Galactic Maze User Manual

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Contents

1 Introduction

My application is a console-based text adventure game that requires the user to navigate through various scenarios using textual commands. The game is designed to stimulate the user's imagination and creativity, as the graphic design is limited to console text output. The game follows the journey of a space traveler with an important mission to reach a specific destination. However, during the journey, the protagonist encounters a malfunctioning spacecraft and is forced to enter it. The ship is rife with danger and darkness, and the player's only hope is to find a way to escape.

To escape the spaceship, the player must solve three simple puzzles, find an escape route, and avoid any enemies that may be lurking in the shadows. The game boasts a complete randomization system that ensures each playthrough is unique, thus enhancing the player's overall experience. While there are similar games, none offers the exact same gameplay experience as this one. For instance, the game "Spiders and Web" (LINK) may share some similarities with my application, but they are not the same.

In summary, my application is a thrilling console game that offers an exciting and unique gaming experience. It challenges the player's imagination and creativity while providing a complete randomization system that keeps each playthrough fresh and exciting. The game's three puzzles and the need to avoid enemies add an extra layer of challenge to the gameplay, making it a must-play for all adventure game enthusiasts.

2 Guide

2.1 System Requirements and Dependencies

To run `assignment7.py` without encountering errors, there are a few system requirements and dependencies that need to be taken into account. Firstly, it is crucial to have Python 3.9.13 or a compatible version installed on your system. This version of Python is required to ensure that all the features and functions used in the code are supported.

Additionally, the `colorama` extension is a dependency that must be installed properly for the program to function correctly. This package is used to create colored text and other output in the command line interface, making the program more visually appealing and easier to read. If this package is not installed or is installed incorrectly, the program may not execute as intended.

Finally, The program's complexity demands the utilization of four separate classes. Each class is integral to the program's functionality, and it is imperative that all classes are present for the program to operate correctly. There-

fore, merging the classes into one Py file would not be feasible. When calling `assignment7.py`, it is important to ensure that the program is called from the assignment7 class. This helps to ensure that all the necessary functions and variables are initialized and ready for use.

2.2 Python Version and Packages Used in the Assignment

For this assignment, I used Python version 3.9.13, as specified in the system requirements above. This version was chosen because it is the most up-to-date version of Python available at the time of writing and includes many useful features and optimizations that are not available in earlier versions.

In addition to the built-in Python libraries, I also used two external packages in my code: `random` and `colorama`. The `random` package is used to generate random numbers and perform other random operations in the code. The `colorama` package, as discussed earlier, is used to create colored text and other output in the command line interface. As mentioned earlier, the program also uses four separate classes Game.py, GameObjects.py Player.py and assignment7.py, and it is possible to run program in console shell by comand `python assignment7.py`

Both of these packages were chosen for their reliability, ease of use, and compatibility with Python 3.9.13. They were installed using the `pip` package manager, which is the recommended method for installing Python packages.

2.3 How to play

My game is designed to be user-friendly, so you don't need any specialized knowledge to play and enjoy it. I've reduced the difficulty level to ensure a satisfying experience for all players. Upon correct execution of the application, you'll be introduced to the game's world and storyline through a short text that outlines the basic plot. The console will provide you with all possible interactions, so you won't get lost in your choices. In case you're still unsure about how to play, the following sections of this guide will walk you through the rules of the game.

At the start of each round, the console displays an updated map with your current position, including the coordinates and nearby objects, which is referred to as the NAVIGATOR. You will also see your remaining life points, which start at 100 and decrease as you progress through the game. If your life points drop to 0, you lose the game. Below the life points, you can see your inventory, which lists the items you have found so far. If your inventory is empty, it will display "(empty)". Lastly, there will be a sentence describing what you need to do and what options you have.

2.4 Game Objectives

When you start playing the game, you'll get a brief introduction to the game world. Your main objective is to find three terminals and the exit at the airlock center. But watch out! There are enemies like aliens and the mutant roaming around, so you need to be careful.

