

# Detective Prototype Development Report

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An exploration into detective design and detective input systems.

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## Introduction

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Within the detective game genre there are only a handful of great games that are designed with the player in mind. Other detective games don't put enough control in the players hands, breaking immersion and the feeling of solving a mystery by yourself. The main problem lies in the design of the system that allows the player to communicate with the game. I've named this the detective input system, it is the mechanics the player uses to interact with the game. This includes gathering clues, managing inferences and making accusations. My solution to this was to create a fully working detective input system that is immersive, doesn't allow brute force and gives the player the satisfaction of playing as a detective rather than having their hand held.

## Aims, Objectives, and Deliverables

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This project aims to find a new way for the player to communicate with detective games, it explores detective input systems and hopes to make a mark creating a new unique system that allows player immersion and expression.

To achieve my aim, the objectives I laid out for myself was to investigate great, well designed detective games, get inspiration from their detective input systems and then design my own. Once designed implement and create the system and keep further iterating on it until it can stand with the systems researched. Then to prove the system works create a full level that presents and uses the detective input system.

The deliverables for the project is to create a playable demo or vertical slice where the player is tasked to solve a short mystery or puzzle. The detective input system should allow the player to collect or review evidence and then form conclusions using a simple and open interface. This system should not prompt the player into different lines of thinking or allow the player to brute force their way through. The game will be accompanied with a research and design document.

## Research Methodologies

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The goal of my project is to explore detective input systems, research was focused around how players interact with those systems. The overall approach involved studying existing games, designing and building my own system and then testing the system with players to find out the most engaging and immersive way to communicate with a detective game. To understand best practice's, I looked into a bunch of detective games including Return of the Obra Dinn, The Case of the Golden Idol and Alan Wake 2. This focus on other games was specifically to see how they each designed their detective input systems, I wanted to each game I looked at to inform my own. The artifact project itself is where most of the learning came from, the system wasn't designed once, it was iterated, built upon and refined over time. This allowed issues to show up naturally during development and learn from my own experiences. Other forms of research included playtesting where I would sit and watch players use the detective input system, once finished they would complete a questionnaire. This helped me understand whether my own system was clear and easy to understand, if it felt immersive and that if the player had agency.

# Documentation of Production

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## Progress Tracking

To track my progress, I used a Gantt chart and Trello board. I used the Gantt chart for larger milestones and for specific tasks the Trello board, this meant I could properly allocate time easier as I could visually see the tasks in front of me.

## Research

Before I designed anything I made sure to look at the great detective games out there so I could get some inspiration. My main form of research was exploring these game's detective input systems, each game had at least one thing that was great about their system, for each game I took that wisdom with the idea of meshing all these developers' best ideas into one.

## Return of the Obra Dinn

- Trust the player, Obra Dinn doesn't explain things step by step, it gives the player the freedom to make mistakes.
- Many detective games give away possible answers with their interface, Obra Dinn makes the pool of options so large that you can't guess.
- Delay feedback and don't allow brute force, it takes three correct answers before they are confirmed correct, this allows the player to be rewarded and feel progression while also stopping brute forcing.

## Case of the Golden Idol

- Let the player drive the reasoning, Golden Idol doesn't hand the player the answers it lets the player create them.
- Split the game loop into two parts, exploration and deduction. Golden Idol's two phase game flow of the exploration window and thinking window allow the player to get into the mind of a detective better.

## The Roottrees are Dead

- Allow for the system to be as non-linear as possible, let the player be free in their decision making. The Roottrees are dead allows the player to go through and identify each individual in any order and the system it uses makes this very clear.
- Keep the system as visual as possible, try not to bore the player with too many menus.

## The Duck Detective

- Keep your interface clean and readable, the duck detective keeps everything very intuitive and accessible for the player.

## Shadows of Doubt

- Let the player lead the investigation, Shadows of Doubt doesn't tell the player what's important, the player decides.
- Let evidence organisation and management be a part of the gameplay, to immerse the player further into the role of the detective, sorting and combing through evidence should be part of the fun.

