

DESIGNING HORROR SURVIVAL MYSTERY GAME "REMEMBER THE DAYS" COMBINING 2D AND 3D ELEMENTS.

Nathaniel Distianto¹, Jeanny Pragantha^{2*}, Darius Andana Haris³

¹Department of Computer Science, Tarumanagara University, Jakarta Indonesia
Email: nathaniel.535180072@stu.untar.ac.id

²Department of Computer Science, Tarumanagara University, Jakarta Indonesia *
Email: jeannyp@fti.untar.ac.id

³Department of Computer Science, Tarumanagara University, Jakarta Indonesia
Email: dariush@fti.untar.ac.id

*jeannyp@fti.untar.ac.id

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ABSTRACT

"Remember The Days" is a survival horror single player game for Windows, that combines 2D and 3D elements with a pixelated and low poly art style. As a detective trapped in an old abandoned haunted house, players must solve puzzles, and be able to manage limited resources to survive and escape. The game's immersive storytelling is told through environmental cues and artifacts, complemented by a haunting soundtrack and ambient sounds that add to the eerie atmosphere. This game will bring a spine-tingling horror experience of exploration, puzzle solving, and survival. The game will be developed using Unity Engine and C# as the main programming language.

Keywords: Survival Horror Game, Single Player, 2D and 3D Elements, Pixelated Art, Unity Engine.

1. INTRODUCTION

Games have been an important part of our lives since ancient times. It can take many forms, from the strategic board game chess to active sports like soccer and basketball. Over time, technology has changed the way we play and brought us new forms of games called video games. These are computer programs that create worlds that you can interact with by controlling the images on your screen[1].

Video games span a wide variety of styles and categories known as genres[2]. Among the most prevalent are role-playing games (RPGs), platform games, strategy games, adventure games, action games, simulations, and horror games. Each genre offers its unique blend of experience and targets different player preferences. Intriguingly, a significant segment of the Indonesian population revels in the thrill of horror. This fascination with the eerie and spine-chilling is not restricted to video games but permeates into movies, books, and podcasts.

In recognition of the fascination for horror, the development of a video game named "Remember The Days" has been initiated. This game blends elements of mystery and horror, presenting an array of challenges to its players. It's designed for the PC environment and is compatible with Windows 10 and newer versions. The game employs a combination of 2D and 3D graphics, a style known as 2.5D, and is adorned with a pixel art style. The narrative of the game unfurls over three levels, where players must assist the main character in surviving and escaping from a sinister building filled with adversaries. Progression in the game requires players to solve diverse puzzles throughout their adventure.

Game References

"Remember The Days" was conceptualized by weaving together an intricate web of ideas, mechanics, and styles borrowed from several distinguished games. Key amongst these sources of inspiration are Anno: Mutationem, Immure, The Coma: Cutting Class, and Can You Survive.

Anno: Mutationem provided substantial input for "Remember The Days," particularly in terms of graphical presentation. Its innovative deployment of 2.5D graphics, a synergistic fusion of 2D and 3D, served as a design beacon for "Remember The Days." Moreover, the melding of action and adventure genres in Anno: Mutationem triggered the same confluence in "Remember The Days", making it a magnet for different player profiles.

The narrative of "Remember The Days" owes its thrill and engrossing attributes to games like Immure and The Coma: Cutting Class. Immure's intriguing storyline and its elements of horror and mystery were instrumental in building the ambiance of "Remember The Days". The Coma: Cutting Class, on the other hand, lent to the development of game mechanics through its survival-focused narrative, thereby reinforcing the survival and escape themes of "Remember The Days".

An influential piece in the development puzzle of "Remember The Days" is "Can You Survive", a creation by Harry Sugianto (NIM 535120051), a Computer Science student at Tarumanagara University. This virtual reality game, rendered in 3D graphics, sets the player on a mission to find a way out by solving puzzles in a dark, mysterious labyrinth (as shown in Figure 1)[3]. The core principle of survival amidst overwhelming odds in "Can You Survive" was pivotal in designing the challenging gameplay of "Remember The Days". Additionally, it inspired the integration of varying levels of difficulty, further enhancing the sense of tension and excitement.