The game is set on a map that is six squares wide and six squares long. The locations of the terminals, items, enemies, and the mutant are all randomized, so each time you play the game it will be different.

To help you find your way around, you'll be given an NAVIGATOR at the start of the game. This tool will show you where you are on the map and what objects are nearby.

2.5 Movement

Once you've read the game introduction, you're ready to start exploring! To move around, you can use one of four commands: "north," "south," "east," or "west." You'll be able to see your position on the map thanks to the NAVIGATOR, which displays your location every round. This is a helpful feature that makes it easy to visualize where you are.

If you accidentally enter the wrong direction or an impossible move, don't worry! You can simply enter the command again to try a different direction.

2.6 Terminals, puzzles and exit

As I mentioned earlier, your goal is to find three terminals and the exit to win the game. The terminals are randomly placed on the map, so you'll have to search for them as you explore. Once you've found a terminal, you'll need to solve a simple math equation that will appear on the console. The equation will also be randomly generated, so it will be different every time you play.

For example, you might see a question like "2 + 2," and the correct answer would be "4." After you enter the correct answer, you'll be told how many more terminals you need to find before you can open the exit. If you enter the wrong answer, you'll have to try again by going back to that terminal and entering the correct answer.

Once you've correctly solved all three puzzles, the exit will open, and you'll automatically win the game when you enter it. The exit is always located in a 5x5 square, and you'll receive a warning if you try to enter it before you've solved all the puzzles.

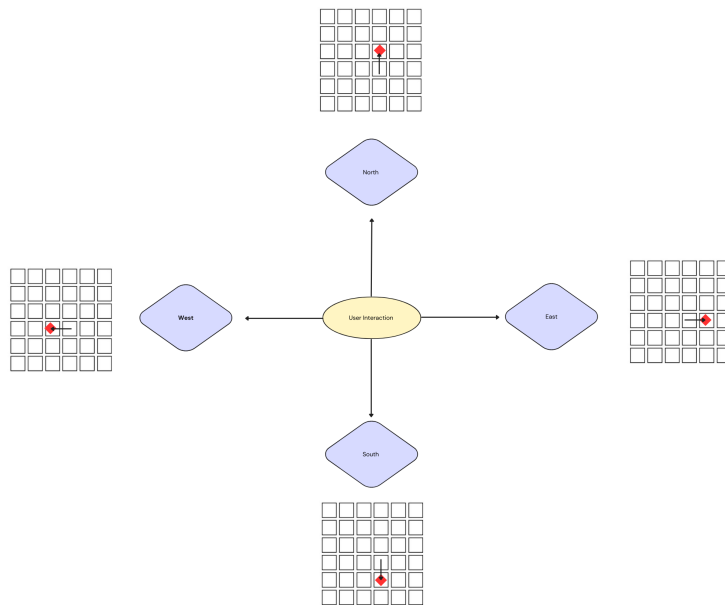Keep in mind that the puzzles are an essential part of the game, so you'll need

Figure 1: Flow chart of possible movement actions

to solve all three of them to complete your mission and win the game. Don't worry, though - the puzzles are designed to be fun and not too difficult, so you'll be able to solve them with a little bit of brainpower!

2.7   Items and Enemies

You'll also have the chance to find items on the ship that can help you on your mission. There is only one type of item and it is a xenocide bomb, and it's the only interactive item you'll be able to use. When you enter a field with a xenocide bomb, it will automatically be added to your inventory without the need for any additional commands. Your inventory will be displayed every round, so you'll be able to see what items you currently have.

