Daily Objectives

Game Design

Robious Elementary - Winter 2018

Day 1

- **Objectives:**
  - **General intro to programming**
  - **Lightbot**
  - **What makes a good game (based on input from user)**
  - **Level Design Sketches**

4:00 - 4:10 → Introductions & Objectives

- Who are you and what is Tech Em about
- Any experience with designing/playing games?

4:10 - 4:15 → Everything is an object/Computer do what they are told

Get students used to the idea of programming

- We will be using the Hyperpad to create our games
  - Hyperpad uses a drag & drop style to programming, meaning you drag an instruction and drop an instruction, that object will follow any instruction you give it. That object will not do anything by itself
  - We can have objects interact with another by giving them **conditional** instructions to do so. For example, we can set up instructions that say, "**IF** the main character collides with an enemy or obstacle, **THEN** it is Game Over.
- Similar to Computers in general, they do only what they are told to do, and in the order you tell them to: they follow steps in a **sequence** i.e. in the order given. Like following a recipe

4:15 - 4:30 → Lightbot: Engrain Human Given Instructions to a Computer (Programming)

Getting the students used to programming and drag & drop.

- Explain Lightbot, give a robot instructions to light up all the blue squares.
- The set of instructions is called a program. The robot follows the program, exactly.
- Pass around the iPad record sheet
- Stop Lightbot after 15 minutes!

4:30 - 4:55 Design Your Game Levels!

Go over what makes a good level: collectibles, obstacles, traps, enemies etc

- Pass out level design sheets (the grid paper)
- Start designing your level by drawing on the template
- Have students think about blocks, coins, obstacles, puzzles

- 4:15 - 4:25: Design Thinking Questions (intro to empathy and define)
    - What is your favorite game to play?
    - Why is it your favorite game?
    - What makes this game fun?

- 4:25 - 4:30: What we will use
    - Briefly talk about the Hyperpad app, Design Thinking, etc.

- 4:30 - 4:45 Let's Play
    - Pass out design thinking questions sheet
    - Have students open up the Hyperpad app (they made need signing in)
    - Play a total of 3 already-made games
    - Timed at 4min each - play timer
    - After each game, fill out the questions for each game

- 4:45 - 5:00 Design Your Game!
    - Pass out design sheets (the grid paper)
    - Start designing your level by drawing on the template
    - Have students think about blocks, coins, obstacles, puzzles

Were Objectives met?

➔ Overview of design thinking
➔ Design Thinking main idea: a user-centered approach
➔ Learn makes a game fun to play
➔ Used design thinking to start creating a game
➔ Completed a sketch of their level-design

Day 2

- ❖ **Objectives:**
    - ➢ **Hyperpad Basics**
        - ■ **Creating a new project**
        - ■ **Mini walkthrough of Hyperpad features**
    - ➢ **Transfer sketch of level-design to Hyperpad**
    - ➢ **Complete their level-design on Hyperpad**

- 4:00 - 4:05 Review
    - Design thinking exercise
    - Level-design

- 4:05 - 4:25 Make a game on Hyperpad
    - Use screenshots on the slides to walk the class through making a New Project on Hyperpad

- 4:25 - 4:55 Paper sketch of level(s) to Hyperpad

- Start (or continue) transferring level-design on paper to their Hyperpad game
    - Relay to kids, to not put too many coins/obstacles (at first) on Hyperpad

Were Objectives met?

➔ Completed level-design on Hyperpad
➔ Hyperpad feedback?

Day 3

- **Objectives**
    - **Understand conditions**
    - **Understand Objects**
        - **Objects are first, just Objects**
        - **Objects will only have attributes you tell it to have**
    - **Character/obstacle behaviours**
        - **Get character to move**
        - **Understand how to make objects interact with**
    - **Use understanding of design thinking when manipulating game objects**

- 4:00 - 4:20 Add a Character & behaviors for character
    - Introduce the concept of conditions
        - IF this happens THEN this
        - “If you eat all your vegetables, then you can have desert” -not the other way around (or other examples)

        - If the uses moves the joystick, what does the character do?

    Use the screenshots on the slides to help students follow along

- 4:25 - 4:40 Making behaviors for obstacles (i.e. spikes, lava, etc.)
    - Iterate conditions
    - Once the character collides with the obstacle, what happens?

- 4:40 - 5:00 Continue creating character/environment interactions
    - Obstacles, collectibles, etc.
    - Keeping in mind the input from day one on what makes a good game

Were Objectives met?

➔ Feedback on Hyperpad?

Day 4

- ❖ **Objectives**
    - ➢ **Understand importance of testing**
    - ➢ **Complete design thinking Interview exercise**

- 4:00 - 4:10 Testing
    - Explain the importance of testing
    - Getting user feedback to use in designing their games
    - Explain how having other people test games and provide feedback makes a good game

- 4:20 - 4:30 Get User Feedback
    - Pass out the Design Thinking Interview sheets
    - Have students choose a partner (or two) to “interview”
    - Have students switch iPads to test each other’s games
    - Have the testers record their feedback about the game on the sheet

- Once the game designer gets their iPad back, record some solutions to the tester/user's feedback

- 4:30 - 5:00
  - Have students continue editing their games using input from the tester(s)

Were Objectives met?

Day 5

- **Objectives**
  - **Importance of iteration of the design thinking process**
  - **Practicing the Design Thinking Process**

- 4:00 - 4:05 Iteration of the design process
  - Explain this is what designers (not just game designers) do to help make flawless products
- 4:05 - 4:15 Mastering Hyperpad - Problem Solving
  - Explain that they don't have to "reinvent the wheel"
  - They can solve problems in their game by using similar steps they took before
  - For example:
    - Creating interactions between character and obstacles uses pretty much the same behaviours as with collectibles or portals
    - For the most part, based on IF som collides with something, THEN this thing happens

        - For almost all behaviours condition statements are used
- 4:15 - 4:55 Continue the design thinking process
    - After students add new features and fix things to cater to the tester, have students continue switching iPads to gain more feedback from the user/tester
    - And incorporate that feedback into their games
    - Students can continue recording feedback on their interview exercise sheets

Were Objectives met?

Day 6

- **Objectives**
    - **Finish Prototyping (finalize designing games)**
    - **Understanding of Design Thinking Process**
- 4:00 - 4:10 Understanding the design process
    - Review the design thinking process
    - Refer to the slide with the diagram (slide 4)
    - Review problem solving
- 4:10 - 4:55 Finish Prototyping
    - Have students try to finish their games
    - Continue the testing/feedback part

Pass out shirts and flyers (if we have them)

Were Objectives met?