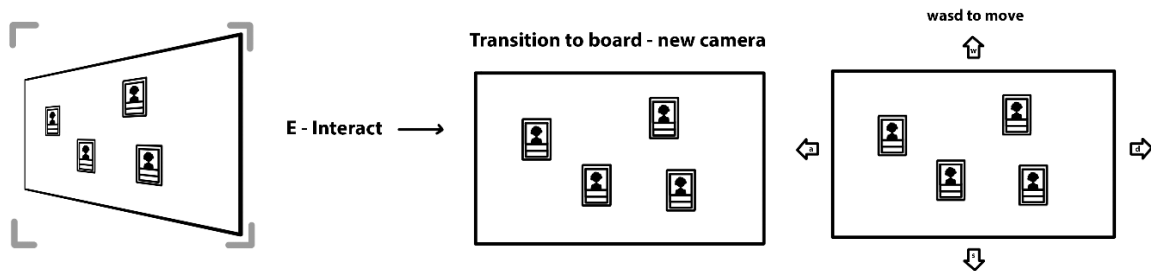
## Alan Wake 2

- Immerse the player into the world, whether this be with diegetic interfaces like Alan Wake or not.

- Let the player move from exploration to deduction quickly and seamlessly, in Alan Wake the player presses one button and is instantly transported to the mind place.

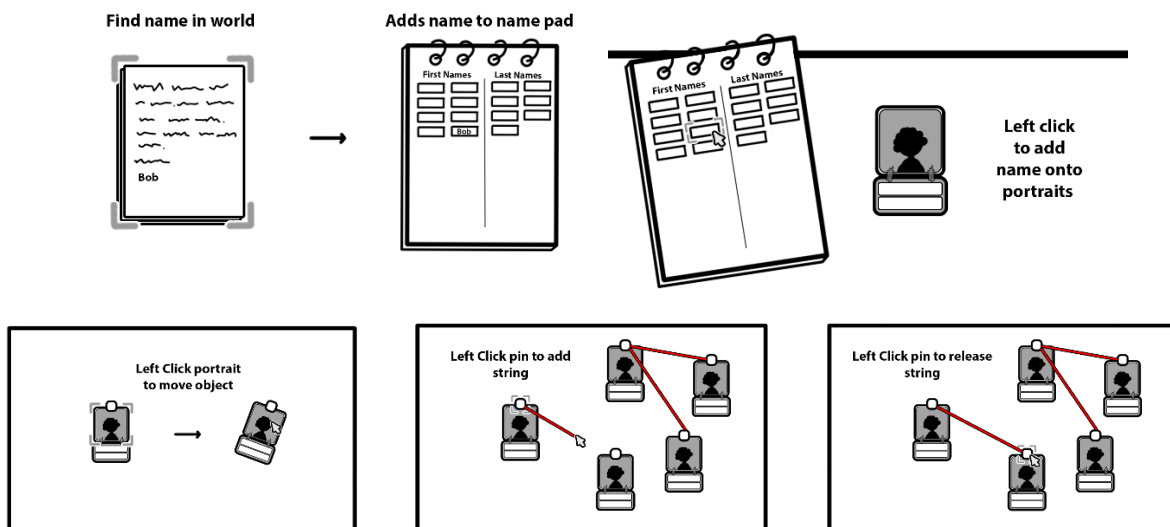
## First Iteration

For my detective input system, I wanted to create a fully functional detective board, I felt having a completely diegetic system would allow the player to be more immersed and engaged. After doing some research I found Alan Wake 2 and while I didn't like the mechanics of their case board system, I loved the feel and visuals of it. The idea was that evidence would be placed on the board, when interacting with it the player would transition to the board and then be able to interact, link and move the different evidence.



I work in a way that as soon as I have designed a mechanic on paper I go straight into engine to prototype and create that mechanic, especially with a time sensitive project like this it is best to learn quickly if something doesn't work or not. After deciding the case board system, I went into Unreal Engine and created the mechanic in its simplest form. The player could now add evidence to the board, enter the board and move the evidence around.

Quickly the designs evolved, I wanted the player to be able to do more, I split evidence into three different objects that the player can select: the pin, the main suspect photo and the name holder. This allows for the only input action needed to be left click as I want to keep the system simple for the player. When clicking the pin, string will spawn, with this string you can link suspects, this will determine murders and victims, when you click the main portrait you can move the suspect around the board and when you click the name holder a name pad will appear and you can assign names to the suspect.



These designs were then fully implemented, when the player left clicks on a name holder the camera focuses in and the name pad shows up. The name pad holds all the names the player has found in the world, when clicking on a name it will be assigned to the portrait. When the player clicks on the pin of a suspect string is spawned and attached to the selected pin, then when the player clicks another pin the other the string connects the two.

