**Chronos**

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# Core Mechanics

## Interacting with NPCs

Chronos is heavily story driven, and our dialogue system allows the player to learn more about the world and people around them. When interacting with an NPC, a dialogue box will appear for the player with multiple choices. These options will sometimes lead to new information about the NPC or the space station that will help the player progress through the game.

## Interacting with Objects

The player is able to interact with objects in the environment such as buttons and blocks. When the player interacts with an object in the correct manner, the environment will inform them via sound and animation. If the interaction is incorrect, a dialogue window will pop up and giving the player a hint as to what they’re doing wrong. Blocks and other objects may have physics, allowing the player to move them around the environment for puzzles. Some objects may serve as environmental hazards that the player must avoid.

## Item Collection

The world of Chronos will include a variety of objects that the player can collect and use to complete the puzzles in the game. When the player finds an object that can be collected, the object will highlight in color. The player then must click the left mouse button to add it to the player’s inventory/hotbar.

## Using Items

After acquiring an item through item collection, the player can access said item in their item hotbar by pressing the number in relation to the item. When the item is selected, the player must right click, bringing up the item wheel. From here, the player can select “Use Item” and then click on the object they wish to use the item on in relation to the reticle on the player’s screen.

## Jumping

By pressing the spacebar, the player can reach platforms and objects that they might not otherwise be able to reach.

## Crouching

By pressing the shift key, the player can lower themselves and get through tighter spaces to reach objectives.

# Mechanics

## Environmental Hazards

The station is home to a number of dangerous hazards. These hazards will serve both as puzzles, such as how to repressurize a depressurized room, or as simple obstacles that the player must avoid while completing other tasks. Wayward lasers crossing the player’s path might serve this purpose.

## Time Management

Time plays a critical role in the game. The player needs to manage their time effectively, and make the best use of the limited time they have in each loop. Players who fail to master this mechanic will find themselves repeating tasks if they can’t solve puzzles and make progress before the time loop resets.

# Features

## Time Loop

The time loop will be a area timer that will reset most objects in the area. For instance items that the player will pick up during one time loop will be removed from the player’s inventory and replaced in the location the player originally found it. Also objects that the player has interacted with will reset, like door locks, dialogs, ventilation grates, and so on. As the player progresses through the level a timer should be present to help the player visualize how much time is left over. This timer could be abstract such as a radial timer or digital timer or analog clock.

## Journal

The journal keeps track of important facts the player discovers through their adventures. Players can refer to it to when solving puzzles and interacting with NPCs to help them remember information they’ve learned previously.

## Inventory

The inventory is a visual display that allows the player to interact with items from the environment that he has collected. It allows the player to add collectible objects and use them at a later time, give the collectible objects to NPCs, use collectible objects in puzzles and on environmental objects, and combine items inside the inventory to craft new items. The inventory should be a visual representation of all the items the player has collected during their playthrough. Unless otherwise noted the inventory should reset to empty when the time loop resets.

## Physics Puzzles

Physics puzzles will act as puzzles where the player must perform some form of physical activity towards another object in order to progress. Basic examples include puzzles such as pushing a block on top of a switch, knocking over an object to try to find an item, and blocking off dangerous hazards. They will mostly involve adding physics upon objects so the player can interact with them.

## Item Puzzles

Item puzzles involve the player utilizing various items and collectables found throughout the level. Items will be hidden or incorporated into other puzzles, and sometimes will need to be combined in order to use them as methods of progression. Items could vary from keys to unlock locked doors or to finding an item necessary for an NPC.

## Platforming

Platforming puzzles are ones in which the environment provide spaces which the player cannot travel through by just moving forward. This includes jumping along between platforms or crouching to avoid obstacles. This can be used to traverse to new unforeseen areas to continue the story. An example of this would be finding something that only exists on a higher floor in the ship, this area may be blocked off other than some sets of debris from the lower floor which the player can travel through to get to the needed item to continue.

## Interaction Puzzles

Interaction puzzles are puzzles that the player encounters within npc interactions. These include selecting the appropriate dialogue options to unlock information that helps the player progress through the story and possibly unlock dialogue options with other npcs. For example, if you need to know something about Jane to complete an objective, you might be able to find out that information by exploring dialogue options about Jane with Bob or Nancy. Another example would be talking to an npc that works in a certain area of the station about their job until they reveal that something in that area is broken or needs to be configured a certain way.

## Logic Puzzles

The logic puzzles will be designed as puzzles that the player can only use information that is observed from the interaction with the puzzle to solve it. An example puzzle is a spinning ring puzzle where the player can not glean any information without actually interacting with the puzzle first. The interaction would allow the player to discover how the rings move, if any rings move in conjunction with other rings, or what a possible ultimate solution could be. Another logic puzzle could be a sudoku puzzle where the player can not get any useful information from the puzzle without actually interacting with that specific puzzle.

