

'Who Framed Roger Crawfis?' - Design Doc

Designer: [Chance Lytle, John Phillips, Steven Pidcock, Alice Smith, Aishwarya Srivastava, Yuchen Ye, Zicong Zhang]

Current Status: [Complete]

CONTENTS

Overview	2
Risks	2
The Player	2
Movement	3
Walking	3
Running	3
Crouching	3
Jumping	3
Interaction	3
Touchables	3
Pickups	3
Observables	4
User Interface / HUD	4
Inventory	4
The World	4
Level design	5
Checkpoints and Loading	5
Non-Player Characters	6
Guards (Patrolling)	6
Inmates	6

Actions	6
World Objects (Keypad, crates, doors, baking, etc)	7
Weapons	7
Melee	7
Firearms	7
Challenges	7
Tier 2 Design	8
Considered and Rejected	8

Overview

'Who Framed Roger Crawfis?' is a first person 3D game that follows Roger Crawfis, a local computer graphics expert, who has been wrongfully convicted for murder and sent to prison. He must break out so he can find the evidence that exonerates him and prove his innocence.

He can do so with the help of other inmates and correctional officers by exchanging goods and forming alliances, and gathering information that can help him plan his escape. An inventory keeps track of collected items, that in turn can be used in the escape. Mechanics include player movement, melee combat, interacting with NPCs and devices, and aiming and shooting guns. There are multiple ways to complete the game, all of which require puzzle solving using these mechanics.

Risks

- 1. Balancing deep mechanics that interact with each other in meaningful ways**
- 2. Maintaining multiple options despite a player-chosen path**
- 3. Keeping the game fun and not just witty inside jokes**

The Player

Roger Crawfis is a proud man, but can only do so much. The player character is one of the primary things for the player to interact with. They can move from place to place, loudly or quietly, or manage interactions with the environment, items, and NPCs.

Movement

There are several different ways to move the player character.

Walking

The standard movement using WASD. No restrictions

Running

Faster (but louder) version of walking when holding Left Shift

Crouching

Quieter movement when holding Left Control. Can't jump or sprint while crouching

Jumping

Gain some height by pressing Space. This mechanic ended up not being required for any of the puzzles or traversals in the game (was at one point).

Interaction

The first-person view allows for a direct cursor to be placed on the screen. As this movement is unrestricted in the camera's sphere of rotation, this makes sense of using the mouse to look around. Further non-diegetic green or red circles will display when the player is looking objects they can or cannot interact with. This was chosen due to the large variety of objects we wanted to allow to be interacted with. Those objects include **pickups**, **observables**, and **touchables**.

Touchables

have things occur when the player interacts with them. They may bring up a keypad UI that prompts a new input challenge or set off a scripted event nearby, such as preheating an oven or opening a door. These are the most universal, and range from small boxes to large fields.

Pickups

are a subset of touchables. Once removed, they usually add an item to the player's inventory; for example, if they were to interact with a key on the ground, it would be removed and added to the player's inventory for use with a door, or any other interaction. A special decorative case, called **removables**, are small world items intended to be removed by the player that block their path, such as a poster covering a path.

Observables

encompass all interactables. They trigger a temporary message to appear at the bottom of the player's view, putting Crawfis' thoughts on an object to text. Touchables and pickups both have this, but some objects that do not do anything when interacted with do as well.

User Interface / HUD

The UI was made to be as simple as possible, only showing things when they are necessary such that the rest of the game is the main focus. The only items always on the UI are the player's health, even when full which could probably change, and the center crosshair so it's easier to tell what is being looked at. The FPS counter is the one toggleable UI element, which can be switched on and off with F1. Gun ammo count is shown only when a gun is equipped, and the interaction circle is only shown when looking at something interactable (green meaning it can be interacted with and red meaning there's something stopping the player from interacting with it). Dialogue UI appears on screen when talking with someone. Inventory UI appears on screen when in the inventory. Keypad UI appears on screen when unlocking a door via keycode.