Be careful, though - there are also enemies on the ship that you'll need to watch out for. There are three aliens and one mutant that you might encounter on your journey. When you enter a field with an alien, the combat procedure will begin automatically, and you'll be asked if you want to fight. You can respond with "y" to fight or "n" to try to escape. If you choose to fight and you have a xenocide bomb in your inventory, you'll win the fight and eliminate the alien from that field. However, if you don't have a xenocide bomb, you'll lose
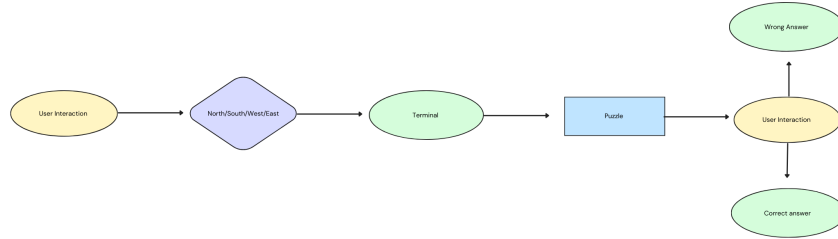
Figure 2: Flow chart of puzzle system

100 life points, which means you'll automatically lose the game. If you choose to escape, you'll lose 50 life points, and the alien will stay in that field.

Encountering a mutant is even more dangerous than encountering an alien. If you come across a mutant, the game will also ask you if you want to fight, but no matter what option you choose, you'll lose 100 health points and die immediately - even if you have a xenocide bomb in your inventory. That's why encountering a mutant should be avoided at all costs!

Remember, the place of items and enemies are all randomized, so you'll never know what you might find or who you might encounter on your journey through the ship. Keep your wits about you and use your resources and NAVIGATOR wisely to successfully complete your mission and win the game!
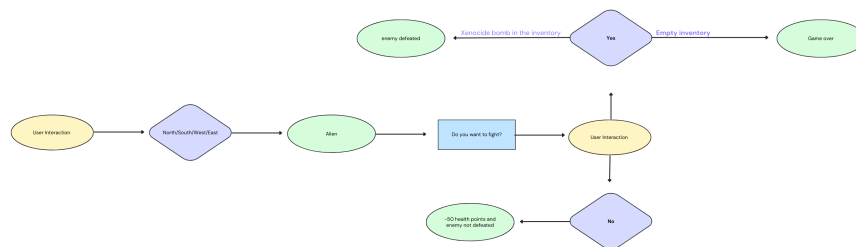

Figure 3: Flow chart of fight system

2.8 NAVIGATOR your only eyes among the dark

The NAVIGATOR is an essential tool for navigating the game's world. The ship is vast and filled with darkness, so it's impossible to see for yourself what awaits you in the next room. But with the NAVIGATOR, you can get a better sense of your surroundings. It shows you a 6x6 map with your current position marked, as well as any nearby objects that it detects. This can include terminals, items, and enemies.

The NAVIGATOR is updated every round, so you can use it to plan your next moves strategically. By examining the nearby objects on the NAVIGATOR, you can deduce which square an object is located on, even if the exact position is not immediately apparent. This is a crucial aspect of the game, as finding the terminals and items necessary for survival is key to winning.

In addition to detecting nearby objects, the NAVIGATOR also shows your current coordinates on the map. This helps you keep track of where you are and where you need to go. Without the NAVIGATOR, navigating the ship would be nearly impossible, and you would be lost in the darkness.

Overall, the NAVIGATOR is an invaluable tool for navigating the game's world, and you will need to use it wisely if you hope to succeed. Pay close attention to the objects it detects, and use deductive reasoning to determine their exact location. With careful planning and strategic thinking, you just might make it out of the ship alive.

3 Example

In this section, I will provide an illustrative example of a completed game of the previously mentioned game. Each subsection of the example will showcase various facets of the game, including the different mechanics and interactions that the player can experience throughout their gameplay journey. The purpose of this example is to provide a clear and detailed understanding of how the game functions and operates, allowing players to gain a deeper insight into the game's mechanics and potential strategies. With this comprehensive and informative example, players can gain a better understanding of what to expect from the game and how to approach it to achieve success.

3.1 Start of the game

At the inception of the game, players are welcomed with an engaging storyline that sets the scene and defines the objective of the game. This introductory narrative is designed to immerse players into the gameplay and create an understanding of the game's context and purpose. It serves as a crucial element in establishing a connection between the player and the game, setting the tone for the entire gaming experience.

