**Outline**

Play the original Simon game to establish a mind-set around basic game systems. Research the history of game systems. Analyze the Simon game from an input-process-output perspective.

**Objectives**

* Use the input-process-output model to solve programming problems.
* Use industry-standard programming tools (e.g., UML [Unified Modeling Language], diagrams, structure charts, flow charts, pseudocode) to develop a software project.

**Prerequisites**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Prerequisite Module(s)** | **Level** | **Student Initial** | **Teacher Initial** | **Date** |
| None |  |  |  |  |

**Materials**

* Simon game obtained from teacher

**Level 0: Play the Simon Game**

Play the Simon game in your group while taking note of the following game-play items:

1. What was your personal best score? My best score was 9
2. What was the personal best score in your group? The best score was 11 in the group
3. What makes it a good game? The thing that makes it a good game is that it’s kind of easy to play and a whole group of people can play
4. In what ways is it similar to modern computer games? Simon is similar to modern computer games because at the end of the day it fun to play and it a game

Play the Simon game in your group while taking note of the following technical items:

1. How do users input information into the game? By pressing the buttons
2. How does the game output feedback to the players? By making sounds
3. What are the game options for starting the game? The options are level 1 to 3 and a music mode
4. What are the end conditions for stopping the game? Turning it off or getting the buttons wrong

**Level 1: Simon History**

Suggested web resource: http://americanhistory.si.edu/collections/search/object/nmah\_1302005

Research the history of the Simon game, focusing on the following questions:

1. Who created Simon? Ralph H. Baer
2. What previous game was it based on? “touch me”
3. What was the first game system? The Brown Box
4. What games did it have on it? Submarine, Table tennis and Analogic

In your group, discuss the following questions:

1. What is the oldest game system you have played on? The oldest game system I have played on was the Sega genesis
2. How are old games different from current games? Old games are different from current games because the HD or pixels were lower and most current game can go take up more betas them old games
3. How are old games similar to current games? Old games are similar to current games because at the end of the day you can still have fun playing them

**Level 2: Input – Output Analysis**

1. List all of the user input objects and actions using a table similar to the one below.

|  |  |  |
| --- | --- | --- |
| **Object** | **Action** | **Description** |
| e.g. Red Button | e.g. Push | e.g. Starts the game |
| e.g. Red Button | e.g. Push | e.g. Record a step in the pattern |
|  |  |  |

1. List all of the user output objects and actions using a table similar to the one below.

|  |  |  |
| --- | --- | --- |
| **Object** | **Action** | **Description** |
| e.g. Red Light | e.g. Flash | e.g. Indicates a step in the pattern |
| e.g. Red Sound | e.g. Play tone | e.g. Indicates a step in the pattern |
|  |  |  |

1. List all of the all of the ways that an input action results in an output action using a table similar to the one below.

|  |  |  |
| --- | --- | --- |
| **Input Object** | **Output Object** | **Process Connection** |
| e.g. Red Button | e.g. Red Light | e.g. Flashes when button is pushed |
|  |  |  |
|  |  |  |

**Level 3: Flowchart Conventions**

Suggested web resource: <https://www.smartdraw.com/flowchart/>

1. Draw and explain the basic flow chart symbols.
2. Create an example flow chart that uses each basic symbol at least twice.

**Level 4: Flowchart the Simon Game**

1. Create a flow chart showing the process connections for a three-tone pattern in the middle of the Simon game.
2. EXTENSION: Create a flow chart for the whole Simon game.

**Achievement Record – Module A.1: Simon Game Icebreaker**

|  |  |  |  |
| --- | --- | --- | --- |
| **Attainment Level** | **Student Initial** | **Teacher Initial** | **Date** |
| Level 0: Play the Simon Game |  |  |  |
| Level 1: Simon History |  |  |  |
| Level 2: Input – Output Analysis |  |  |  |
| Level 3: Flowchart Conventions |  |  |  |
| Level 4: Flowchart the Simon Game |  |  |  |