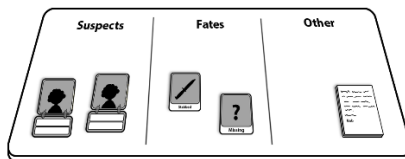
## System Redesign

I liked the system I had created but I felt it could be pushed further, the current system felt good to use but it wasn't tactile enough, the player should be placed right into the detective's shoes. The player no longer switches between the board interface and first person anymore, when the player finds evidence in the world instead of being added straight to the board it's added to an evidence table. From there the player can decide what they want to put on the board, the player can pick up any evidence and then walk over to the case board and physically place it. From then on, it's pretty much the same as the old system.

Selected Character in world?



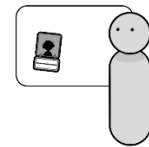
Adds to evidence table



By default hold object state

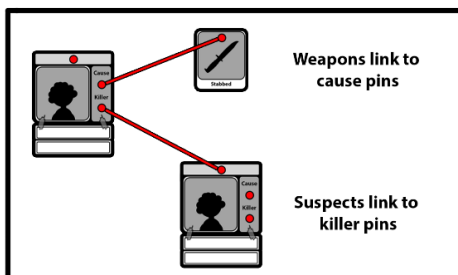


Look at board place object state

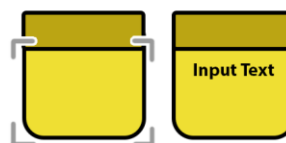


This redesign was implemented and I instantly preferred it over the previous iteration, also at this point I decided to add victim fates to the system. Players should not only be able to connect murderers to victims but input how the victim died as well.

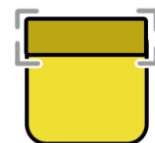
Now the board felt engaging and immersive, I wanted to focus on clarity, readability and user experience, currently the board can get a little confusing. I found that when connecting murderers to victims it wasn't clear which one was the victim. To remedy this, I redesigned the victim portraits to have three pins. The main header pin, the cause pin and the killer pin. Main suspect pins are connected to killer pins and weapons are connected to the cause pin. This allows for the board to be far more readable. Another way to add readability to the board and give the player some extra customisation and control I created editable post it notes. This also alleviates the need the need for the player to have a physical note pad by their side which adds to the accessibility of the game.