## Time Limit Puzzle

The time limit puzzle is more of a mix between other puzzles introduced. The player must solve a puzzle in a given time limit. If they fail to finish the puzzle in time, the player will enter a fail state and restart from a specific point in the game.

## Trial and Error Puzzle

In this puzzle, the player will have no prior knowledge to the puzzle beforehand, save for where to begin. The player will have to accomplish the puzzle in a specific order, giving feedback to the player when they do something incorrect before resetting the puzzle to its original state. Everytime the player accomplishes something in this puzzle, feedback will show they are heading in the right direction.

## Notification List

The notification list is a UI element that will update the player with important information of occurrences within the game. Such as an item working correctly or incorrectly, a door being unlocked, destruction of an item, and more. This is meant to give player short, quick feedback segments, without distracting them from what is appearing on screen.

## Item Hotbar

The item hotbar acts as the player’s inventory, storing items they have collected in a bar on the bottom of the screen. There a numbers corresponding the item’s location, so the player can select the item using 1-9 on the keyboard. This item hotbar allows the player to keep track of their items, without distracting them from the game above.

# IPM

## Introduction

NPC dialogue - Dialogue will be introduced to the player when the player begins the game. The AI will contact the player the first time they wake up and initiate dialogue with the player through a communication panel on the wall. This conversation will have basic options that have no impact on future story or gameplay, but just introduce the conversation system to the player.

Interacting with objects - The communication panel in the very beginning would be an introduction into the first object in the game. A dialogue window will prompt the player with how to interact with the panel.

Collecting objects - The player will be introduced to collecting items in the very beginning of the game with his blinking/flashing journal on his nightstand. As the player gets closer the journal will highlight, signaling to the player it is special and a dialogue prompt will instruct the player on how to pick it up.

Jumping - Jumping will be introduced to the player by guiding the player to a space that contains a level platform that is easily jumped to. A dialogue prompt will inform the player that they can jump using the spacebar.

Crouching - The player will be introduced to the crouching mechanic early on in the game. One item will be placed in a section of the level that can only be reached by crouching. A dialogue prompt will inform the player that they can crouch by pressing the shift key.

Time - The player will be introduced to the time mechanic when he begins the game. The player will start a dialog with the station “AI” that proceed down dialog paths that will force the “AI” to manually reset the time.

## Practice

NPC dialogue - As the player progresses through the game, the dialogue options will have different effects on what information the player has. At first, the choices will be fairly obvious and later become more complex. For example, in the beginning you might have the choice to blatantly ask about the status of a room or person, but later you might have to have an in-depth conversation to unlock certain information or future dialogue options.

Interacting with objects - To create more engaging environmental puzzles, the player will be introduced to moveable objects that possess physics. Moving objects such as blocks can allow the player to get up to higher positions, or to move obstacles out of the way.

Collecting objects - The player would practice this by picking up tools or other items in the beginning area.

Jumping - To practice this, players will be introduced to a small simplistic spots that needs to be jumped over to get to.

Crouching - The player will be able to practice the use of this by seeing subsequent tight spaces that the player may traverse through that are shorter than that of the camera’s center.

Time - The first level will be a rather simple tutorial level that will allow the player to practice time management and possibly experience a few time loops before getting it right.

## Master

NPC dialogue - To master the dialogue system, the player will have to get some information from one NPC to be utilized with another NPC. Information may need to be obtained during one playthrough and then used the next day. For the most complex conversations, you might need to have spoken in-depth to one NPC just to begin a conversation with another NPC.

Interacting with objects - Now that the player knows what they can and can’t interact with, reusing assets such as buttons and movable blocks will appear more often and in more complex scenarios. One given situation is that a player must time button presses. To open a door in the room, they might need to press two buttons within a specific time limit of each other.

Collecting objects - The player will master collecting items by completing his first puzzle, a simple puzzle that requires to find an item and use it or bring it to a NPC.

Jumping - As jumping progresses players will master this by completing difficult jumps that may be timed or involve avoiding hazards while in the air.

Crouching - The player will master the use of crouching by completing puzzles that might require the player to crouch at a specific time or to avoid hazards such as being caught by guards or walking underneath environmental hazards.

Time - To master the time mechanic the player will be completing puzzles that will push him to manage his time better and better as the game progresses.

# Unique Scenarios

1. To get an object that is needed to complete a puzzle, the player might have to discuss the object with an NPC. In order to even bring up the object in the conversation, the player might have to first ask the NPC about his/her job and what they’re working on before the option to ask about the object even unlocks.
2. Some doors on the space station might be locked and require a keycode to get through. These codes could be found in different locations, like an NPC’s desk. You might be able to persuade some NPCs to give you access. In other instances, you might have to complete a puzzle to find pieces of the code.
3. Some areas might force the player into a race against time to complete a puzzle. In a case like this, a player might have to rush to fight against a lack of oxygen, solving a puzzle to restore oxygen to a room.