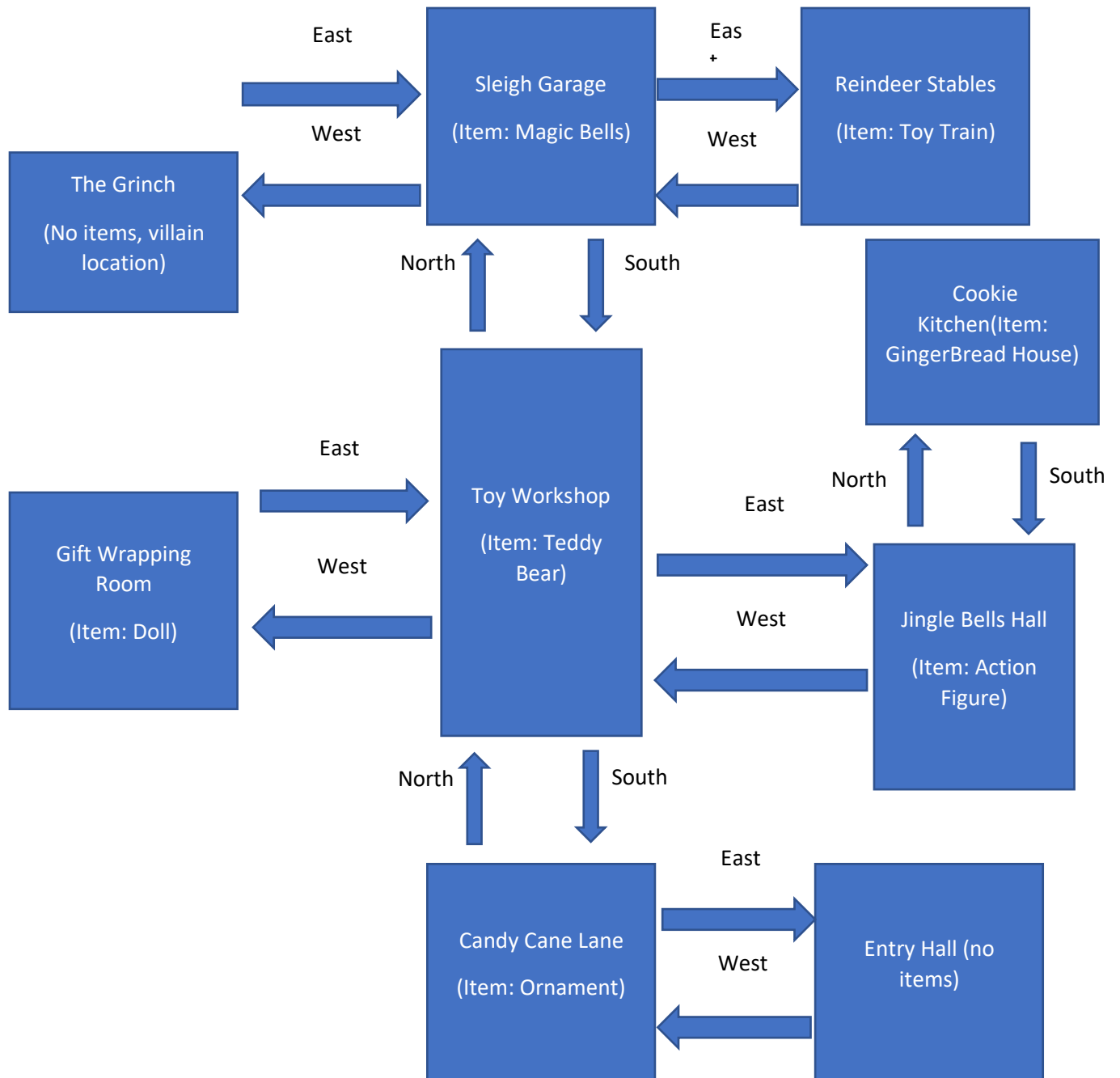IT 140 - Module 5 Project

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Storyboard (Description and Map):

The theme of my game is a Christmas adventure in Santa's workshop. The player will take on the role of an elf who has been given the task of preparing Santa's workshop for Christmas Eve. However, the Grinch has hidden essential presents across different rooms in the workshop. The player must navigate through the workshop, locate the missing presents, and avoid encountering the Grinch, who is trying to thwart Christmas by stealing all the presents. The rooms in Santa's workshop include; Entry Hall, Candy Cane Lane, Toy Workshop, Gift Wrapping Room, Jingle Bells Hall, Cookie Kitchen, Sleigh Garage, Reindeer Stables, and the Grinches Hideout. The items the player must collect to complete the game are an Ornament, Teddy Bear, Doll, Action Figure, Gingerbread House, Magic Bells, and a Toy train.

Map:

Sleigh Garage (Item: Magic Bells)

East →
← West

The Grinch (No items, villain location)

East →
← West

Reindeer Stables (Item: Toy Train)

North ↑ South ↓

Cookie Kitchen (Item: GingerBread House)

North ↑ South ↓

Gift Wrapping Room (Item: Doll)

East →
← West

Toy Workshop (Item: Teddy Bear)

East →
← West

Jingle Bells Hall (Item: Action Figure)

North ↑ South ↓

Candy Cane Lane (Item: Ornament)

East →
← West

Entry Hall (no items)

Pseudocode for Moving Between Rooms:

FUNCTION movePlayer(direction):

    VALID_DIRECTIONS = ["North" , "South" , "East" , "West"]

    IF direction is in VALID_DIRECTIONS:

        Update current room to new room:

        Output: "You have moved to the [new room]."

    ELSE:

        Output: "Invalid direction. Choose North, South, East, or West."

FUNCTION mainGameLoop():

    CurrentRoom = "Entry Hall"

    WHILE player has not encountered villain AND player has not collected all items:

        Display currentRoom description and available items

        Prompt for player in input: "Enter your command: move or get"

        IF command is "move":

            Prompt for direction input

            Call movePlayer function with the direction input

        ELSE IF command is "get":

            Handle getting an item from the room

            IF player collects all items:

                Output: "Congratulations! You found all presents and saved Christmas!"

                Exit game loop

Pseudocode for Getting Items from Rooms:

FUNCTION getItem(itemName):

    IF itemName is in currentRoom:

        Add itemName to player's inventory

        Remove itemName from currentRoom's items list

        Output: "You found the [itemName]."

    ELSE:

        Output: "There is no [itemName] in this room."

FUNCTION mainGameLoop():

    CurrentRoom = "Entry Hall"

    WHILE player has not encountered villain AND player has not collected all items:

        Display currentRoom description and available items

        Prompt for player input: "Enter your command: move or get"

        IF command is "move":

            Prompt for direction input

            Call movePlayer function with the direction input

        ELSE IF command is "get":

            Prompt for item name input

            Call getItem function with the item name input