CONTAINMENT

TEAM LIGHTNING

You awaken dazed and confused. As you recover your senses you realise you are locked in the lab where you work and it is dark. The last thing you remember was performing some tests on your companies latest breakthrough, the world's first sentient AI.

Table of Contents

Game Overview	5
Concept	5
Themes	5
Features	5
Genre	5
Setting	5
Target Audience	5
Game Flow Summary	6
Aesthetics	6
Gameplay and Mechanics	8
Gameplay	8
Game progression	8
Puzzle structure	8
Objectives	8
Play Flow	8
Mechanics	9
Physics	9
Movement in Game	9
Objects	9
Screen Flow	10
Game Options	10
Replaying and Saving	10
Story, Setting and Characters	12
Story and Narrative	12
Endings	12
Exit 1- Atrium tunnel:	12
Exit 2- Waste disposal chute(Did not find all Clues):	12
Exit 2- Waste disposal chute(Did find all Clues):	12
Exit 3- Reception(Did find all Clues + Has Hammer):	12
Exit 3- Reception(Did find all Clues + does not have Hammer):	13
Exit 3- Reception(Did not find all Clues):	13
Game World	13
General look and feel if the world	13
Characters	13

	The Player	13
	FIBI	13
Мај	ps	15
	Rooms	15
	1 First Office	15
	2 Atrium (Exit 1)	15
	3 Cafeteria	15
	4 Lounge	16
	5 Dorms	16
	6 Garden	16
	7 Gym	17
	8 Locker Room	17
	9 Toilets/Showers (M)	17
	11 Waste disposal (Exit 2)	18
	12 Library	18
	13 Supply Room	18
	14 Corridor	18
	15 lab 001	19
	16 lab 002	19
	17 Observation	19
	18 Testing	20
	19 Server room	20
	20 Reactor	20
	21 Workshop	21
	22 Infirmary	21
	23 Lead Tech Office	21
	24 Security Room	22
	25 Reception (Exit 3)	22
	Overall Map	22
Inte	rerface	24
	Visual System	24
	Main Menu	24
	HUD/In Game	24
	Pause Menu	25
	Inventory	26
	Journal	26

Map	26
Control System	27
Main Menu	27
Main Game	27
Pause Menu	27
Inventory	27
Journal Menu	28
Map Menu	28
Audio, music, sound effects	28
Technical	29
Class Diagrams	29
Game	29
GameObject	30
Item	30
Clue	30
Room	31
Puzzle	32
Switch	32
Exit	33
Player	33
Target Hardware	34
Min specs	34
Recommended specs	34
Dev Hardware	34
Min Specs	34
Software	34
Game Engine	34
Network Requirements	34
Localisation	34
Game Art	35
Inspiration	35

Game Overview

Concept

You are trapped in a scientific laboratory, locked in by FIBI, an AI synth gone rogue. The power has been cut and there is very limited power remaining in the backup generators. You must find a way to escape. Will you discover the true reason FIBI escaped on your way?

Themes

- Exploration
- AI
- Escape

Features

- Puzzle Solving
- Multiple Escape Routes
- Story

Genre

2D top down adventure

Setting

Near Future, Sci-Fi, Laboratory/Robotic facility.

Target Audience

We aim for a diverse target audience for this type of game as Puzzle games appeal to a broad spectrum of players with a 42/58% split between the gender of players who play casual puzzle games(Statista, 2018). The Near Future Sci-fi setting is proven to appeal to a wider audience, typically, but not exclusively, older males. Retro gamers might also take well to this game, which as it will feature 8 bit graphics and have a retro feel.

Game Flow Summary

The player will move through the facility room by room, discovering clues to puzzles and information regarding the AI and trying to escape by solving puzzles, to progress through the facility and find one of the exits.

Aesthetics

The game will feature a retro graphic style and the game world will be viewed in 2d from a top down viewport. Below are some examples from other games:





Gameplay and Mechanics

Gameplay

Game progression

The facility will have multiple routes through which the player can travel. To progress in certain areas the player will have to solve a puzzle in order to open a door or move something blocking a path. The game will also feature clues scattered around the facility that can be gathered and will be counted towards which ending the player will see when they escape the facility.

Puzzle structure

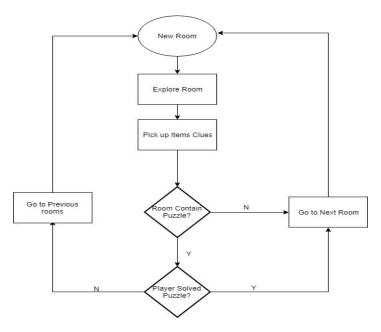
Puzzles will consist of various elements which can be used individually or in any combination. These include an array of switches and their target states, an array of movable objects and their target positions, a required item such as a key, a required clue such as a safe code and a requirement for the facility to be powered such as when using keycards. The puzzle is usually used for unlocking an exit but can be used for other events such as repowering the facility.

