# IT 140 Design Document Template

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10/06/2024

## Storyboard (Description and Map)

The monster Bowser has kidnapped Princess Peach and has taken her hostage in his castle. Your character Mario is trying to save her, but is too little and too weak to face Bowser. To become stronger and defeat Bowser, Mario needs to collect items spread throughout the castle to become powerful enough to beat him. He will need the catsuit from the Gallery to help Mario have cat-like powers and be able to jump and move faster, the fire flower from the solar to help Mario throw fireballs, the megastar from the library to help Mario get immunity, Mario's horse Yoshi from the great chamber to help Mario fight Bowser, the super hammer from the master bedroom to use as a weapon and finally the mushroom from the kitchen to help Mario grow bigger and stronger. If collected, the items will help Mario defeat Bowser once and for all.

West

East

Gallery

Catsuit

 Solar

Fire Flower

 Dining Room

Bowser with Princess Peach

 Kitchen

Mushroom

 Master Bedroom

Super Hammer

 Library

Megastar

 Great Chamber

Joshi

 Great Hall

North

North

North

South

South

South

East

East

East

West

West

West

## Pseudocode or Flowchart for Code to “Move Between Rooms”

1. Initialize the room connections:

rooms = {

"Great Hall": {"north": "Gallery", "south": "Great Chamber", "east": "Kitchen", "west": "Library"},

"Library": {"east": "Great Hall"},

"Master Bedroom": {"west": "Great Chamber"},

"Gallery": {"south": "Great Hall", "east": "Solar"},

"Great Chamber": {"north": "Great Hall", "east": "Master Bedroom"},

"Dining Room": {"south": "Kitchen"},

"Kitchen": {"north": "Dining Room", "west": "Great Hall"},

"Solar": {"west": "Gallery"}

}

2. Set player's starting room:

current\_room = "Great Hall"

3. Start main game loop:

WHILE True:

3.1 Display the current room:

Print "You are in current\_room"

3.2 Get player input:

Ask player to input a movement command (e.g., "go north")

Split the input into:

- command = first word (e.g., "go")

- direction = second word (e.g., "north")

3.3 Process the movement command:

IF command == "go":

IF direction is valid in rooms[current\_room]:

Move the player to rooms[current\_room][direction]:

current\_room = rooms[current\_room][direction]

Print "You are now in current\_room"

ELSE:

Print "You can't go that way!"

ELSE:

Print "Invalid command. Try again."

3.4 Continue the loop until the game ends.

## Pseudocode or Flowchart for Code to “Get an Item”

1. Initialize items in rooms:

items = {

"Great Hall": None,

"Library": "megastar",

"Master Bedroom": "super hammer",

"Gallery": "catsuit",

"Great Chamber": "joshi",

"Dining Room": None,

"Kitchen": "mushroom",

"Solar": "fire flower"

}

2. Set player's inventory:

inventory = []

3. Start the main game loop:

WHILE True:

3.1 Display the current room:

Print "You are in current\_room"

3.2 Display any item in the room:

IF items[current\_room] is not None:

Print "You see an item [current\_room] here."

3.3 Get player input:

Ask player to input a command (e.g., "get item\_name")

Split the input into:

- command = first word (e.g., "get")

- item\_name = remaining words (e.g., "mega star")

3.4 Process the item collection command:

IF command == "get":

IF items[current\_room] match item\_name:

Add item\_name to inventory

Remove the item from the room (set items[current\_room] = None)

Print "item\_name added to your inventory."

ELSE:

Print "There is no item\_name in this room, or you've already collected it."

ELSE:

Print "Invalid command. Try again."

3.5 Continue the loop until the game ends.