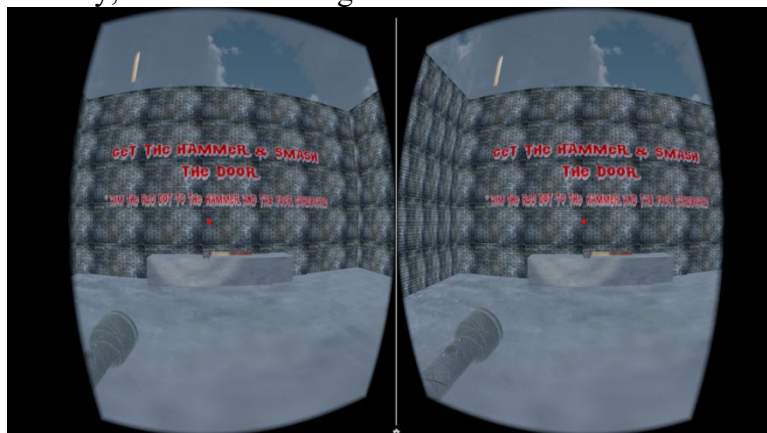


Figure 1. Virtual Reality Game "Can You Survive?"
[3]

Drawing from the essence of these games, "Remember The Days" has been tailored to provide a memorable gaming experience that stands out in its uniqueness. While it pays homage to its inspirational predecessors, it also strives to carve its own niche in the gaming world.

2. RESEARCH METHOD

Video games serve as an engaging form of entertainment meticulously crafted through defined stages and processes. The design of a game requires a template as a foundation, yet such templates often lack standardization [4]. Therefore, this research leverages the methods laid out [5], thereby

providing a coherent structure for game development. Key considerations include design methodology, game genres, 2.5D graphics, and utilized software.

Design Methodology

The game, "Remember The Days", is a unique blend of mystery, horror, and survival genres designed for a single player. It is structured into three challenging levels for the player to conquer. The game exhibits a fusion of 2D and 3D graphics, known as 2.5D, with characters depicted in 2D pixel art, interacting within a 3D world. Tailored for the Windows 10 platform or higher, the game is operated through a keyboard.

High Concept

The game is tailored to the horror survival genre, challenging players to survive and unravel puzzles to flee a multi-level building. The following are key details about the game's design:

1. Name of the Game : Remember The Days
2. Game Category : Horror Survival
3. Language of the Game : English
4. Intended Players : Those aged 16 and above
5. Player Count : Single Player (1)
6. Visuals : Combination of 2D & 3D
7. Game Development Tool : Unity Engine
8. Coding Language : C#
9. Game Controls : Keyboard
10. Supported Platform : Windows 10 or latest

Gameplay

The game, "Remember The Days", falls under the survival horror genre, offering a single-player experience with three distinct levels, each featuring different settings and adversaries. Players must navigate through the levels in order, utilizing a 'run and hide' mechanism to evade pursuing foes. Capture by enemies leads to a decrease in health points, and the depletion of these points results in game termination. To assist in survival, the game provides safe zones for players to avoid adversaries, and essential supplies can be found while exploring and solving puzzles. Players should also expect to encounter jump scares during exploration, upon enemy encounters, or when captured.

Storyline

The storyline of "Remember The Days" is an intriguing blend of mystery and horror. The protagonist, a detective named Kirk Alistar, harbors a mysterious past that is gradually revealed across three levels: The Old Me, Flooded Memories, and Reflect.

One evening, Kirk, now in his thirties, finds himself reminiscing about a haunting murder case from two years prior that he and his female police partner had been unable to crack. The unsolved murder, which took place in a large, decrepit house a decade ago, motivates them to revisit the abandoned structure. Upon their nocturnal arrival, they delve into their investigation, starting in the upstairs bedroom where the murder occurred. After a fruitless two-hour search, Kirk's frustration manifests in a forceful stomp that collapses the aged floor, causing him to tumble to the ground floor.

Upon regaining consciousness, Kirk finds himself separated from his partner in the vast, old house. As he roams in search of her, he experiences strange, mystical phenomena – the sensation of being watched and the echoes of eerie noises. The player then begins the quest of finding his partner and escaping the ominous house.