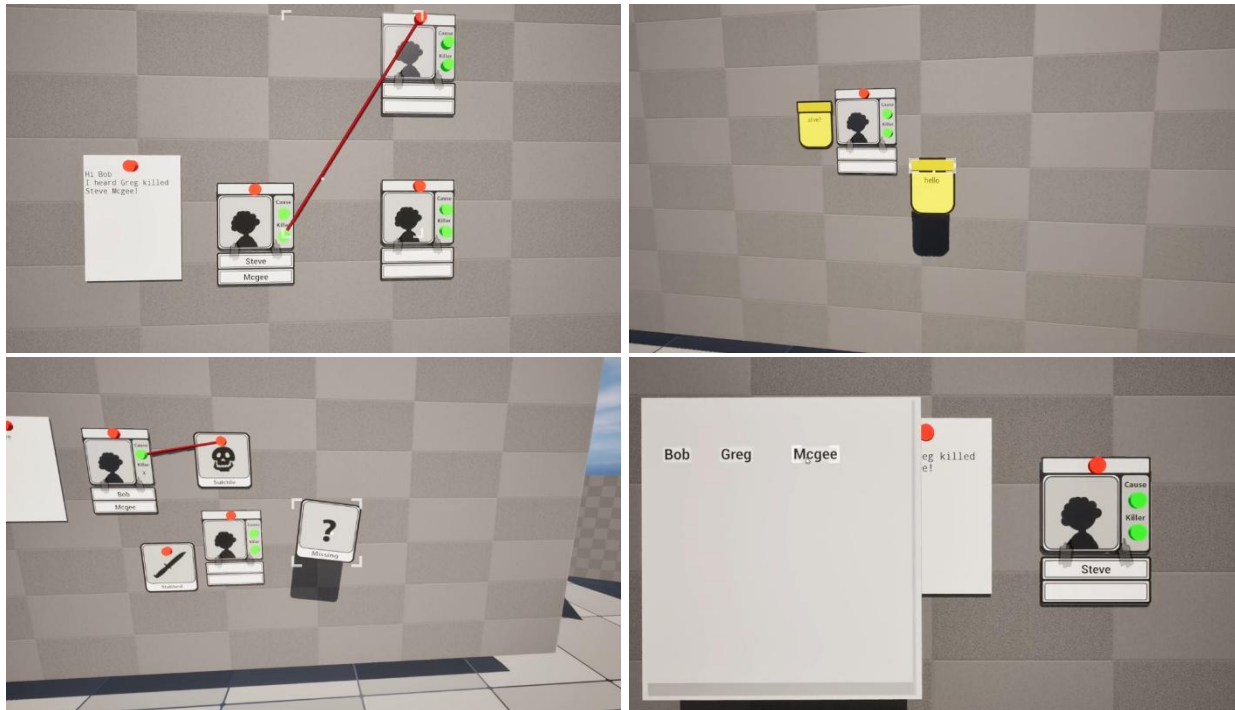
Interact to activate keyboard



Interact to pickup



That marked the halfway point of the project, the main system was mechanically complete. The player was able to freely and immersively tell the game who each person was, who killed them and how they died.

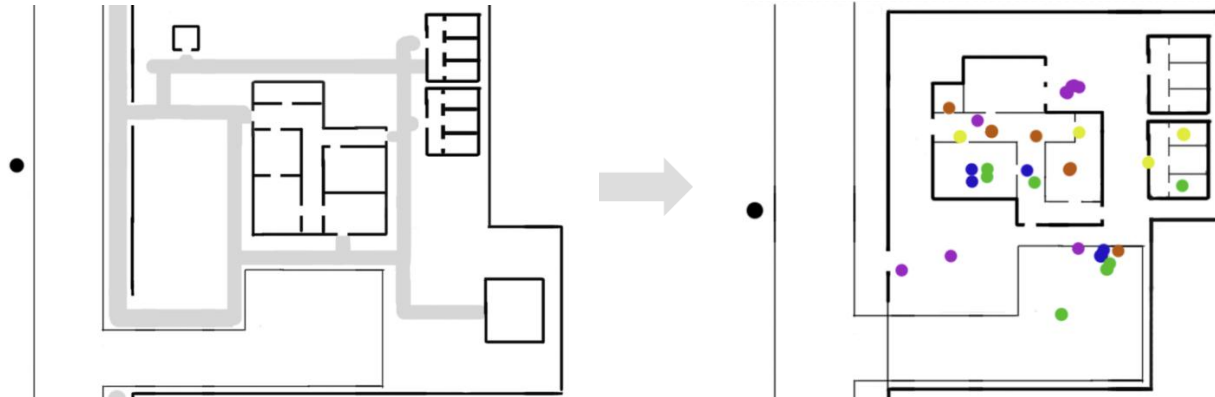


## Creating the Playable Level

Now the detective input system was mechanically complete, there was truly only one way to find out if the system I created could stand with the others that inspired me. That was to create a fully playable vertical slice alongside the system that could show it off in its true form. I was thinking how it should be done and originally was just going to have the player explore a crime scene where all the victims are already dead. Looking at *Obra Dinn*, the player can see many different perspectives of the action by looking at the frozen moment just before someone has died and I got inspired. I decided that the player could still explore the crime scene normally, but they would be equipped with a device called the Time Frame. When the Time Frame is active the player moves back through time to a range of different moments called frames. The player will be given a number of frames, each frame has a consistent amount of time between them of 1 minute, so if the player had 5 frames then they could see the top of each minute between for example 8:21 and 8:25. This allows the player to get a great view on what happened but can also allow for fun puzzles as things can occur between the minutes that the player doesn't see. I did worry that having the player deal with this system and the detective board simultaneously could be an issue. To get around this I decided to separate them as much as possible, the exploration scene is where you use the Time Frame and when the player wants to use the case board they transport to a different space called the mind palace where the Time Frame cannot be used.