The UI changes in different scenarios such as finding an ending or pausing the game. In the cases the other UI elements typically seen in the game are hidden and a new set of UI is loaded for the specific event.

Inventory

When a pickup is interacted with or a certain dialogue option is selected, players may receive an item. This goes into their hidden inventory of 7 items, accessible at any time. Only so much can fit into a prison jumpsuit.

The inventory is real-time--it does not pause when entered to increase a sense of danger when scrambling for a key or piece of cake. Further, forcing players to make decisions on what to drop if they are full creates risky situations.

Items in an inventory automatically activate hidden checks in the world. For example, having a key to a door allows that door to be interacted with and opened permanently. Or, a prisoner may take notice of cake you have in your pocket, even if you're just happy to see him.

The World

Prison, your home. The player will go through different paths in the world with each playthrough, unlocking different doors, interacting with different people, and completing different tasks in the world each time. The world must accommodate all the tasks in a way for

players to naturally come across them and naturally see different possible paths if they become stuck or frustrated. For ease of design, the levels choke point between each other.

Level design

The prison was designed around the mechanics we developed. As such, since we added guns, we added a shooting range. We added a dialogue system, so we added an escape tunnel belonging to another prisoner that requires trust. There was no fully planned layout, so the rooms have no logical architecture beyond what felt right enough for the moment. Locked doors were swapped around in development to produce better paths.

Conversely, two rooms were planned for stealth sections, and had to be designed around that. The initial hallway players can enter is a square shape, introducing the idea of patrol routes with guards that only move forward. The larger crate room interweaves and randomizes these routes, forcing players to pay attention to the crates that can obfuscate guard vision or object permanence.

Checkpoints and Loading

Originally the game was planned to be longer and thus have more levels (the current game basically just has two halves) so checkpoints would've been more significant. As it stands the one halfway point checkpoint serves as a good restore point in case something goes wrong, such that the player doesn't have to be frustrated by having to do the entire first half of the game again. When hitting a checkpoint the player's inventory, weapons, and position are saved. If the player dies after hitting a checkpoint (or hits the manual reset debug key L) they will return to their last hit checkpoint and have their inventory and weapons reset to the state they were in when they encountered it. Health is not saved in order to avoid being stuck at a checkpoint with 1 hp for example. World changes such as doors unlocked, items picked up, people killed, etc are also reset back to their original state upon returning to a checkpoint.

A world loader takes effect whenever the player hits a checkpoint as well. All rooms, items, and NPCs in the level have a status that the world loader can read, telling it what level or levels that particular entity belongs to. In this way, when hitting a checkpoint all parts of the world that are no longer necessary are unloaded, and all the parts of the next level that weren't previously loaded are then loaded. Because of the nature of how the world loader works, this happens smoothly with no load time.

Non-Player Characters

In the game there are two basic NPC types: guards that patrol (hostile), and inmates that either wander or stand around (non hostile). There is also one non-hostile guard who acts the same as an inmate.

Guards (Patrolling)

Hostile guards will roam in places where the player is not supposed to be. Patrolling guards have sight, hearing, and memory which they employ in order to try to catch the player. If the player is caught the guard who caught them will chase and attack them until either the player leaves the area, the guards lose track of the player, or the player dies. If a guard sees the player directly (raycast based so the player can hide behind objects) while they're somewhere they're not supposed to be they will give chase. If a guard hears the player (radial) they will also detect them. Different actions make different levels of sound, for example, crouching is quieter than walking which is quieter than running, and shooting a gun makes a lot of noise. Guards do not communicate the player's status or location to other nearby guards. If the player is able to evade the guards senses long enough (without leaving the area) any guards currently giving chase will wonder if the player has left or not. Guards in this state will go investigate the last known location (either by sight or sound) for a little while before returning to their normal patrolling.

All hostile guards are able to be killed by the player.

Inmates

Your inmates can be your friends or your frustrating acquaintances, based on how you treat them. Dialogue is unique to each prisoner, and is repeatable to ease player decision making. Each is unique per level, with two progressing with the player to the second section of the game.