Objectives

The main objective of the game is to escape the facility. The secondary objective is to discover all the clues about what reason 1597 had to escape. A third objective is to complete all the puzzles in the game.

Play Flow

As shown in the flow diagram below the player will enter a new room and then search it for items and clues. If the room has a puzzle the player must solve it to progress through the facility. The puzzle may require an item or clue which the player may not possess in which case the player must keep exploring the facility in order to find what they need to complete the puzzle.



Mechanics

Physics

The game world is 2d top down so there will only be 2d physics and the only moving objects will be the player, who will be constrained to movement on a 2d plane and will not be able to collide with objects such as doors, walls and furniture, and some items such as a movable crate which will be pushed by the player again confined to a 2d plane and unable to collide or move through objects such as walls, doors and furniture.

Movement in Game

The player will be able to move on the x and y axis of the game world by using the WASD keys. The game will be 2d top down and so these will be the only dimensions in the game. The player will not be able to jump.

Objects

The player can pick up an object by pressing the space bar when the player is next to the object. The player must be in a grid cell next to the object in order to be able to pick it up. The player will have limited space in their inventory and so if it is full they must first drop an object in their inventory in order to free up some space. To drop an object the player must open the inventory menu and then select the item to drop by clicking on it or using the arrow keys to highlight the item they wish to drop and then pressing the D key.

Screen Flow Start ventory butto pressed Main Menu ventory butto Inventory Menu pressed Screen ew or Continu selected Map button pressed In Game Screen Map Menu Screen Map button Resume Game Pause pressed Journal buttor Journal Screen Pause Menu Screen ournal buttor pressed Exit Game selected Close game

Game Options

There will be no game options for the player such as difficulty, key binding or graphics settings.

Replaying and Saving

The game will feature several different ways for the player to escape allowing for replay ability.

The player will be able to save the game via the pause menu in game. The player can choose to load a game from the main menu. There will be one save file for the game.

Story, Setting and Characters

Story and Narrative

The player awakes alone in the facility knowing only that the AI they were testing has escaped. Through exploring the facility the player can discover that the AI was constructed using the players dead wife's brain. This has corrupted the AI who has become obsessed with the player and wants to run away with them. The player can leave the facility through one of three exits and depending on if they found enough clues the player will destroy the AI or if the player does not find enough clues the AI will kill the player as the player rejects the AI as his wife regardless of if it is discovered before they leave the facility or not.

Endings

Exit 1- Atrium tunnel:

You emerge from the Atrium and escape through the emergency tunnel. You know that something has gone horribly wrong with FIBI's programming. The revelation that shehas changed her appearance to mimic your dead wife no doubt due to having her brain mean it must be destroyed. You set the isolated facility to self destructusing the Password you found earlier on your way out knowing that this will take out both FIBI and all the research into her creation.

Exit 2- Waste disposal chute(Did not find all Clues):

Dragging yourself out of the waste pile, you take a moment to contemplate. Believing that FIBI is long gone you set off to report that the AI has escaped. After no sightings of FIBI for two weeks suddenly FIBI arrives at your home in the middle of the night. She has changed her appearance to mimic your dead wife. She keeps repeating. Why don't you want me? But before you can answer she stabs you through the heart and escapes into the night forever.

Exit 2- Waste disposal chute(Did find all Clues):

Dragging yourself out of the waste pile, you take a moment to contemplate. You know that something has gone horribly wrong with FIBI's programming. The revelation that she has changed her appearance to mimic your dead wife no doubt due to having her brain. It must be destroyed. You set the isolated facility to self destruct using the Password you found earlier on your way out knowing that this will take out both FIBI and all the research into her creation.

Exit 3- Reception(Did find all Clues + Has Hammer):

You emerge from Reception in to the night. Just as you think you are alone you feel the air move behind you. You are prepared and composed. You say hello to FIBI who then runs to you. You catch her by surprise attacking her main motor controls with the hammer. FIBI

looks at you in shock as continue to hammer away until you are certain that it cannot recover. You shut the remains inside the facility which you set to Self destruct an hour after you exit using the Password you found earlier.

Exit 3- Reception(Did find all Clues + does not have Hammer):

You emerge from Reception in to the night. Just as you think you are alone you feel the air move behind you. You are prepared and composed. You say hello to FIBI who then runs to you. With no other way to destroy FIBI you had set the facility to Self Destruct one minute after your exit using the Password you found earlier. The resultant blast destroys both you and FIBI.

Exit 3- Reception(Did not find all Clues):

You emerge from Reception in to the night. Just as you think you are alone you feel the air move behind you. It's FIBI but she has the appearance of your wife. As your confusion mounts FIBI sees the horror on your face and attacks. Unprepared for the attack you are killed. FIBI escapes into the night who knows what it will do now.

