COS20007 Object Oriented Programming

Swin-Adventure case study: Requirements

Vision

Swin-Adventure will provide hours of interactive fun for Swinburne students who want to be entertained during lectures on their notebooks. Swin-Adventure is a console based adventure game that allows people to explore a fantasy world instead of listening to lectures.

The maze game

Swin-Adventure is a fantasy adventure game that consists of a number of interconnected locations. The player exists within one of the locations within the world, and moves between these locations using paths. The goal of the game is for the player to reach a specified location within the world. There may also be other locations in the world where the game ends unsuccessfully for the player.

The locations within the world each have a title, a textual description, and a number of paths. Each path in a location heads in a certain direction, has a textual description, and is linked to a destination location. Swin-Adventure supports ten directions eight representing points on a compass as well as up and down.
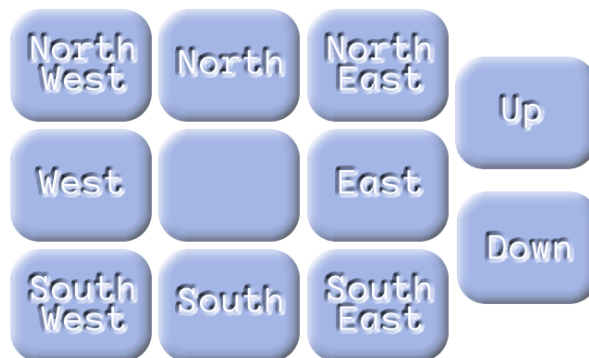
Each location can also contain a number of items that the player can interact with. The player will be able to collect these items, and use them to proceed in the adventure. Different items will have different purposes in the game. The player will use the items they have collected to perform certain tasks. The different items will be able to perform different actions.

The player starts at a specified location in the world, and is provided with a command prompt. The user then enters commands instructing their player to perform certain actions. Commands include look, go, pickup, use, and many others.

User Interaction

A typical game look like this (two column display):

```
Welcome to Swin Adventure!
You have arrived in the Hallway
Command -> look

You are in the Hallway
This is a long well lit hallway.
There are exits to the south.
In this room you can see:
    a shovel (shovel)
    a bronze sword (sword)
Command -> pickup shovel

You have taken the shovel from the
Hallway
Command -> Look at sword

A short sword cast from bronze
Command -> Take sword

You have taken the bronze sword from
the Hallway
Command -> Move South

You head South
You go through a door.
You have arrived in a small Closet
Command -> Look

You are in a small Closet
A small dark closet, with an odd
smell
There are exits to the north, and
east.

In this room you can see:
    a small computer (pc)
Command -> examine pc

The light from the monitor of this
computer illuminates the room
Command -> pickup computer

You have taken the small computer
from a small Closet
Command -> inventory
You are Fred the mighty programmer.
You are carrying
    a shovel (shovel)
    a bronze sword (sword)
    a small computer (pc)
Command -> go e

You head East
You travel through a small door, and
then crawl a few meters before ar-
riving from the north
You have arrived in a small Garden
Command -> Look

You are in a small Garden
There are many small shrubs and
flowers growing from well tended
garden beds.
There are exits to the north, and
south.
In this room you can see:
    a leather bag (bag)
Command -> look at bag

A small brown leather bag.
You look in the leather bag and see:
    a red gem (gem)
Command -> look at gem in bag

A bright red ruby the size of your
fist!
Command -> Wow…

I don't understand Wow…
Command -> take gem from bag

You have taken the red gem from the
leather bag
Command -> put sword in bag

You have put the bronze sword in the
leather bag
Command -> take bag

You have taken the leather bag from
a small Garden
Command -> look in bag

A small brown leather bag.
You look in the bag and see:
    a bronze sword (sword)
Command -> quit

Bye.
```

Keywords

It is important that the game be flexible enough to enable the addition of new commands. For the initial release Swin-Adventure must understand the commands/keywords from the following table.

Keyword	Details	Examples

move, go	Moves the player in a specified direction.	`move south`
		`move s`
		`go nw`
		`go up`

look, look at, look at in	Allows the player to look at something. Look in can be used to look into an object which is a container.	`look`
		`look at paper`
		`look at [thing] in [container]`

pickup, take	Allows the player to pick something up from the room, or other containers. The thing must be able to be taken, for example a hole cannot be picked up, but a pen can.	`pickup paper`
		`pickup paper from room`
		`pickup [thing]`
		`pickup [thing] from [container]`
		`take paper`
		`take paper from bag`

put, drop	Allows the player to put something into a container. The destination must be a kind of container, put paper in shovel is not valid, as a shovel is not a container. If no destination is specified use the current location.	`put paper`
		`put paper in room`
		`drop paper`
		`drop paper in bag`
		`drop [thing]`
		`drop [thing] in [container]`

inventory, inv	Lists the items that the player is carrying.	`inventory` `inv`
quit	Quits the game	`quit`

Things

Like commands, it is important that Swin-Adventure be flexible with things. The term Thing refers to anything in the game that the player can interact with. Swin-Adventure has the following things, and it is expected that new things will be added in the future. Details describes the thing, identifiers lists the words that identify these things, functionality describes the operations that work on this thing, look describes what is displayed when the player looks at the thing.

Room / Location	
Details	Locations that can contain players, and are connected to other rooms.
Identifiers	room, here
Functionality	Can contain items.
Look	Returns the details of the room and the names of the items contained directly within the room.

Bag	
Details	This is used for bags that can be taken by the player, and used to store items
Identifiers	Different for each bag
Functionality	Can be taken by the player, and can contain other items
Look	Returns the details of the bag and the names of the items contained directly within it.

General Thing	
Details	This is used to represent anything that is not in the other categories.
Identifiers	Different for each
Functionality	Can be taken by the player.
Look	Returns the description of the thing.