Inmate reputation is important to be built up. Gifts from your Inventory or dialogue compliments can be given to do so. Special situations may arise from NPCs that you are nice to, and they will remember if you insult them, too!

Actions

Players may use their existing mechanics to interact with the world and its inhabitants. Guns can shoot boxes, guards, or targets, keypads may be entered, and posters may be examined.

These are primarily auxiliary inputs the player may explore using the game's primary mechanics.

World Objects (Keypad, crates, doors, baking, etc)

There are several objects in the world associated with puzzles (some more complicated than others) around the map. Some objects such as keys are simply for being picked up into the inventory. Doors can be opened (and unlocked using the corresponding key if necessary) and sometimes broken down with force. Some doors are locked via keycode, in which case the player can interact with the keypad nearby to try and unlock the door. The location where the player receives a melee weapon includes a breakable create to show that some objects may be broken when attacked. One specific puzzle in the game includes baking, wherein the player will beat (attack) eggs into a bowl of batter and then put that batter in the oven and wait for it to cook. Many world objects will disappear or change after they are interacted with, however they will revert if the player dies in the current level.

Weapons

There are two types of weapons: melee and weapons.

Melee

weapons allow players to break objects and attack guards. They may also defend against guards' punches to reduce incoming damage. Players must balance attacking and defending by timing their strikes when the guards are pulling back and defending when the guards are attacking. Further, a combo system changes up the animations and increases player damage to incentivize risky play without defending.

Firearms

come in the form of a pistol and assault rifles. A starting pistol is available in the shooting range, and can be used to unlock future weapons. Ammo is limited, but there is no weapon spread. Players may attack guards more easily with these at a range, or use them to cook or complete challenges. The stronger weapons may also break destructible items, such as some doors, but required being obtained first.

Finally, the guards in the prison are expert street fighters, and use a combination of punches and kicks (depending on their expertise) to damage and knock back the player.

Challenges

Some rooms in the prison contain unique challenges. These are used to focus the mechanics rather than letting them interact, increasing the depth while not decreasing the breadth of the game. For example, the shooting range contains a moving target mechanic to hone players' shooting skills, and the kitchen contains a touchable puzzle that players may solve with environmental clues.

Often, challenges add temporary UI flourishes to increase player feedback. The shooting range displays your score, and the oven ticks while baking in the kitchen. This feedback further emphasizes the uniqueness of the challenges, and makes them more different from the rest of the game.

Tier 2 Design

Given more time there's a lot of things we would've liked to add. As it stands there are a lot of mechanics that are not explored or used well enough. Things like challenges for example serve only one purpose towards one path. The way the systems are set up they're very easy to connect to each other however the time wishes to for the progression, however the game didn't end up being long enough and we didn't want to overbear the player with too many paths through one level. Extending the game to include at least one more level would've allowed us more freedom to use a lot of the mostly unexplored mechanics we worked so long on.

Something that was suggested during one of the team's presentations was to voice act then ending scenes for effect. This was actually something we had considered and wanted to do however we ran out of time before it could happen.

Given more time we would've also liked to better the prison as it currently stands. Things like adding more things to see (clutter), giving useful dialogue to the NPCs who don't speak, improving the existing dialogue to be more succinct and also more interesting, etc.

Considered and Rejected

Originally we were going for a serious story, but as soon as the game became about Prof. Crawfis and started filling up with humor that plan got tossed.

Originally the game was going to have one ending and a few branching paths but would in turn be longer. Given time constraints we instead switched over to aiming more towards the branches and have a shorter experience. Since the experience was shorter we went for multiple endings to give replayability instead.

Originally combat with NPCs was not going to be a feature of the game (considering the whole idea was to prove that Crawfis didn't murder someone), however everyone except one person adamantly wanted attacking in the game so it got added. Multiple endings helped remove the strangeness of the idea (different endings for violent vs peaceful).