Game World

General look and feel if the world

The game is set in the near future in a lab facility and so the game world will feature different rooms that have different purposes that would be required in the production of robotics and AI programming / testing. The power has been cut and as such the whole lab will be dimly lit with emergency lighting, or not lit at all requiring the player to use a torch to be able to see which would also only cast a dim light. The facility would be in good repair otherwise with clean surfaces and lots of glass and metal materials as well as various consoles and servers around.

Characters

The Player

The player character is a scientist hired to perform a Turing test on FIBI. They have been flown to a top-secret facility and have been working with FIBI for several weeks before the escape.

FIBI

FIBI is the AI that has escaped. She has changed her appearance to be the same as the player's wife. This is due to a corruption in her programming due to the use of a human brain as the main

processor for the AI. The brain used in this case belonged to the player's dead wife. Due to being in close contact with the player the brains memories corrupted FIBI's programming causing her to believe she was the player's dead wife. This conflict with her programmed identity made her unstable.

Maps

Rooms

All rooms will be 5x5 unless specified otherwise.

1 First Office

The player wakes up in a room alone, the layout is a basic office space with four walls and a desk/computer on the north side. Upon interacting with this it is found to be broken. Along the west wall is a work bench, various tools and synth parts can be seen. The exit is on the east side, when attempting to open the player will find it locked. The player will have to use the screwdriver on the workbench to pry open the door.

Item id o Screwdriver

Clue id o Power is off

Puzzle id o requires screwdriver in inventory to open door

Doors:

East- Atrium

2 Atrium (Exit 1)

The next room will be an atrium, along the north side is a vault door that leads to an underground tunnel to the outside world. The door cannot be opened it requires a red keycard and the player must find a way to restore power to the facility in order to progress. Along the east side is a door leading to a cafeteria.

puzzle id 1:

requires power to the facility, an emergency password (clue 3) and red keycard to open exit.

Doors:

East-Cafeteria

West-First Office

North-Exit

3 Cafeteria

In the centre of the room is a lunch table. North side shows a fridge, sink, oven. The South side has a TV against the wall. The player will be able to get a clue in the form of a note left on the table, it reads ('There's a spare fuse in the lab coat in the garden, did you leave it there on purpose?') The east side has a door that leads to a lounge area.

Clue id 1 There's a spare fuse in the lab coat in the garden, did you leave it there on purpose?

item ID 5 lunch box (junk item).

item ID 6 can (junk item). Doors: **East-Lounge** West-Atrium 4 Lounge This room contains a sofa along the north side, a coffee table in the centre and a set of chairs on either side. The South side has a TV and bookshelf. The east door opens to a dormitory Doors: **East-Dorms** West-Cafeteria 5 Dorms The dorm room contains beds and draws, Along the north and east side. The south leads to garden. Doors: South-Garden West-Lounge 6 Garden The garden is open from the sky, allowing light to reach the plants. The South side is lined with a flower bed, something can be seen here, a lab coat which contains a fuse. To the west is a door leading to a gym. Puzzle id 2 First movable object puzzle. Move crate out of the way of the door. item ID 1 fuse required to power facility. item ID 4can drink (junk item). Doors:

North-Dorms

West-Gym

7 Gym

In the gym will be sets of equipment in the centre, on the north side will be a note on the floor, this will be a combination for a safe (8197) found in the lead technicians office. The south door leads to the corridor. West door leads to the locker room.

clue id 2 8197

Doors:

West-Locker Room

South-Corridor

East-Garden

8 Locker Room

Lockers lining north and south walls. One open will have a **note** in ("IMPORTANT: In case of an Emergency password is "SANE""). To the west is a door leading to M toilets.

Clue id 3 IMPORTANT: In case of an Emergency password is "SANE"

Doors:

West-M toilets

East-Gym

9 Toilets/Showers (M)

Shower stalls on north side, toilets on south. South door leads to the library. Green Keycard can be seen in the 2nd sink from the top. Used to access waste disposal.

Item: Green keycard to Waste disposal.

Doors:

South-Library

East-Locker room

10 Toilets/showers (F)

Shower stalls on west side, toilets on east side. Clue on the mirror written in lipstick.

Clue id 4: Meet me in reception hun;)

Item id 2:Yellow keycard to unlock labs

Doors:

South-Waste disposal

11 Waste disposal (Exit 2)

The room has a pile of waste bags in the centre, on the west side is a chute which leads to the outside. North door leads to F toilets.

Puzzle id 3 requires one switch to be set correctly, the facility to be powered and a movable crate to be moved to allow access to the switch. unlocks exit to the world through the waste disposal chute.