Figure 4: Screenshot of welcome massage

After reading the introduction, the player is immediately introduced to the game's mechanics and objectives through the two hardcoded actions of finding notes from a worker that did't escape. These notes provide important information on the rules of the game, including how to escape, what the xenocide bombs do, and what the opponents are like. This helps to ensure that the player has a clear understanding of what they need to do to succeed in the game and what obstacles they may face along the way. By providing this information upfront, the player can begin their journey with a solid foundation of knowledge and a better chance of success.

Figure 5: Screenshot of HUD of first round

Figure 6: Screenshot of the note

Figure 7: Screenshot of the note in metal tank

3.2   Locating terminals

Now we've got the full capabilities and nothing is hardcoded anymore. I use the north/south/west/east commands to navigate and find terminals

```
======== N A V I G A T O R ========
    0  1  2  3  4  5
  5 -  -  -  -  -  -
  4 -  -  -  -  -  -
  3 -  -  -  -  -  -
  2 -  -  -  -  -  -
  1 -  X  -  -  -  -
  0 -  -  -  -  -  -
=====================================
=====================================
You are at location (1, 1).
You see:
A Terminal nearby.
A Terminal nearby.
Health:100
Inventory:
  (empty)
Enter your move (north/south/east/west):
```

Figure 8: Screenshot of round interface

The navigator indicated that there are two terminals located just one square away from my current position, and there are no opponents nearby. This seems like a very promising game, so I'm going to make my way towards those terminals now.

```
========= N A V I G A T O R ========
   0  1  2  3  4  5
 5 -  -  -  -  -  -
 4 -  -  -  -  -  -
 3 -  -  -  -  -  -
 2 -  x  -  -  -  -
 1 -  -  -  -  -  -
 0 -  -  -  -  -  -
You have found a 8 - 8 = ?!
Enter the answer to the puzzle:
```

Figure 9: Screenshot of puzzle solving

As soon as I entered the field with the terminal, the puzzle began automatically. It presented me with a random equation, which was quite easy to solve, and the answer was clearly 0. Now I only need to locate two more terminals!

```
Enter your move (north/south/east/west): north
======== N A V I G A T O R ========
   0  1  2  3  4  5
 5 -  -  -  -  -  -

 4 -  -  -  -  -  -

 3 -  x  -  -  -  -

 2 -  -  -  -  -  -

 1 -  -  -  -  -  -

 0 -  -  -  -  -  -

===================================

===================================
You are at location (1, 3).
You see:
A Xenocide Bomb nearby.
A Xenocide Bomb nearby.
An Mutant nearby.
Health:100
Inventory:
   (empty)
Enter your move (north/south/east/west):
```

Figure 10: Screenshot of HUD 2

As I advanced further, the navigator alerted me to the presence of a mutant
as well as two xenocide bombs just one square away from my current location.
Given the danger involved, I can't take any risks, so I have decided to let go
and retreat. Encountering a mutant would mean an instant game over.