Designing the level was actually quite a long process, with the Time Frame the player is able to see the whole sequence of events pan out so I had to account for everything. I started by designing that sequence, this was done in a large word doc which held all my notes about the level. Once each frame was planned in Photoshop I created a map that displayed a visual representation of every frame. Below is the finalised map but it didn't start this way. At the beginning the map was far larger, but as I went

through the process, I kept compacting and sizing it down. As clues were scattered around the map, I didn't want the player to have to walk far to find them. Everything should be within a 20 second reach, the design went from originally four different buildings, to two. I didn't lose anything when combining the buildings, the level felt denser and more interesting as a result of it.



In Unreal I blocked out the level using some assets and Unreals landscaping tools, after each time I built the level, I'd go back to the drawing board and see what I could strip and cutdown on. As a result of this, the level design felt clean and intuitive.



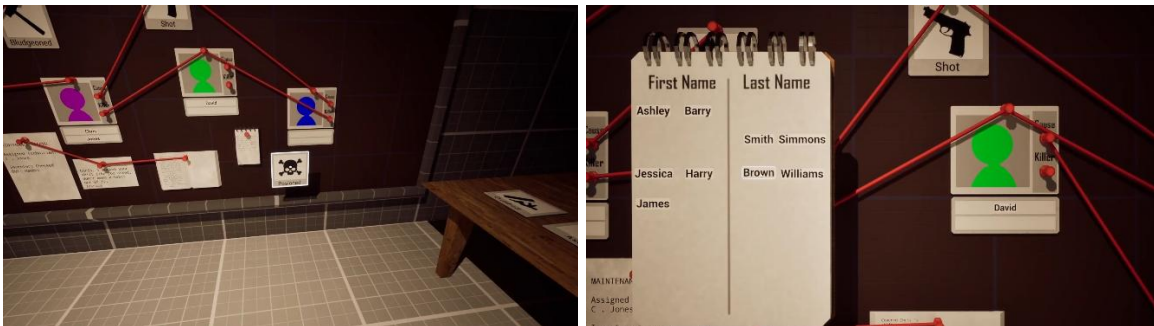
During the level implementation, I felt the current version of the Time Frame didn't fit, it felt unintuitive and clunky to use. I first redesigned how it functioned, previously the player had access to all the frames from the beginning, this worked but could overwhelm the player. To remedy this I added anchors, anchors are glitches in time that allow the player to unlock new frames. Then visually to make it more intuitive I turned it from the large blocky clock to a futuristic type watch with lots of moving parts. The visual moving

of the numbers makes it feel a lot more intuitive to scroll through the different times. To help the player find anchors I added a little flashing light that blinks faster depending on how close the player is to one.

After each frame was planned out, each one had to be created, this was done by finding or creating a pose for each action I wanted a character to take and then placing them in the scene. This included props the characters would use as well. As there were so many poses, I used a spreadsheet to keep me on track and make sure I wouldn't miss any.

Not only does the player have to solve how each character was murdered and by who but also, they need to identify everyone. To do this I placed notes and letters within the level that help the player figure out each character's name. Each bit of evidence is a piece to the puzzle, the names aren't just given to the player they must figure out which first name connect to surnames and which character that name is linked to.

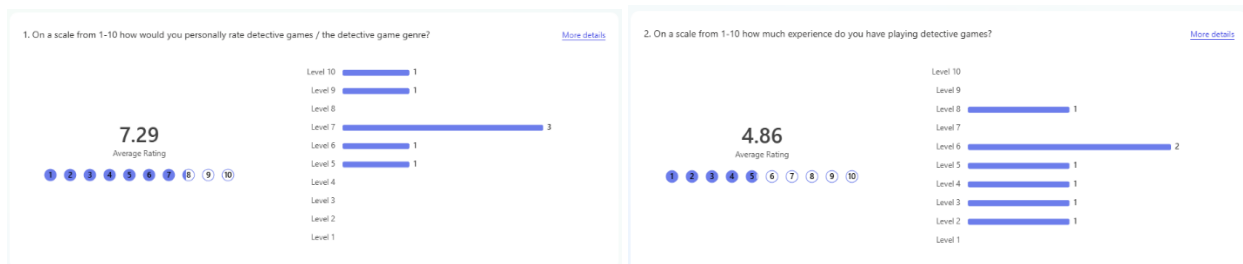
Visually the case board got an overhaul, I designed mind palace to look like a detective office to visually separate it from the real world. I also turned all the portraits and fates into 3d models rather than a textured plane to allow even more tangibility.



