# IT 140 Design Document Template

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## Storyboard (Description and Map)

A family left the house for their daily routines of work and school but the last one out the door forgot to latch the gate to the yard and know the dog can get out. The dog knows the neighborhood well and has made friends with the neighbors and shopkeeper over the few years on it’s walks so it decided to go on an adventure today. Help the dog find toys to play with and get some yummy treats before the dog catcher spots it running around.

**Rooms:** Front yard, home, neighbor’s house, beach, pet store, dog park, veterinary office, dog groomer, and deli.

**Items:** Ball, plush toy, Dog food, treats, bandana, water, and a bone.

**Villain:** Dog Catcher

East

West

East

South

North

North

South

West

**Deli**

Item: Bone

**Neighbor’s house**

Item: Water

**Beach**

Villain: Dog Catcher

**Home**

Item: Dog Food

East

West

**Pet store**

Item: Plush toy

**Veterinary office**

Item: Dog treat

South

North

**Dog Groomer**

Item: bandana

**Front yard**

(Starting

Location)

West

East

**Dog Park**

Item: Ball

South

North

## Pseudocode to “Move Between Rooms”

* DEFINE directions north, south, east, and west
* DEFINE (dog’s) name
* CREATE Location dictionary
  + ASSIGN directions that the user can go from each location to connecting rooms
* GET user input ‘Go’ + direction.
* IF user input is ‘Go’ + ‘direction’:
  + IF direction is associated with the current location of name
    - REMOVE name from current location
    - ADD name to location associated with input direction
* ELSE:
  + OUTPUT ‘I can’t do that.’

## Pseudocode to “Get an Item”

* CREATE item dictionary
* CREATE empty inventory list
* IF Inventory list length is not seven:
  + IF user input is ‘Get’ + ‘item’:
    - IF item is not in inventory:
      * ADD item to inventory
    - ELSE:
      * OUTPUT ‘You already have that item.’
  + Else:
    - OUTPUT ‘I can’t do that.’ (unless user inputs a direction to move)
* ELSE:
  + OUTPUT ‘Congratulations!’
  + OUTPUT ‘You have found all of the items without getting caught by the dog catcher.’
  + OUTPUT ‘That was quite the adventure.’
* OUTPUT ‘Game over.’

**Full Game Pseudocode:**

* DEFINE Instructions
* DEFINE Directions
* DEFINE (dog’s) name
* DEFINE Locations
  + CREATE ‘Go’ dictionaries
    - ASSIGN directions to each Location
    - ASSIGN Item to each Location
      * ASSIGN name to ‘Front Yard’
* DEFINE items
  + CREATE ‘Get’ dictionary
  + CREATE empty inventory List
* OUTPUT ‘storyline’
* OUTPUT Instructions
* INPUT dog’s name
* OUTPUT name, ‘is in the front yard.’
* IF inventory List is not a length of 7:
  + WHILE Inventory list length is not 7:
* WHILE name in location ‘Front Yard’:
  + OUTPUT name, ‘is in the front yard.’
  + OUTPUT Inventory list
  + INPUT ‘Go Direction’
  + IF input is not in Directions associated with Front Yard:
    - OUTPUT ‘Sorry, you can’t go that way.’
  + IF input is ‘Go west’:
    - REMOVE name from {Front Yard}
    - ADD name to {Home}
    - WHILE name in location Home’:
      * OUTPUT ‘You went into your own home.’
      * OUTPUT Inventory List
      * OUTPUT ‘There is dog food here, would you like you get some for your journey or would you like to move on?’
      * INPUT get dog food or go west?
      * If input is ‘get dog food’:
        + IF dog food not in inventory list.

ADD dog food to inventory

* + - * + Else:

OUTPUT ‘You already have that item.’

* + - * If input is not ‘get dog food’ or ‘go west’:
        + OUTPUT ‘I can’t do that’
      * Else:
        + REMOVE name from {Home}
        + ADD name to {Front Yard}
    - BREAK
  + IF input is ‘Go east’:
    - REMOVE name from {Front Yard}
    - ADD name to {Dog Park}
    - WHILE dog in location ‘Dog Park’:
      * OUTPUT ‘You went to the dog park.’
      * OUTOUT inventory list
      * OUTPUT ‘There is a ball here, would you like to play or move on?’
      * INPUT get dog ball, go north, or go west?
      * If input is ‘get ball’:
        + IF ball is not in inventory list

ADD ball to inventory

* + - * + ELSE:

OUTPUT ‘You already have that item.’