Audience

"Remember The Days" is a game designed primarily for teenagers and above. According to the Indonesia Game Rating System (IGRS), the game could be rated IGRS +18 due to its realistic violence, depiction of blood, and horror content. The game specifically targets horror game enthusiasts, along with its broader young adult audience.

Software Utilized for Development

In the process of creating the game, the following pivotal software tools will be used to perform various tasks, such as game design, scripting, 3D modeling, and graphical asset creation. Each of these tools is recognized within the industry for its wide range of features and abilities, covering multiple facets of game development:

1. Unity will be the main platform used for game development, offering various features for creating interactive 3D content.
2. Visual Studio Code is a powerful code editor will be used for scripting and debugging tasks, aiding in efficient development.
3. Blender, a software that will be employed for 3D modeling and animation, provides comprehensive tools to support the 3D pipeline.
4. Photoshop will be the primary tool for editing and creating 2D graphical assets, which will be integrated into the game.

Display Design

"Remember The Days" game features several display designs, including:

1. Opening Display: This is the first screen seen when the game is launched, featuring the game title and a button for the player to press to proceed.
2. Main Menu: Following the opening, the main menu presents the title and four selectable options - New Game, Load Game, Options, and Quit.
3. New Game: This display offers two difficulty options: normal and hard.
4. Load Game: This function allows players to resume previously saved games.

- Options: This display is for system settings, adjusting game brightness and volume.
- Gameplay Display: The game uses a hybrid 2D and 3D isometric design with the camera following the player at a 30° angle. The gameplay design also includes dialogue bubbles, and specific displays for the player status (HP, inventory), a pause menu, and a "You Died" screen when the player's HP reaches zero.

Survival Horror

The game under development is a Survival Horror title, a genre that interweaves horror and survival elements. The player's survival is paramount, often challenged by limited resources and unsettling circumstances that force tough decisions: "Do I have enough healing items?" or "Should I run or fight?" (Bycer, 2022).

3. RESULTS AND DISCUSSIONS

Control Design

The game, "Remember The Days," employs a straightforward design for its control scheme, utilizing a keyboard for various modules within the game. Each key's function can be found in Table 1. The game's movement system utilizes a combination of keys. If the player desires to run in a specific direction, they must simultaneously press an arrow key corresponding to the intended direction and the "X" key.

Tabel 1. Keyboard Control Layout for "Remember The Days"

Key	Function
Arrow Key "↑"	Navigate Menu / Move Up
Arrow Key "↓"	Navigate Menu / Move Down
Arrow Key "→"	Navigate Menu / Move Right
Arrow Key "←"	Navigate Menu / Move Left
Z	Confirm Navigation / Interact with Objects
X	Back Navigation / Run
C	Crouch
V	Open Inventory
ESC	Open Pause Menu

Character Design

"Remember The Days" features diverse characters designed by the game's developers, embodying pixelated art style. The characters fall into three categories:

1. Main Character

The protagonist, Kirk Alistar, is a 30-year-old detective suffering from schizophrenia. This character has the abilities to walk, run, hide, and crouch but is incapable of killing his enemies. Kirk's vitality is measured by Health Points (HP), starting at 100. If Kirk is captured by an enemy, his HP reduces. The game ends once the HP reaches zero. The design of the main character is depicted in Figure 2.

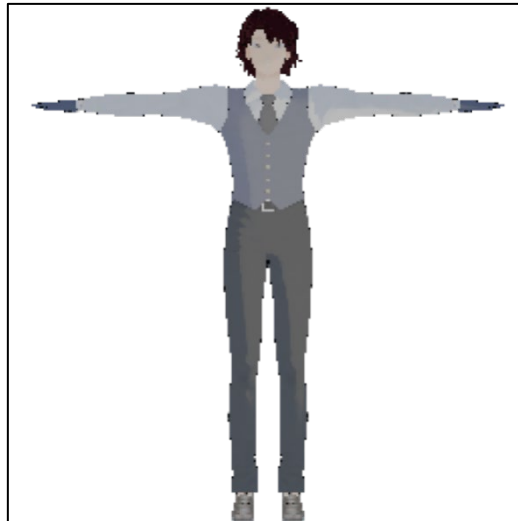


Figure 2. Main Character Kirk Alistar

2. Enemy Characters

These are supernatural beings, a creation of Kirk's hallucinations. These enemies possess a detection system through sight and sound, attacking and capturing the protagonist before disappearing for 30 seconds. The damage inflicted on the protagonist's HP depends on the difficulty level chosen by the player. Each enemy occupies one level. Enemy detail can be found in Tabel 2.