Now the level was pretty much complete, to get it ready for testing I implemented a short and simple tutorial. A mistake I made when designing and creating the level was not thinking about how a tutorial would fit into it, I think it works really well as second or third level into a game not a first meaning while the tutorial gets the point across to the player it's not exactly how I'd like. Though, using visual prompts, powered doors and the time frame I was able to design a rudimentary tutorial that guides the player cleanly through the intro of the level.

## Testing and Feedback

With the level complete I could start getting some feedback on the detective input system, the detective input system itself tested incredibly strongly, though due to time constraints only one tester managed to see all the content the level had to offer. The first two questions I asked was to gauge how familiar the testers were with detective games, generally they enjoyed the detective genre but didn't have much experience with them.



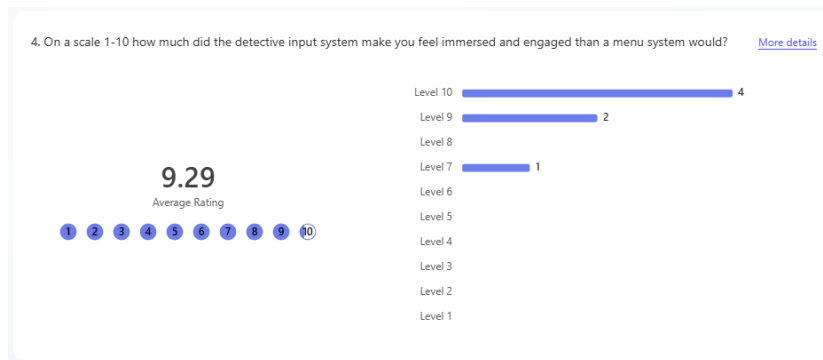
Once testers got past the tutorial and used to the system, they found the detective board very intuitive to use. I do think if the testers had even more time to get familiar with the system it could have worked better, the short amount of time the testers had combined with the amount of new info I was throwing at them was a little tricky at times.

3. How clear was the process of inputting your conclusions (Assigning fates and killers)?

7 Responses

ID ↑	Name	Responses
1	anonymous	Inputting the names was a bit unclear but overall it was clear how the system works
2	anonymous	Very clear
3	anonymous	It was easy to use but I did not realize it was the only way to input my choices. I felt like after I left the scene I would still be able to enter more data
4	anonymous	the process was very clear
5	anonymous	Very intuitive and clear to understand how to interact with everything.
6	anonymous	pretty clear i think the tutorial made it clear, just there was a lot of info thrown at the player at once
7	anonymous	Once I had seen the tutorial, it was very clear.

When rating how the detective input system immersed them into the world most testers ranked it 9 or above, this meant the system really allowed the player to be fully engaged and preferred its tactility over a simpler menu system.



I made a mistake with the wording of these two questions, due to them being in the detective input system section I assumed testers would get that it was asking about that, but I was wrong. Testers just gave general feedback for the game, this was still valuable though. Some issues included dialogue text being too quick, some puzzles being too tricky (I think this was more of not being in the right mind set to solve puzzles type situation) and a situation where a locked safe with some important evidence would not open due to a bug. When asked what worked the testers said they really liked how the detective board worked and the unique time frame timeframe.

5. What doesn't work and why?

7 Responses

ID ↑	Name	Responses
1	anonymous	How to put the power on wasn't super clear and the lighting made it a bit hard to read stuff
2	anonymous	The dialogue text was way too quick
3	anonymous	Everything works but maybe having a more simplified story or an additional help button
4	anonymous	I don't think anything didn't work
5	anonymous	N/A
6	anonymous	nothing not sure
7	anonymous	A few glitches here and there. I had a problem with the safe, meaning I couldn't fully complete the game. There were a couple of issues I had with the board, where I accidentally kept deselection my pins, and then I had to go back to find out what happened to them again.

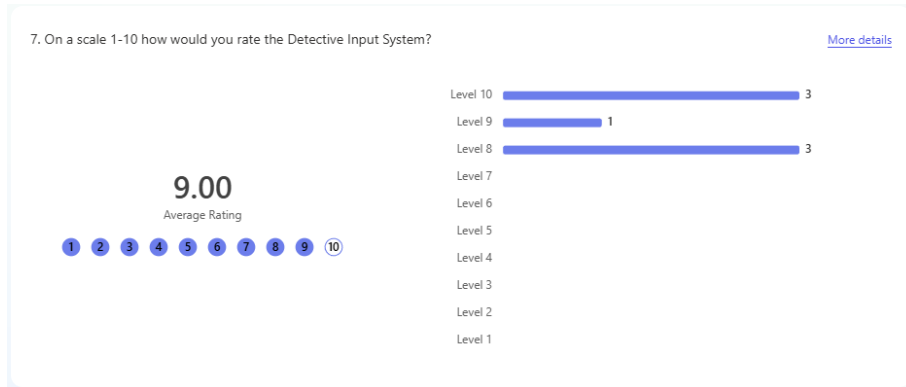
6. What does work and why?