* + - * If input is not ‘get ball’, ‘go north’, or ‘go west’:
        + OUTPUT ‘I can’t do that.’
      * If Input is ‘go north’:
        + REMOVE name from {Dog Park}
        + ADD name to {Pet Store}
        + WHILE name in location ‘Pet Store.’

OUTPUT ‘You are at the Pet Store.’

OUTPUT Inventory List

OUTPUT ‘There is a plush toy here. Would you like it or would you like to move on?’

INPUT get plush toy or go south

If input is ‘get plush toy’:

If plush toy is not in inventory list

Add plush toy to inventory

Else:

OUTPUT ‘You already have that item.’

If input is not ‘get plush toy’ or ‘go south’:

OUTPUT ‘Sorry I can’t do that.’

ELSE:

REMOVE name from {Pet Store}

ADD name to {Dog Park}

* + - * + BREAK
      * IF input is ‘Go west’:
        + REMOVE name from {Dog Park}
        + ADD name to {Front Yard}
    - BREAK
  + IF input is ‘Go south’:
    - REMOVE name from {Front\_Yard}
    - ADD name to {Deli}
    - WHILE dog in location ‘Deli’:
      * OUTPUT ‘You went to the Deli.’
      * OUTPUT Inventory List
      * OUTPUT ‘The shop keeper is offering you a bone. Would you like it or would you like to move on?’
      * INPUT get dog bone, go north, or go east?
      * IF input is ‘get bone’:
        + IF bone is not in inventory list

ADD bone to inventory

* + - * + ELSE

OUTPUT ‘You already have that item.’

* + - * IF input is not ‘get ball’, ‘go north’, or ‘go east’:
        + OUTPUT ‘I can’t do that.’
      * IF Input is ‘go east’:
        + REMOVE name from {Deli}
        + ADD name to {Dog Groomer}
        + WHILE dog in location ‘Dog Groomer.’
        + OUTPUT ‘You are at the Dog Groomer’s.’
        + OUTPUT inventory list
        + OUTPUT ‘The groomer is offering you a Bandana. Would you like it or would you like to move on?’
        + INPUT get bandana or go west

If input is ‘get bandana’:

IF bandana is not in inventory list

Add bandana to inventory

ELSE:

OUTPUT ‘You already have that item.’

If input is not ‘get bandana’ or ‘go west’:

OUTPUT ‘Sorry I can’t do that.’

ELSE:

REMOVE name from {Dog Groomer}

Add name to {Deli}

* + - * + BREAK
      * Else:
        + REMOVE name from {Deli}
        + ADD name to {Front yard}
    - BREAK
  + IF input is ‘Go North’
    - * REMOVE name from {Front Yard}
      * ADD name to {Neighbor’s House}
      * WHILE name in location ‘Neighbor’s House’:
        + OUTPUT ‘You went to the neighbor’s house.’
        + OUTPUT inventory list
        + OUTPUT ‘There is water here, would you like you get a drink for your journey or move on?’
        + INPUT get water, go east, or go south
        + IF input is ‘get water’:

If water is not in inventory list

ADD water to inventory

ELSE:

OUTPUT ‘You already have that item.’

* + - * + IF input is not ‘get water’, ‘go east’, or ‘go south’:

OUTPUT ‘Sorry, I can’t do that.’

* + - * + IF input is’ go south’:

REMOVE name from {Neighbor’s House}

ADD name to {Front Yard}

* + - * BREAK
        + If input is ‘go east’:

OUTPUT ‘You are at the beach’

WHILE dog location ‘Beach’:

OUTPUT ‘Oh no, the dog catcher saw you! RUN!!!’

OUTPUT ‘You have been caught by the dog catcher.’

* BREAK
* OUTPUT ‘Your adventure has come to an end. Goodbye.’
* ELSE:
  + OUTPUT ‘Congratulations!’
  + OUTPUT ‘You have found all of the items without getting caught by the dog catcher.’
  + OUTPUT ‘That was quite the adventure.’
* OUTPUT ‘Game Over.’