Design Doc

# Story

**BEGIN TRANSMISSION**

Hello, employee #35XN2. You have been sent on a mission for the Molecular Operations Of Scientific Explorers (M.O.O.S.E). Your job is to shrink down to molecular size to study and collect molecules. You are to scan these molecules and gather those that match certain descriptions. Your ship is equipped with a scanner and a Moleculog that stores the data of the scanned molecules. However, there are many different molecules in this universe. Collection of any incorrect molecules will reduce your pay and hurt your chances for any career advancement. Good Hunting.

**TRANSMISSION END**

**Context of why and where**

**Joe’s Suggestions**

Why/Where - In another galaxy/solar system, want to explore without being detected to study the new frontier

Collect unknown molecules to study and add to Moleculog

# Goal

* To collect the molecules that are described while avoiding any obstacles or incorrect molecules and learn about the molecules’ geometries, formulas, and uses.

# Market

* The market of this game contains students in basic chemistry courses and the teachers/professors that teach these courses.

# Platform

* This game will run on all desktop platforms
* The server will be a web application accessible on web browsers

# Gameplay

## Main Menu

* Log-in to game
* Can start game or view their Moleculog

## On Ship

* 1st Person
* Gain access to molecular world by walking around ship
* Interaction with Molecule Replicator to perform certain tasks
* Upgrade Ship’s Capabilities
* View and manage tasks given to the player from M.O.O.S.E.
* Receive payment for tasks completed

## Piloting Ship

* 3rd-person 3D space
* The players can move around in any direction
* There will be molecules floating around that the player can interact with
* They can use a scanner to scan them or pass through them to pick them up
* Scanning a molecule puts it into the Moleculog
* Fire an ‘energy cannon’ break apart molecules (later upgrades would allow the energy gun to charge and fire more energy) (Can be used in tandem with the replicator)

## Moleculog

* A one-stop shop for every molecule found in the game
* Contains the name, formula, description, a 2D picture, and a rotatable 3D model
* Players can access at any time by pausing the game and selecting ‘Moleculog’

## Molecules

* H2O (Water)
* O2 (Oxygen)
* H2O2 (Hydrogen Peroxide)
* NH3 (Ammonia)
* HCl (Hydrochloric Acid)
* CH4 (Methane)
* CH2O (Formaldehyde)
* C2H4 (Ethylene)
* C6H6 (Benzene)
* Others: <http://web.grinnell.edu/courses/chm/visualization/>

# Server Side

## Students

* Have accounts to log into game and server
* Can view their scores/times and how they compare to other students

## Teachers/Professors

* Have accounts to monitor student game use
* Can view learning statistics of each student in their class
* Can assign tasks for students to complete for homework or other reasons