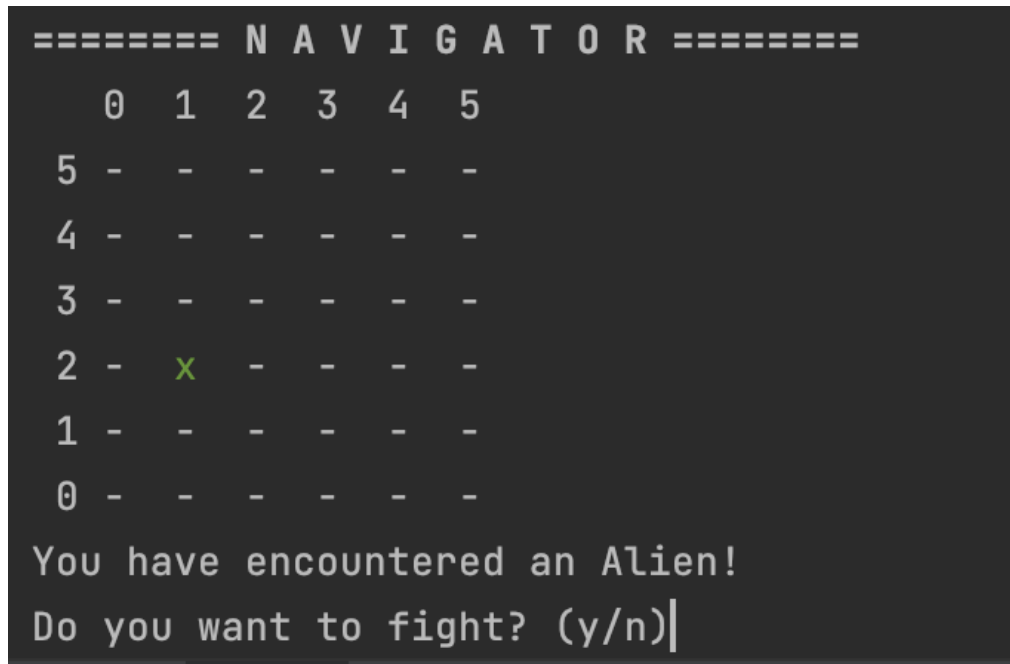Figure 11: Screenshot of fighting system

3.3   Fighting system

Due to my lack of attention, I failed to notice that the navigator had detected an alien in close proximity. As a result, I ended up meeting the alien unexpectedly. To make matters worse, my inventory was empty, leaving me with no weapons to fight back. I had no other choice but to attempt to escape, which resulted in me losing 50 health points.

```
======== N A V I G A T O R ========
    0  1  2  3  4  5
  5 -  -  -  -  -  -
  4 -  -  -  x  -  -
  3 -  -  -  -  -  -
  2 -  -  -  -  -  -
  1 -  -  -  -  -  -
  0 -  -  -  -  -  -
===================================
===================================
You are at location (3, 4).
You see:
A Xenocide Bomb nearby.
Health:50
Inventory:
  (empty)
Enter your move (north/south/east/west):
```

Figure 12: Screenshot of HUD 3

As I ventured further into the darkness, the navigator picked up the presence of xenocide bomb in the vicinity, but nothing else. This presented an opportunity, and I decided to take the chance and proceed towards it.

```
======== N A V I G A T O R ========
   0  1  2  3  4  5
 5 -  -  -  X  -  -
 4 -  -  -  -  -  -
 3 -  -  -  -  -  -
 2 -  -  -  -  -  -
 1 -  -  -  -  -  -
 0 -  -  -  -  -  -
You have found a Xenocide Bomb!
=====================================
=====================================
You are at location (3, 5).
You see:
An Alien nearby.
Health:50
Inventory:
- Xenocide Bomb
Enter your move (north/south/east/west):
```