Doors:

North-F toilets

East-Library

West-Exit

12 Library

Bookshelves and desks fill the room, one book is open and a clue (regarding nature of being alive and what it means. It reads{What is life really? How different is a computer that thinks for itself vs a human that thinks for themselves? Do you think for yourself or do you just think you think for yourself?}) can be found on this page. West door leads to waste disposal.

puzzle id 6 requires power and green keycard

clue id 5: What is life really? How different is a computer that thinks for itself vs a human that thinks for themselves? Do you think for yourself or do you just think you think for yourself? (oof;D)

Doors:

North-M toilets

East-Supply room

West-waste disposal

13 Supply Room

The supply room has shelves with boxes on the north and south side. The east door leads to the corridor.

Doors:

East-Corridor

West-library

14 Corridor

The corridor has 5 doors, not including the one the player entered, two east, two west, one south. The south door will lead to the lead techs office. East door one will lead to lab 001, the second to lab 002. The first west door will lead to supply room, the second will lead to waste disposal.

Puzzle id 5: requires power and yellow keycard to unlock doors to lab.

Doors:

North-Gym

East 1-Lab 001(locked)

East 2-Lab 002(locked)

South-lead techs office

West 1-Supply room

West 2-Observation room

15 lab 001

This lab will work to produce the synthetic skin. Vats and drying racks in the centre, and assorted chemistry equipment around the north, east and south sides. Clue on one of the synth body mold machine that is broken.

Clue id 6: This has been used recently, could it be? FIBI?

Doors:

West-Corridor

16 lab 002

This is a computer lab, used to create the software that is used by the 'brain' of the synths. Computers around the north and east side and 3D printers in the centre. A Blue Keycard can be found on a desk.

Clue ID 7: What is this? fibi understands emotions, no no no, this can't be happening!

item id 3: Blue Keycard: for Reception

Doors:

West-Corridor

17 Observation

From this room the staff will watch the progress of synths in the testing room, desks and monitors will cover the north and south sides.

Doors:

East-Corridor

West-Testing

18 Testing

maze puzzle with movable objects

Doors:

East-Observation

West-Server room

19 Server room

This is where all the information is stored, in this maze of servers with a hidden red keycard in the top left hand corner of the room.

Item id 10 RED keycard to atrium exit

Doors:

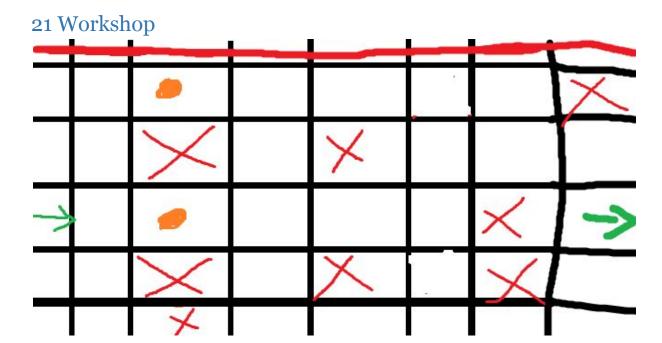
East-Testing

20 Reactor

Reactors line east wall with five switches next to them which the player must set in the correct order in order to power the facility.

Puzzle id 4: 5 switches to activate power. plus the fuse item in inventory.

Doors:East-Workshop



Puzzle 7 requires key to reactor room

Item id 8 hammer (junk)

Item id 9 pliers (junk)

Item id 10 magnifying glass (junk)

Doors:

East-Infirmary

West-Reactor

22 Infirmary

Beds and surgery equipment line the north and south walls.

Doors:

East-Lead techs office

West-Workshop

23 Lead Tech Office

This room includes a large desk on the east side with a computer, a note can be found on this reading ('Power continues to cut out, i'm starting to think its not a coincidence, i'll keep the key to the reactor in my safe until the issue is resolved')

Clue id 8: Power continues to cut out, i'm starting to think its not a coincidence, i'll keep the key to the reactor in my safe until the issue is resolved

Item id 7 key to reactor in safe player must have read clue with the code to open.

Doors:

North-Corridor

East-Security room

West-Infirmary

24 Security Room

clue: the player figures out his 'wife' was the ai impersonating her, if they continue to the through to the reception and complete the puzzle, they will be killed by teh ai upon exiting.

This room has a bunch of monitors layed out north side facing the player with a desk in front, this is one of the endings that gets activated if you enter this room with a BLUE reception keycard and use a security desk key card which can be found in the the server room. An image of your wife shows up amidst the screens and she says "Come to the reception, I'm waiting for you to uncage me.". You think to yourself "How could this be? You aren't meant to be..." as it clicks in your head it's a code SANITY, the AI understands human emotions and has a false human body. It CANNOT escape no matter what!

Door:

South-Reception

West-Lead tech office

25 Reception (Exit 3)

Puzzle id requires power to facility and blue keycard to exit the game.

