

Mr. Giansante



Visual Basic

Adventure Game

August 2016

Adventure Game

Difficulty Level:

Beginner
Intermediate
Advanced

Help References:

Button Control
MenuStrip Control
Random Numbers
Arrays

Designing the Game

Print the "Adventure Game Grid Sheet" available at the end of this assignment. This will help you organize and design your game.

1 Trophy Room	2 Coat Room	3 Main Entrance	4 Men's Washroom	5 Smoking Room
6 West-Wing Hallway	7 West-Wing Hallway	8 Main Hallway	9 East-Wing Hallway	10 East-Wing Hallway
11 Master Bedroom	12 Guest Bedroom	13 Main Hallway	14 Library	15 Reading Room

Design a Visual Basic text-based adventure game. The user should be able to navigate through a world with a minimum of 60 locations.

Examples of worlds include: a large mansion, a castle, the school, a city, a map of North America (50 states, 10 provinces) or even an ancient Egyptian pyramid. The world need not be rectangular.

In addition, the user should be able to pick up and drop objects. To simplify the task, the user should only be able to hold one object at a time and each room can only contain one object. There should be about 10 objects available.

The user be able to navigate the rooms using four Button controls labeled "North", "South", "West" and "East". If a particular direction is not available from the current room, then that Button should not be visible.

In the example above, the starting room is the "Main Entrance" (room 3).

From room 3, the user can go South, in which case they will end up in room 8, or go West, in which case they will end up in room 2. The user cannot go North or East.

Designing the User Interface

Create seven Button controls with the following properties ...

Text	Name
<u>N</u> orth	cmdNorth
<u>S</u> outh	cmdSouth
<u>W</u> est	cmdWest
<u>E</u> ast	cmdEast
<u>P</u> ick Up Object	cmdPickUp
<u>D</u> rop Object	cmdDrop
<u>S</u> wap <u>O</u> bjects	cmdSwap

Create three Label controls which will be used to display the room description (Label1), the object (if any) in the room (Label2) and the current object (if any) that the player is holding (Label3).

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Adventure Game Help

To store the information, six arrays are required.

In General | Declarations ...

```
Dim Desc(80) As String
Dim Objects(80) As String
Dim North(80) As Integer
Dim South(80) As Integer
Dim East(80) As Integer
Dim West(80) As Integer

Dim roomnum As Integer
Dim CurrentObject As String
```

In Form | Load ...

```
Desc(1) = "Trophy Room"
Objects(1) = "A Trophy"
North(1) = 0
South(1) = 6
East(1) = 0
West(1) = 0

Desc(2) = "The Coat Room"
Objects(2) = "An Umbrella"
North(2) = 0
South(2) = 0
East(2) = 3
West(2) = 0

Desc(3) = "Main Hallway"
Objects(3) = ""
North(3) = 0
South(3) = 8
East(3) = 0
West(3) = 2
```

... fill in information for remaining rooms ...

```
'set default properties for when
program starts

roomnum = 3
Label1.Text = Desc(roomnum)

cmdNorth.Visible = False
cmdSouth.Visible = True
cmdWest.Visible = True
cmdEast.Visible = False

cmdPickUp.Visible = False
cmdDrop.Visible = False
cmdSwap.Visible = False
```

Code for the "North" Button

Change the room ...

```
roomnum = North(roomnum)
```

Now, display the information for the new room ...

```
Label1.Text = Desc(roomnum)
Label2.Text = Objects(roomnum)
Label3.Text = CurrentObject
```

Since we are in a new room, we must determine which buttons (North, South, West, East, Pick Up Object, Drop Object, Swap Objects) should be visible.

```
'determine if North Button
'should be visible
If North(roomnum) = 0 Then
    cmdNorth.Visible = False
Else
    cmdNorth.Visible = True
End If
```

The code to determine if the "South" button is visible is similar to the above.

The code to determine if the "East" button is visible is similar to the above.

The code to determine if the "West" button is visible is similar to the above.

The "Pick Up Object" button should be visible only if there is an object in the current room AND the player is not currently holding an object.

