.

10.1 Title Menu

When the player starts up the game they are brought to this screen. From here they can start the game, open a menu to see how to play, view the high scores or exit the game.

```
           It Usually Takes A Crane

            ->   Start

                 How to Play

                 High Scores

                 Credits

                 Exit
```

In the background of the start menu a Crane will be active, moving around and picking up objects. The start option will take the player to the level select screen.

10.2 Level Select Menu

This screen will display the 4 different worlds that the player can choose from. The player will only be able to choose worlds/ levels that they have unlocked. To signify that the other levels cannot be chosen yet they will be grayed out.
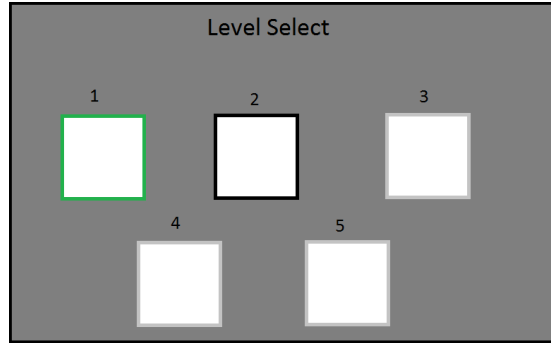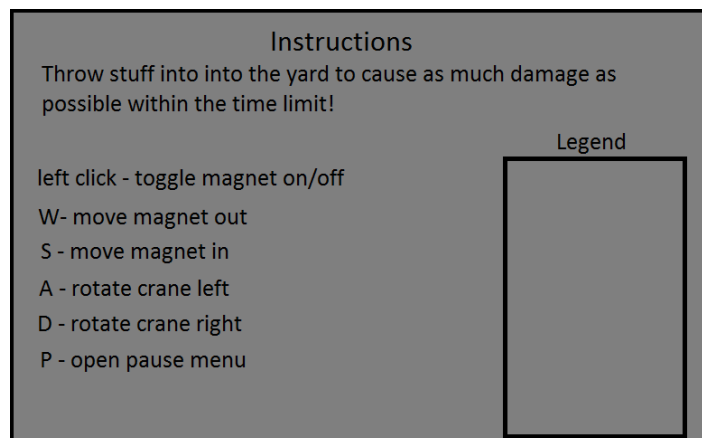
10.3 Pause Menu

During gameplay the player can pause the game by pressing P. This menu is navigated like the rest, using the arrow keys. While on this screen the player can resume the level, restart, or quit with the enter key.

10.4 Instructions Menu

This menu tells the player how to play the game

10.5 Game Over Menu

When the timer of the map reaches 0 the player is informed of well they did. From this menu they can retry, continue on to the next level, or return to the title menu

10.6 High Score Layout

The player will be able to see their high scores for each stage at this menu. This allows the player to show off their skills to their friends.

11: Level Design

While the goal of each level will be the same, cause as much damage as possible, each level will have a different setup, forcing the player to think about what, and how they throw.

Worlds/Stages

There will be 5 worlds, and 5 levels in each world. Each new world will bring introduce a new throwable object for the player to learn about along with a new environment. Worlds/Stages include: a Small Yard, A big Yard, Boat to Boat, Night World, THE MOON! – alter gravity

Level Progression

- 5 Levels per world
    - o Introducing new feature
    - o Mastering new feature
    - o Challenge player to do new stuff with new features
    - o Combination of all features
    - o Challenge stage - Challenges players understanding of mechanics

10.0 Misc
10.1 Achievements

Gold stars in all the levels in world one

Breaking all specific targets in whatever world with however many throws

Notes from meeting with group and Rhys:

Subtle unexplained tasks/player progression:

Giving the player options and making stuff stand out, intrigue the player by making it look different – but not necessarily spelling it out for them

Learning to avoid certain objects

Learning the values

Objectives/Achievements, player activities ideas:

Call out specific items the player has to destroy

Control what throwables are given to the player

Destroying specific targets in so many shots

Cause X amount of damage while unloading X amount of objects

Sorting, skiball/basketball, using caution, demolition, boat to boat action

Getting around/destroying Obstacles

Burring targets that shouldn't be hit among point granting objects

Markers on ground to hit; goals

2 shipping lanes bringing objects in

Themes vs mini games

Introducing themes, rather than doing completely different games and different assets

Post portem-

Not Developed ideas a little too far ahead. Backtracking on old ideas