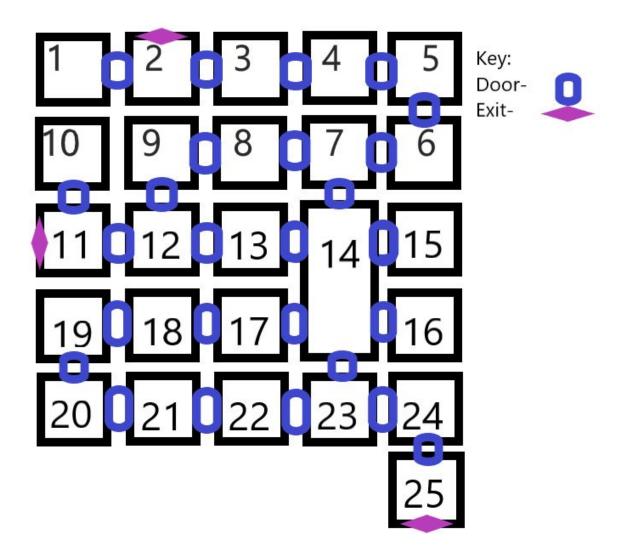
Doors:

North-Security room

South-Exit

Overall Map

Basic map, no details added to rooms.



Interface

Visual System

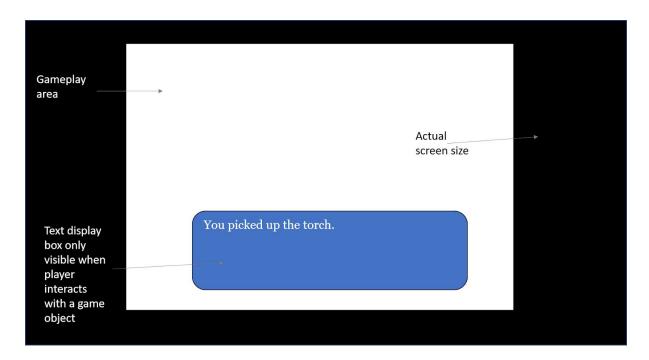
Main Menu

As shown below the main menu will feature the games name prominently along the top. There will be three options available to the player. The first will be highlighted to show it is the currently selected option and will be used to start a new game. the second and third option will be greyed out to show that they are not selected. The second option will be to continue the current save and will only be available if a save game file is available. The third option will be to exit the game, the main menu will also display a random gameplay tip to remind players of controls and what to look for in game.

• New Game Continue Exit Game Random tip: To access the inventory menu press "I" whilst in game.

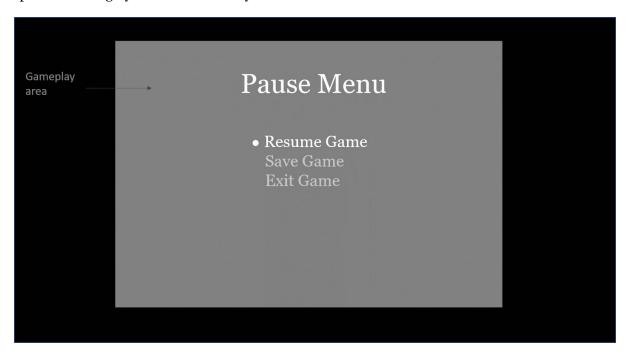
HUD/In Game

There will be no in game HUD as the player explores the map. As shown below the only interface other than for the pause, inventory and crafting menus will be a text display which will appear along the bottom of the screen to provide feedback when the player picks up an item, drops an item, crafts an item, interacts with a game object or one of the clues.



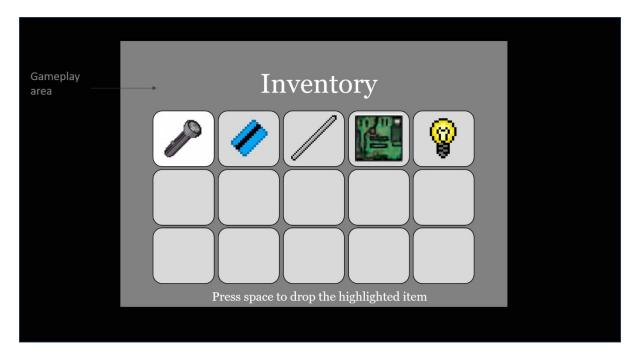
Pause Menu

When the pause menu is displayed the game screen will still be visible but will be overlaid with a transparent grey texture as shown below. The menu will contain three options with the currently selected option highlighted with a dot to the left and be coloured white. The remaining two options will be greyed out to show they are not selected.



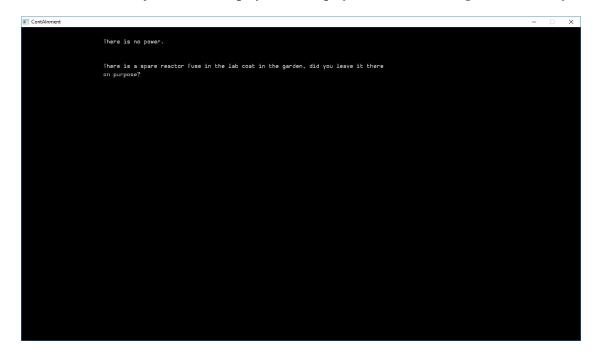
Inventory

As shown below the inventory menu will be overlaid over the main game screen with the player shown all available slots.