7 Responses

ID ↑	Name	Responses
1	anonymous	The time travel system is very good and the execution of the detective system is enjoyable
2	anonymous	The detective board, the teleport back and forth and the time watch are all amazing
3	anonymous	The time skipping worked really well and gated progression nicely
4	anonymous	the time changing mechanic was super super cool and how I was able to go into different areas using it was awesome
5	anonymous	Consistent ways to interact wit objects makes gameplay feel intuitive. Controls are simple. Scenarios make understanding the mechanics simple.
6	anonymous	really like the connections and shaping the board
7	anonymous	The detective board mechanic was very cool.

The Detective Input System ended with an average rating of a 9 which I'm really happy with. It shows that player connected with the system and even though it is quite unique and the testers had limited time to

really get to grips with it the high score tells me that the system will work in an expanded version of the game.



The tutorial definitely worked but as one tester pointed out a more forced and guided tutorial experience would help put the system in a better light quicker. I think a shorter level focused about teaching the player the mechanics would fix this issue up very quickly.

8. Did the tutorial help you understand the mechanics? If no, what can be improved?

7 Responses

ID ↑	Name	Responses
1	anonymous	The tutorial was clear
2	anonymous	Yes, tutorial was very intuitive
3	anonymous	Yes, but highlighting the scoring system more would help
4	anonymous	yes, definitely
5	anonymous	I skimmed over a lot of the on screen prompts, a more forced and guided tutorial experience would help.
6	anonymous	yes but it still took a minute for me to understand what to do, prob need a smaller level to teach the player
7	anonymous	Yes, it was very nicely laid out.

When asked if they would change anything about the game most testers said no, while I would have liked some more critical feedback I think I would need to do a mass amount of testing to get that.

9. Is there anything you would change about the game?

6 Responses

ID ↑	Name	Responses
1	anonymous	Dialogue way too quick
2	anonymous	Having a slightly easier level
3	anonymous	not that I could find
4	anonymous	No.
5	anonymous	no
6	anonymous	Not really.

Things that were liked about the game included the case board, pacing, time frame and level design.

10. What did you like about the game?

7 Responses

ID ↑	Name	Responses
1	anonymous	The execution of the detective system and the time travel mechanic
2	anonymous	The overall vibe and cool mechanics
3	anonymous	Good pacing and unlocking of new areas & clues
4	anonymous	again, the time changing mechanic was so cool
5	anonymous	Level design. Evidence system. Time frame mechanics.
6	anonymous	the time frame, moving through time you could probably think of a bunch of puzzle for that mechanic. I also liked the board and its interactivity
7	anonymous	I liked the time frame and how it led you to the temporal anchors. I also liked the level design, and I like how the car covers the first character on the floor, so it's a nice surprise when you walk around the car and see the first victim.

Most players didn't find any bugs, for one player though there was a critical bug which stopped them from completing the game in where a locked safe, that had some vital evidence, wouldn't open.

11. Were there any bugs or glitches during your playthrough?

7 Responses

ID ↑	Name	Responses
1	anonymous	no
2	anonymous	Did not experience any
3	anonymous	No
4	anonymous	nope
5	anonymous	No.
6	anonymous	no
7	anonymous	Yes. The safe didn't work!

Finally, when asked to give the game a final rating, the average ended up being a 9.29 which is great. I think this idea and system has potential to be heavily expanded upon and turned into a full length game and the testers really backed me up. I am very happy with how the test ended up and while the level itself wasn't fully experienced by everyone the detective input system was. It was a risky mechanic when I designed it and needed careful execution, and the testers showed me I was successful with my implementation.