Tabel 2. Enemy Specifications

Level	Enemy Name	Movement Style	Detection Distance	Walking Speed	Chasing Speed
1	Unkown Lady	Walking	0.6 (Normal) / 0.8 (Hard)	0.6 (Normal) / 0.7 (Hard)	1 (Normal) / 1.2 (Hard)
2	Engulf Spirit	Crawling	0.5 (Normal) / 0.7 (Hard)	0.5 (Normal) / 0.6 (Hard)	0.8 (Normal) / 1 (Hard)
3	Promised One	Floating	0.8 (Normal) / 1 (Hard)	0.6 (Normal) / 0.7 (Hard)	1 (Normal) / 1.2 (Hard)

3. Non-Playable Characters (NPC)

These characters aid in propelling the game's narrative. They appear in specific scenes but don't have an HP system. For instance, Kimmy Alistar, a female police officer and a companion to Kirk, and a nurse who appears at the end of the story.

Object Design

"Remember The Days", a riveting game, employs a fascinating design concept that involves a wide range of objects. These objects, categorized into three main types, contribute significantly to the overall gaming experience.

1. Interactable Objects: A major element in the game, interactable objects, as the name suggests, can be directly engaged with by the players. Each of these items serves specific functions. They include:
 - a. Collect: Items that players can gather and store in their inventory for later use.

- b. Storage: Various containers, such as wardrobes and bookshelves, which serve as repositories for the collect objects.
 - c. Hiding: Certain objects, such as large cupboards and beds, that provide safe havens for players to hide from enemies.
 - d. Save Point: Specific points where players can save their progress, ensuring that they can return to these stages if required.
2. Enemy Objects: Designed to pose threats to players, enemy objects can either launch direct attacks or act as traps. These include:
- a. Shadow Underwater: A devious trap that, when activated, triggers a shock effect and diminishes the player's health points.
 - b. The Mirror: A treacherous trap encountered in the final level. When a player approaches this mirror, an enemy materializes from it to launch an attack.
 - c. Passive Objects: Largely decorative items like walls, benches, windows, and small tables fall under this category. While these objects enhance the game's visual appeal and sometimes provide subtle hints to solve puzzles, they cannot be interacted with by the player.

The carefully thought-out design of these objects enriches the gaming environment in "Remember The Days", making the player's journey through the game both challenging and engaging.

Level Design

The captivating game "Remember The Days" consists of three unique levels, each providing an immersive and dynamic experience to players:

1. "The Old Me": This inaugural level invites players into the protagonist's past represented by an aging house. The lantern is a crucial tool here, used for illumination and warding off enemies.
2. "Flooded Memories": This second level challenges players with a water-logged basement, slowing their movement by 25%. An additional challenge, the "Shadow Underwater," is also introduced.
3. "Reflect": In the final level, players return to the house's second floor with a mission to find their partner while avoiding perilous mirrors that prompt enemy attacks.

To heighten the suspense, each level incorporates player-triggered scare effects. There are two main types of scare effects:

1. "Attacked Effects": These are activated when players are attacked by enemies.
2. "Trigger Effects": These are triggered when players cross specific points within an area.

These effects work in tandem to escalate the thrill factor, keeping players on edge as they navigate through the captivating storyline of "Remember The Days". One of effect visualization can be see in Figure 3.



Figure 3. Attacked Effects Visualization

Sound Design

The engaging game "Remember The Days" employs a sophisticated sound design, divided into two primary components: background music and sound effects. Each plays a crucial role in amplifying the immersive gaming experience.