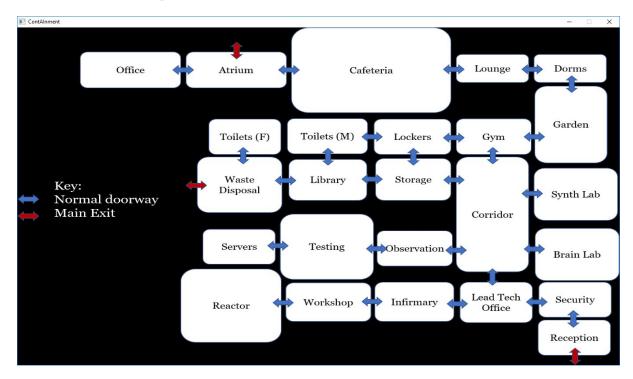
Journal

As shown below the journal will display clues the player has found throughout the facility.



Map

As shown below the map will show the layout and room names of the facility.



Control System

Main Menu

The main menu will have 3 options for the player to choose from. Option 1 will be a new game, option 2 will be continue and will only be selectable if a save is available, and option 3 which will be exit.

Main Game

In the main game the player will be able to move through the current map by using the WASD keys to move up, left, down and right. The player can interact with objects by pressing the space bar. This will bring up a text window that will communicate to the player what the outcome is of the interaction such as an item is picked up or a button is pressed. The player can bring up the Pause menu at any time by pressing the P button on the keyboard. The player can open the Inventory, Journal and Map menus by pressing I, J and M respectively.

Pause Menu

The pause menu will have three options and will be accessible in game by pressing P to pause the game. Option 1 will be to return to the game, option 2 will be to save the game and option 3 will be to exit the game.

Inventory

The inventory menu will be accessible by pressing the I key and will pause the game in the background whilst the player looks through their inventory. Items in the inventory will be

selectable with the mouse by clicking on an inventory slot or by using the WASD keys to highlight the inventory item that the player wishes to select. The player will have the option to drop the item by pressing space bar. To exit the inventory menu the player can again press I to toggle the menu off.

Journal Menu

The journal menu will have no options and will be accessible in game by pressing J to open the game. To exit the inventory menu the player can again press J, SPACE or ENTER to toggle the menu off.

Map Menu

The map menu will have no options and will be accessible in game by pressing J to open the game. To exit the inventory menu the player can again press J, SPACE or ENTER to toggle the menu off.

Audio, music, sound effects

Music and sound effects are a great way to build tension and are essential in games

Technical

Class Diagrams

Game

```
key_callback_id :integer
- main_menu:ASGE::Sprite*
- main_menu_icon:ASGE::Sprite*
- pause_menu:ASGE::Sprite*
- game_screen:ASGE::Sprite*
- inventory_screen:ASGE::Sprite*
- inventory_screen:ASGE::Sprite*
- inventory_screen:ASGE::Sprite*
- inventory_highlighter:ASGE::Sprite*
- inventory_highlighter:ASGE::Sprite*
- floor_sprites::Sprite*[]
- wall_sprites::Sprite*[]
- foreground_sprites::Sprite*[]
- clue_sprites::Sprite*[]
- switch_on_sprites::Sprite*[]
- switch_off_sprites::Sprite*[]
- movable_sprites::Sprite*[]
- exit_sprites::Sprite*[]
- item_sprites::Sprite*[]
- player_sprites::Sprite*[]
- player_sprites::Sprite*[]
- player_one:Player
- current_room:Room
- visited_rooms:Room[]
- animation_counter:double
- game_state:integer
- main_menu_option:integer
- pause_menu_option:integer
                                                                                                                                                                                                       MyGame
            main_menu_option:integer
pause_menu_option:integer
inventory_menu_option:integer
            text_to_display:std::string
power_on:bool
change_room:bool
 - power_on :booi
- change_room:bool
- exit_check:integer[]
    + init() override: bool
                  update() override: bool
render() override: bool
  + ~MyGame() override: void
- setupGame(): void
- setupRoomOne(): void
- setupRoomTwo(): void
        setupRoomTwo(): void
setupRoomTwo(): void
setupRoomFour(): void
setupRoomFour(): void
setupRoomSix(): void
setupRoomSeven(): void
setupRoomSeven(): void
setupRoomEight(): void
setupRoomTen(): void
setupRoomTwel(): void
setupRoomTwelve(): void
setupRoomTwelve(): void
setupRoomFirteen(): void
setupRoomFirteen(): void
setupRoomFirteen(): void
setupRoomSixteen(): void
setupRoomSixteen(): void
setupRoomSeventeen(): void
setupRoomSeventeen(): void
setupRoomSeventeen(): void
         setupRoomEighteen(): void
setupRoomTwenty(): void
setupRoomTwentyOne(): void
setupRoomTwentyTwo(): void
setupRoomTwentyThree(): void
setupRoomTwentyFour(): void
setupRoomTwentyFive(): void
setupFloorSprites(): void
setupForegroundSprites(): void
setupClueSprites(): void
setupClueSprites(): void
         setupClueSprites(): void
setupSwitchSprites(): void
setupHemSprites(): void
setupMovableSprites(): void
setupMovableSprites(): void
keyHandler(data: ASGE::SharedEventData): void
keyHandlerMainMenu(key: ASGE::KeyEvent*): void
keyHandlerInGame(key: ASGE::KeyEvent*): void
keyHandlerInventory(key: ASGE::KeyEvent*): void
keyHandlerPauseMenu(key: ASGE::KeyEvent*): void
keyHandlerPauseMenu(key: ASGE::KeyEvent*): void
updateSplash(dt_sec: double): void
updateInGame(dt_sec: double): void
changeRoom(): void
renderSplash(): void
renderMainMenu(): void
- renderSplash(): void

- renderMainMenu(): void

- renderInGame(): void

- renderTextDisplay(): void

- renderGause(): void

- renderGameOver(): void

- renderClues(): void

- renderMap(): void

- exitGame(): void

- loadGame(): void
```