Note: Put this all on one line.

```
If Objects(roomnum) <> "" And
CurrentObject = "" Then
    cmdPickUp.Visible = True
Else
    cmdPickUp.Visible = False
End If
```

Similarly, the "Drop Object" button should be visible only if there is no object in the current room AND the player is currently holding an object.

Similarly, the "Swap Objects" button should be visible only if the user has an object in their hand AND there is also an object in the room.

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Code for other Direction Buttons

The code for the "South", "West" and "East" buttons are identical as the code for the "North" button except for the first line.

In the "South" button ...

```
roomnum = South(roomnum)
```

In the "West" button ...

```
roomnum = West(roomnum)
```

In the "East" button ...

```
roomnum = East(roomnum)
```

The "Pick Up Object" Button

When a player picks up an object, you must place the object in their hand and remove the object from the room. You must also make the "Pick Up Object" button invisible and the "Drop Object" button visible. The code for the "Pickup" button is as follows ...

```
'Place object in room in user's  
'hand and clear the object that  
'was in the room  
CurrentObject = Objects(roomnum)  
Objects(roomnum) = ""
```

```
'Switch which button is visible  
cmdPickup.Visible = False  
cmdDrop.Visible = True
```

```
'Display updated information  
Label2.Text = Objects(roomnum)  
Label3.Text = CurrentObject
```

The code for the "Drop Object" and "Swap Objects" buttons is similar.

Possible Enhancements

1. Multiple Floors

User can enter a "room" which is an elevator or stairs. They would then have the choice to go "Up" or "Down" (depending on where they are).

2. Locked Doors

The user must find keys to gain access to certain rooms. For example: the blue key opens the blue room.

3. Timed Game

Using a Timer control, you can limit the amount of time that the player has to navigate the game or find certain objects.

4. Create Icons to Represent Objects

When the user picks the object up, the object is shown in an "inventory" box. You can easily accomplish this by placing all the icons (in a PictureBox control) on the Form and setting the PictureBox's Visible property to False. When the item is picked up, the PictureBox's Visible property can be set to True.

5. Create Images to Represent Rooms

An image of each room can be created in a graphics program. Images can be stored in an ImageList control and then displayed according to their index (which would match the room number).

Adventure Game Grid Sheet

Instructions:

- Write the room name in each box.
- Write the name of the object (if any) in room.
- Fill in the spaces where there are no doors.
- Keep this sheet - you will need it when your assignment gets marked.

1	2	3	4	5	6	7	8	9	10	
11	12	13	14	15	16	17	18	19	20	
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	
41	42	43	44	45	46	47	48	49	50	
51	52	53	54	55	56	57	58	59	60	
61	62	63	64	65	66	67	68	69	70	
71	72	73	74	75	76	77	78	79	80	

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Please fill out all the information in this column using a pen before getting this assignment marked.

Name

Date

Class

Academic Honesty

The work I am submitting is completely my own creation and has not been copied from anyone else's work. If I have received help on this project, the names of those who have assisted are listed below.

Signature

Pre-Marking

The following people have pre-marked this assignment: (minimum of two)

Deductions

Each which is checked indicates the item was not satisfactory and results in the loss of one mark.

Deduction for late assignment is 1 mark per day.

Deduction for program crashing is 2 marks.

User Interface

- Appropriate Text in Title Bar (Form.Text)
- Separators and Access Keys in Menu, Capitalization
- "Exit" DialogBox meets requirements
- "About" DialogBox meets requirements
- Efficient and Esthetically-Pleasing User Interface
- Appropriate controls are used
- Spelling and Grammar are correct

Code / Programming Style

- Variables are declared and logically named
- Code is commented where appropriate
- Code is indented and spaced to show
- Code is efficient

Work Ethic / Problem Solving Skills

- Problem Solving Skills are demonstrated
- Makes Productive Use of Time
- Only Seeks Help when Necessary

Program-Specific Criteria

- Initial room information is displayed
- Object information is displayed in certain rooms
- North, South, East and West buttons are displayed when appropriate
- Drop, Pickup and Swap buttons are displayed when appropriate
- Direction buttons bring user to new room and information is updated immediately
- Drop button works, display is updated immediately
- Pickup button works, display is updated immediately
- Swap button works, display is updated immediately
- Rooms follow printout of map provided by student

Comments

Mark _____ / 10