After the test I didn't make any major changes as I felt the system was in a really good place, the changes and fixes I did make include fixing a bug with the safe where the player couldn't unlock it. I also changed the safe code puzzle to make it easier and more clear on what to do. I slowed down the dialogue as previously it moved far too quick, added invisible walls to stop the players from walking out of bounds, allowed UI to scale with aspect ratio of monitor, fixed bug where tutorial icons would sometimes not

disappear and fixed a bug where the pins would not show up when placing an item on the board. An issue I saw when viewing test was sometimes the player would remove their string on accident when moving stuff around the board, to fix this I disable string collision when the player picks up evidence. The final bit of polish I did was adding sound to the game to give the players actions more impact and further player engagement and immersion. I also implemented a start menu and a restart option when the player finishes the game to allow the player to replay the game.

## Evaluative Review

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The problem I proposed at the start of the project was that the mechanics often used in detective games harmed the player experience. They wouldn't put enough control in the players hands, breaking immersion and the feeling of solving a mystery by yourself. My aims to counter this was find a new way for players to communicate with the game, take inspiration from the great games in the genre and create my own. I think the project I have delivered has done everything I set out to do, the system I have created is a unique, fun spin on a detective input system that is highly immersive and tactile. I think the interactive case board currently has enough ground to stand amongst other great detective input systems, but what I hope to come from this potentially is that it can be further developed and stand as a game amongst other great detective games. Testers reacted incredibly positively towards the system, when asked on a scale from 1 to 10 on how immersed and engaged the system felt, on average they gave a 9.3 meaning tester really engaged with the systems and even though I was presenting them with mechanics they may have not seen before they felt natural after a short amount of time.

I think the detective input system itself works really well, there isn't much I'd change design wise, a small mistake I made though was in the presentation of the system and by that, I mean the level I created. The levels idea was large and complex with a pretty big scope, despite the scope I got it complete. The issue lies in the onboarding of the detective input system, as the level is large and complex the player must take in a lot of different mechanics and info at once. Testers that played the level for more than ten minutes fully understood the mechanics and used the system exactly how I intended, this time could have been shortened down if the level was a more linear guided experience, the level I created acted more as a second or third level in a game rather than a tutorial introductory level. I wouldn't say this is a bad thing though, I am extremely proud of the level I created and think once you understand all the system it plays incredibly well and allows you to feel like a detective solving a series of murders.

Taking a look at the systems that inspired me I think mine does hold up against the rest, firstly looking at Return of the Obra Dinn. Obra Dinn's system was the one that I took the most inspiration from, it works that perfect balance of pointing the player in the right direction while never prompting them or purposely changing their line of thinking. The design maintains immersion and ensures players feel responsible for their deductions, and I think my system does that too. Due to the presentation of my system, it feels even more open ended and like it gives the player more freedom to solve the case how they want. I think my system translates real world investigative thinking into game mechanics, and in doing so strengthens the players immersion by making the act of deduction feel self driven than system driven. In comparison, Case of the Golden Idol takes a more structured approach to deduction, players construct answers using predefined words. This does mean the system heavily frames how the player thinks and for a game like Golden Idol it works incredibly well. Overall, my system takes ideas from both and while not as clean and readable as these examples my system does something that both games don't by pushing player agency while still balancing freedom without causing player frustration.

As for the future of this project, I think it does have potential as a full release if I want to work on it further. It would need a bunch more polish and more levels, I would also like some sort of interconnected narrative as well. This project has taught me a lot, the core skills I have developed include all forms of design and designing with time limits, complex blueprints and working with Unreal Engine, taking in and applying feedback and of course designing detective games. I hope using these developed skills I can push forwards and make a full game out of this project, it has potential and I think with enough dedication maybe in the future it can be looked at similar to the games that inspired me.

## Bibliography

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Lucas Pope (2018) *Return of the Obra Dinn*. Published by 3909 LLC.

Color Gray Games (2022) *The Case of the Golden Idol*. Published by Playstack.

Ward, R. and Johnston, J. (2025) *The Roottrees Are Dead*. Published by Evil Trout Inc.

Happy Broccoli Games (2024) *Duck Detective: The Secret Salami*. Published by Happy Broccoli Games.

ColePowered Games (2023) *Shadows of Doubt*. Published by Fireshine Games.

EQ Studios (2017) *The Painscreek Killings*. Published by EQ Studios.

Remedy Entertainment (2023) *Alan Wake 2*. Published by Epic Games Publishing.