GameObject

GameObject

- my_sprite_id: int
- location: ASGE::Point2D
- +(): GameObject
- +(my_sprite_id : int, location : Point2D) : GameObject
- + getMySpriteID(): int
- + setMySprite(new_sprite_id: int): void
- + getMyLocation(): ASGE::Point2D
- + setMyLocation(new_loc ASGE::Point2D): void
- +isBetween(value : float,min : float , max :float) :bool
- +isInside(other_x: float , other_y: float): bool
- +collisionCheck(player_location : Point2D, player_direction : int, double_distance : bool) : bool

Item

Item

- my_gameobject: GameObject
- item id: integer
- +(): Item
- +(new_gameobject : GameObject new_item_id : integer) : Item
- + getMyGameObject(): GameObject
- + setMyGameObject(new_game_object: GameObject): void
- + getItemID(): integer
- + setItemID(new_id: integer): void
- + additemToInventory(): Item

Clue

Clue

- my_gameobject: GameObject
- clue_id: integer
- +(): Clue
- +(new_gameobject : GameObject new_item_id : integer) : Clue
- + getMyGameObject(): GameObject
- + setMyGameObject(new_game_object: GameObject): void
- + getClueID(): integer
- + setClueID(new_id: integer): void
- + addClueToPlayer(clues_found: integer, index : integer): void

Room

Room - room_id: integer - my_background: GameObject* - my_foreground: GameObject* - my_walls: GameObject* - number_items: integer - my_items: Item* - number_clues: integer - my clues: Clue* - my puzzle: Puzzle - number_exits: integer - exits: Exit* - my_gridsize_x: integer - my gridsize y: integer + getMyBackground(): GameObject* + setMyBackground(new_background: GameObject*): void + getMyForeground(): GameObject* + setMyForeground(new foreground: GameObject*): void + getMyItems(): Item* + setMyItems(new_items: Item*): void + getMyClues(): Clue* + setMyClues(new clues: Clue*): void + getMyPuzzle(): Puzzle* + setMyPuzzle(new_puzzle: Puzzle*): void + getRoomID(): integer + setRoomID(new_id: integer): void + getMyExits(): Exit* + setMyExits(new_exits: Exit*): void + removeItem(item_id: integer):void + addItem(item id: integer): void + getMyGridsizeX(): integer + setMyGridsizeX(new_gridsize_x: integer): void + getMyGridsizeY(): integer + setMyGridsizeY(new_gridsize_y: integer): void + getNumberClues(): integer + setNumberClues(number_of_clues: integer): void + getNumberItems(): integer + setNumberItems(number of items; integer); void + getNumberExits(): integer + setNumberExits(number_of_exits: integer): void + moveRoom(player: Player*): void + checkCollisions(player: Player*, add_item_check: bool): bool + checkMovableCollisions(player: Player*, add_item_check: bool): bool + resetRoomPosition(distance: Point2D): void + saveRoom(); void + loadRoom(): void + setupFloorStandard(): void + setupWalls(): void + checkForInteractables(player: Player*, text_to_display: string*, power_on: bool*): bool + checkForInteractables(player: Player*, text_to_display: string*, game_state: int*, power_on : bool, exit_check: int*): bool

