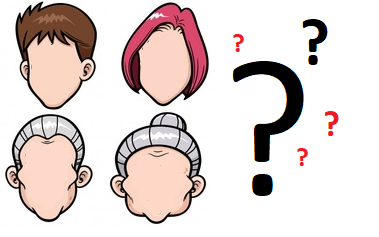
**Guess the Murderer Game**



**Project for**

**Information Systems D: Declarative Problem-Solving Methods Course**

**27th September 2018**

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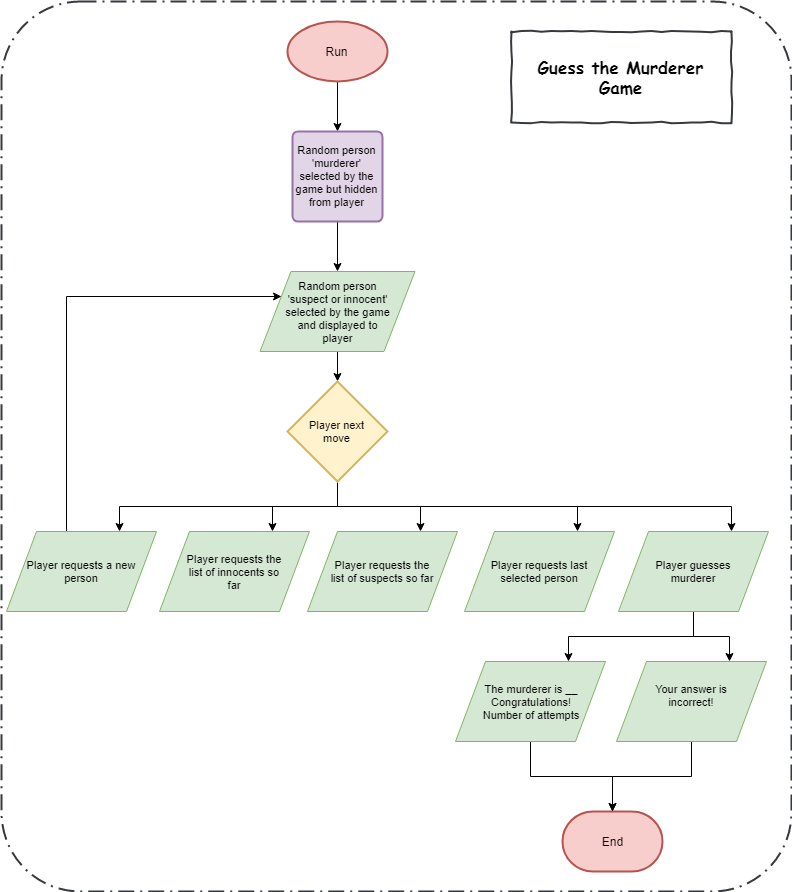
1. Project Plan
2. Programming Manual
   1. Program Purpose

The game is about finding the murderer who committed the crime. The player will be given random clues until he/she is ready to guess who the murderer was. Every clue is a combination of features describing either a suspect or an innocent person.

A suspect has at least one feature that matches the features of the murderer, while an innocent person has nothing in common with the murderer.

The features are age/gender, colour of clothes and weapon used in the murder. To guess the murderer, the player should give the value of the three features and if they all match the murderer description, the player wins. The challenge is to give a guess with the least number of suspects and innocents displayed during the game as clues.

* 1. Program Structure



* 1. User Interface

1. **Entrance**

**1.1 Welcome**

**output:** ‘Welcome to the game! Let’s find the murderer!’

Go to 1.2.

**1.2 Rule Introduction**

**output:** ‘Rule introduction - A person was murdered, and the murderer is unknown until the end of the game. Each person has a unique combination of attributes. You can make a guess of the murderer with his/her attributes. Before guessing you can ask for random clues which will show attributes of a person and whether he/she is suspect or innocent. A person is considered a ‘suspect’ if at least one attribute matches those of the murderer. A person is considered an ‘innocent’ if no attributes matches the murderer’s. Clear now?

Yes, I get it! - Select 1.

No, I haven't known the rule clearly. - Select 2.’

**if input: ‘**1.’

**output:** ‘Great, let’s do it, good luck!’

Go to 2.1.

**else if** **input:** ‘2.’

**output:** ‘Let’s see an example to help you figure out how it works!

Let’s suppose the murderer has the attribute ‘The oldwoman dressed in yellow with knife’ (of course it’s a secret until you guess so). You start asking for clues and the game will show you random persons like:

‘The youngwoman dressed in brown with gun- innocent!’

‘The youngwoman dressed in yellow with poison- suspect!’

Now you can say that the murderer must have at least one of yellow or poison because youngwoman is innocent according to clue no. 1.

When you get enough clues, you give a guess about who the murderer was.

Go to 2.1.

**else output:** ‘Sorry, invalid input, please make your choice from the following selection:’,

Go to 1.2.

1. **Functions**

**2.1 Create a new murderer and counter**

person(AG,C,W,T),

counter = 0,

Go to 2.2.

**2.2 Functions catalogue**

**output:** To ask for a new clue - Select 1.

To guess the murderer - Select 2.

To view the last clue - Select 3.

To view all suspects - Select 4.

To view all innocents - Select 5.

To exit the game - Select 6.

**if** **input:** ‘1.’

Go to 2.3.

**else if** **input:** ‘2.’

Go to 2.4.

**else if** **input:** ‘3.’

Go to 2.5.