Figure 13: Screenshot of inventory system

Luckily, the bomb was located to the north, and it was automatically added to my inventory. Meanwhile, the navigator detected another alien in the area. With my newly acquired weapon, I feel much more confident and have nothing to fear.

```
======== N A V I G A T O R ========
    0  1  2  3  4  5
 5  -  -  -  -  x  -
 4  -  -  -  -  -  -
 3  -  -  -  -  -  -
 2  -  -  -  -  -  -
 1  -  -  -  -  -  -
 0  -  -  -  -  -  -
You have encountered an Alien!
Do you want to fight? (y/n)y
- Xenocide Bomb
---------------------------
Enemy defeated!
====================================

====================================
```
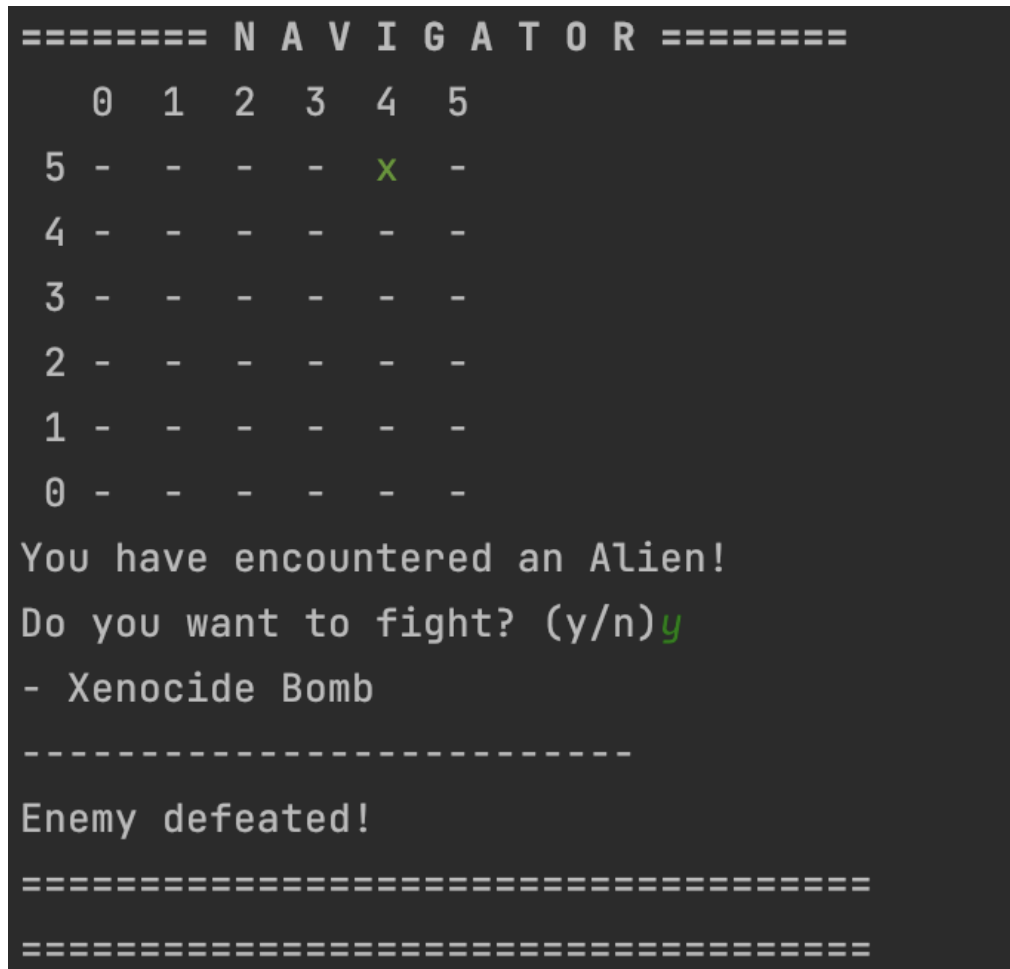
Figure 14: Screenshot of using item

I finally encountered the enemy! With the bomb in my possession, I no longer need to run away. I plan to use the bomb to defeat the enemy and eliminate it from the field.

3.4   Exit

```
======== N A V I G A T O R ========
   0  1  2  3  4  5
 5 -  -  -  -  -  X
 4 -  -  -  -  -  -
 3 -  -  -  -  -  -
 2 -  -  -  -  -  -
 1 -  -  -  -  -  -
 0 -  -  -  -  -  -
You found an exit
You need to hack all 3 computers to open the airlock
====================================
====================================
You are at location (5, 5).
You see:
Health:50
Inventory:
  (empty)
Enter your move (north/south/east/west):
```

Figure 15: Screenshot of exit interaction

To the east of the alien, I stumbled upon an airlock center which serves as the exit. Although I was unable to locate all the terminals and solve the three puzzles, I am determined to keep searching and win the game.

3.5   Summary

I apologize for not providing a full and conclusive ending to the game. The reason for this is that searching for all possible outcomes can be quite time-consuming, and presenting an example scenario could easily run for several dozen pages. Nonetheless, I believe the example I provided sufficiently illustrates the game's mechanics and what it has to offer.

If you encounter any difficulties in understanding certain game elements or mechanics, please don't hesitate to contact me directly. I would be more than happy to provide a simple explanation.

Although the game may appear complex at first glance, I've conducted tests with my peers and they can attest to its addictive, intelligent, and highly creative nature.