Puzzle

Puzzle - puzzle id: integer number_linked_exits: integer - linked_exits: integer* - my_movables: GameObject* - number_movables: integer - my_movable_targets: Point2D* - number_switches: integer - my switches: Switch* - my switch targets: bool* - item_required_id: integer - clue_required_id: integer - power_on_required: bool - puzzle solved message : std::string +(): Puzzle + setPuzzleID(new_id: integer): void + getLinkedExits(): integer* + setLinkedExits(new_exits: integer*): void + getMyMovables(): GameObject* + setMyMovables(new_movables: GameObject*): void + getMySwitches(): Switch* + setMySwitches(new switches: Switch*): void + getNumberLinkedExits(): integer + setNumberLinkedExits(new_number_linked_exits: integer):void + setRequiredItemID(new_required_item_id : integer) : void + setRequiredClueID(new_required_clue_id: integer) : void + getNumberMovables(): integer + setNumberMovables(new_number_movables: integer):void + getNumberSwitches(): integer + setNumberSwitches(new_number_switches: integer):void + getTargetMovableLocations(): Point2D* + setTargetMovableLocations(new_number_switches: Point2D*):void + setTargetSwitchStates(new_number_switches: bool*):void + setPowerRequired(power_required: bool):void + getPuzzleSolvedMessage(): std::string + setPuzzleSolvedMessage(new_puzzle_solved_message: std::string):void + checkPuzzleCompleted(player: Player*, power_on: bool*): bool

Switch

Exit

Exit - my_exit_gameobject: GameObject - exit_id: integer - connected_room_id: integer - connected_exit_id: integer - locked: bool +(): Exit +(new gameobject: GameObject, new exit id: integer, new connected room id: integer, new connected exit id: integer): Exit + getMyGameObject(): GameObject + setMyGameObject(new_game_object: GameObject): void + getExitID(): integer + getLocked(): bool + setLocked(new_locked: bool): void + getConnectedRoomID(): integer + getConnectedExitID(): integer

Player

Player - player_gameobject: GameObject - inventory: integer[15] - clues_found: integer* - number_clues_found: integer direction: integer moving: bool - sprite_index: integer +(): Player + getPlayerGameObject(): GameObject + setPlayerGameObject(new_game_object: GameObject): void + getInventory(index: integer): Item + addToInventory(item_id: integer, index: integer): void + getCluesFound(): integer* + setCluesFound(new_clues_found: integer*): void + getDirection(): integer + setDirection(new_direction: integer): void + isMoving(): bool + setMoving(new moving: bool): void + getSpriteIndex(): integer + getNumberCluesFound(): integer + addToClues(new_clue: integer, index: integer): void + savePlayerData(): void + loadPlayerData(): void + setupPlayer(): void + movePlayer(animation_counter: double): void + getClueFound(index: integer): integer + hasItem(item_id: integer): bool

Essential Data

Rooms

Id	Name	No. Ite ms	Item Ids	No Clu es	Clue Ids	Puzzl e ID	Numb er of Exits	Connected Room Ids
О	Office	1	0	1	0	0	1	1
1	Atrium					1	3	0,2,25
2	Cafeteria	2	5, 6	1	1		2	1,3
3	Lounge						2	2,4
4	Dorms						2	3,5
5	Garden	2	1, 4			2	2	4,6
6	Gym			1	2		3	5,7,13
7	Lockers			1	3		2	6,8
8	Toilets M	1	11				2	7,11
9	Toilets F	1	2	1	4		1	10
10	Waste Disposal					3	3	9,11,25
11	Library			1	5	6	3	10,8,12
12	Supply Room					-1	2	11,13
13	Corridor					5	6	6,12,14,15, 16,22
14	Synth Lab			1	6		1	13
15	Brain Lab	1	3	1	7		1	13
16	Observation						2	13,17
17	Testing					-1	2	16,18
18	Server Room	1	10				1	17
19	Reactor					4	1	20
20	Workshop	3	8,9,12			7	2	19,21
21	Infirmary						2	20,22
22	Lead Tech	1	7	1	8		3	21,13,23

	Office						
23	Security		1	9		2	22,24
24	Reception				8	2	24,25

Items

Item name	Item Id	Room Id
Screwdriver	0	0
Fuse	1	5
Yellow Keycard	2	9
Blue Keycard	3	15
Can	4	5
Lunch box	5	2
Can	6	2
Key	7	22
Hammer	8	20
Pliers	9	20
Red Keycard	10	18
Green Keycard	11	8
Magnifying glass	12	20

Target Hardware Min specs

Recommended specs Dev Hardware Min Specs

Software

JetBrains C-Lion 2018.1, C-Make, MinGW, Windows 10.

Game Engine

We will be using the ASGE as our game engine for this project.

Network Requirements

None

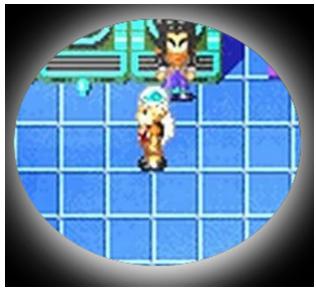
Localisation

The game will not be localised in any other language. The game will work on OSX, Windows and Linux operating Systems.

Game Art

Inspiration





Assets