1. Background Music: "Remember The Days" features a horror-themed soundtrack, transitioning from a mysterious instrumental during menu navigation to a suspenseful score during gameplay. List of background music can be found in Table 3

Tabel 3. Background Music List

No	Title	Artist/ Composer	Source
1	Lucky Charm	Mimi Olsen	https://www.epidemicsound.com/music/genres/horror/
2	Someone There?	Victor Lundberg	https://www.epidemicsound.com/music/genres/horror/
3	Scared of Water	Kikoru	https://www.epidemicsound.com/music/genres/horror/
4	Mental Stillness	Jay Varton	https://www.epidemicsound.com/music/genres/horror/
5	Car Trouble	Trevor Kowalski	https://www.epidemicsound.com/music/genres/horror/
6	Creeping	Farrell Wooten	https://www.epidemicsound.com/music/genres/horror/
7	Dungeon Trop	Ted Beattie	https://www.epidemicsound.com/music/genres/horror/
8	Little Sussie	Hampus Naeselius	https://www.epidemicsound.com/music/genres/horror/

2. Sound Effects: Utilized strategically within the game, sound effects like footsteps, crying, and humming occur in specific areas, enhancing suspense and heightening player immersion.

By integrating these elements into the game, the creators of "Remember The Days" have constructed a haunting audio landscape that bolsters the game's overall horror theme and enhances the user experience.

Display Design

"Remember The Days" game employs an array of display designs to enrich the gameplay. Of particular importance is the Gameplay Display that utilizes a 2D and 3D isometric mix, with a camera following the player from a 30° angle. Dialogue bubbles ensure interaction, while displays of HP and inventory provide necessary player stats. The game also features a pause menu and a "You Died" screen for when player's HP drops to zero. For a glimpse of this engaging design, refer to Figure 4

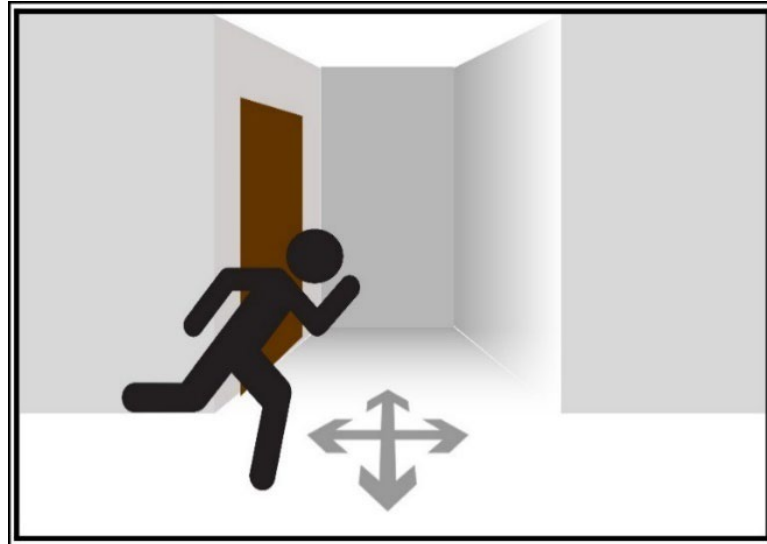


Figure 4. Gameplay Visual

4. CONCLUSIONS AND SUGGESTIONS

"Remember The Days," a survival horror game under development using the Unity Engine, boasts a unique blend of 2D and 3D pixelated, low-poly art. Catering to players aged 18 and above, this single-player Windows game invites participants into the role of a detective navigating an eerie, abandoned haunted house, solving puzzles, and managing resources to survive. The immersive narrative unfolds through environmental cues and artifacts, complemented by a haunting soundtrack that elevates the overall atmosphere.

Adhering to the Indonesian Game Rating System, the game is designed to optimize player engagement with its interactive menus, varying difficulty levels, and strategically incorporated jump scares. Noteworthy design features include real-time player status displays and interactive storage slots, contributing to an enhanced gameplay experience. "Remember The Days" promises a fusion of fear, mystery, and strategy, poised to leave a lasting impression on horror game enthusiasts.

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