**else if** **input:** ‘4.’

Go to 2.6.

**else if** **input:** ‘5.’

Go to 2.7.

**else if** **input:** ‘6.’

Go to 2.8.

**else output:** ‘Sorry, invalid input, please make your choice from the following selection:’,

Go to 2.2.

**2.3 To ask for a new clue**

if there are still arrays can use

**output**: ‘The *AG* dressing in *C* with *W* is *T'*

Counter = counter+1

Go to 2.2.

**else output:** ‘You have known all clues.’

Go to 2.2.

**2.4 To guess the murderer**

**2.4.1 To give a guess in age&gender**

**output:** ‘Guess the age and gender:

[first element in listAG] - Select 1.

[second element in listAG] - Select 2.

…

[nth element in listAG] - Select n.’

**if** **input:** 1-n(integer).

Go to 2.4.2.

**else output:** ‘Sorry, invalid input, please make your choice from the following selection:’,

Go to 2.4.1.

**2.4.2 To give a guess in colour**

**output:** ‘Guess the dress colour:

[first element in listC] - Select 1.

[second element in listC] - Select 2.

…

[nth element in listC] - Select n.’

**if** **input:** 1-n(integer).

Go to 2.4.3.

**else output:** ‘Sorry, invalid input, please make your choice from the following selection:’,

Go to 2.4.2.

**2.4.3 To give a guess in weapon**

**output:** ‘Guess the weapon:

[first element in listW] - Select 1.

[second element in listW] - Select 2.

…

[nth element in listW] - Select n.’

**if** **input:** 1-n(integer).

Go to 2.4.4.

**else output:** ‘Sorry, invalid input, please make your choice from the following selection:’,

Go to 2.4.3

**2.4.4 Compare guess with murderer**

**if**  [guessAG,guessC,guessW,returnT] == [AG,C,W,T]

**output:** ‘Congratulations! You found the murderer!

Your deduction required *counter* person(s)!

To start a new game - Select 1.

To exit the game - Select 2.’

**if input:** ‘1.’

Go to 2.1.

**else if** **input:** ‘2.’

Go to 2.8.

**else output:** ‘Sorry, invalid input, please make your choice from the following selection:’,

Go to 2.4.4.

**else output:** ‘Sorry, wrong guess.

The murderer is the *AG* dressing in *C* with *W*.

To start a new game - Select 1.

To exit the game - Select 2.’,

**if input:** ‘1.’

Go to 2.1.

**else if** **input:** ‘2.’

Go to 2.8.

**else output:** ‘Sorry, invalid input, please make your choice from the following selection:’,

Go to 2.4.4.

**2.5 To view the last clue**

**If** there is a clue

**output:** ‘The *AG* dressed in *C* with *W* is *T’*,

Go to 2.2.

**else output:** ‘You have not known any clues.’

Go to 2.2.

**2.6 To view suspects so far**

**if** there are suspects

**output:** ‘suspects list:

The *AG* dressed in *C* with *W* is *suspect’*,

Go to 2.2.

**else output:** ‘You have not known any suspects.’

Go to 2.2.

**2.7 To view innocents so far**

**if** there are innocents

**output:** ‘innocents list

The *AG* dressed in *C* with *W* is *innocent’*,

Go to 2.2.

**else output:** ‘You have not known any innocents.’

Go to 2.2.

**2.8 To exit the game**

**output:** ‘Bye Bye!’

* 1. Program Code

You can find the code in a separate file.

* 1. Testing

|  |  |  |  |
| --- | --- | --- | --- |
| **Test 001** | | | |
| **Tester Name:** |  | **Test Date:** |  |
| **Description:** |  | **User Input:** |  |
| **Actual Output:** |  | **Expected Output:** |  |
| **Succeeded:** |  | **Severity of Defect:** |  |
| **Defect Summary:** |  | **How Defect was resolved:** |  |
| **Screenshot:** | | | |

1. User Manual
2. Getting started
3. Introduction
4. Functions

This part explains how to play the game by using different functions.

* 1. To ask for a new clue

If you do not have any idea or cannot make sure about who the murder is, you can ask for a new clue here. Once you ask for a new clue, it shows a new person with his/her attributes and whether he/she is suspect or innocent.

(insert a screenshot)

* 1. To guess the murder

When you are ready to guess who the murderer is, here you can make a guess by choosing attributes in age and gender, dressing color and weapon respectively.

(insert screenshots)

If your guess is right, you win the game.

(insert a screenshot)

If your guessing is wrong, you fail the game.

(insert a screenshot)

* 1. To view the last clue

You can view the last clue including attributes and the role (suspect or innocent).

(insert a screenshot)

* 1. To view the suspects so far

You can view all the suspects so far.

(insert a screenshot)

* 1. To view the innocents

You can view all the innocents do far.

(insert a screenshot)

* 1. To exit the game

You can exit the game when you want. And it needs you to restart the game to enter the game again after this operation.

(insert a screenshot)

1. Errors

This part explains what kinds of behavior may lead to errors

* 1. When your choice is not in the selection list, it may contribute to an error. You will be asked to make choice in the selection list.

(insert a screenshot)

* 1. When you ask to view the last clue before ask for any clues.

(insert a screenshot)

* 1. When you ask to view the suspects so far but the clues you have does not include any suspects.

(insert a screenshot)

* 1. When you ask to view the innocents so far but the clues you have does not include any innocents.

(insert a screenshot)