SCRATCH GAME DEVELOPMENT PROJECT

Name(Game Developer/s): _____ Period _____ Date _____

Project Guide: Planning Your Game

GAME DEVELOPMENT LEVEL 2: "MY SCRATCH DREAM GAME"	
Project Overview	*"My Scratch Dream Game"* combines project-based and problem-based learning approaches to engage students in designing and programming their dream game using Scratch. Through hands-on coding and collaborative problem-solving, students will conceptualize and develop a game that reflects their creativity while addressing real-world challenges in game development, such as creating user-friendly mechanics and debugging errors. This activity integrates programming concepts, logical thinking, and creativity to foster holistic learning.
Project Description	Students will step into the role of game developers tasked with creating an interactive game on Scratch. Using project-based learning, they will design their game concept, plan its structure, and implement the code to bring it to life. The problem-based approach will guide students to address challenges they encounter during development, such as ensuring balanced gameplay, incorporating engaging features, and debugging. Throughout the activity, students will use collaboration, creativity, and computational thinking to create a functional and innovative game, which they will present and share with peers.
Problem Scenario	A game design company has recruited you to create a brand-new game that is both fun and educational for kids your age. The company emphasizes creativity, inclusivity, and engaging gameplay. However, there are challenges: • You must work within the coding limitations of Scratch. • Your game needs to stand out with unique mechanics, clear goals, and a polished design. • You must test and fix any bugs before the release. **Challenge:** How can you overcome these problems and design a game that meets all the requirements while delivering a fun and seamless experience for players?
Project Goal	The goal is to design, code, and showcase a playable Scratch game that showcases technical programming skills, creative thinking, and problem-solving abilities, all while tackling the challenges encountered during the development process.
Objectives	By the end of the activity, students will: 1. **Brainstorm and Plan:** Identify a theme or concept for their game and create a plan outlining its objectives, mechanics, and design. 2. **Apply Programming Skills:** Use Scratch to develop their game, applying loops, conditionals, variables, events, and animations. 3. **Solve Problems:** Address challenges related to game balance, interactivity, and functionality by testing and debugging their game. 4. **Enhance Creativity:** Incorporate engaging visual, audio, and storytelling elements into their game design. 5. **Collaborate:** Work in pairs or small groups to share ideas, provide feedback, and improve their project. 6. **Reflect and Present:** Showcase their game to the class, explaining their creative process, challenges faced, and how they solved them.
Learning Competencies	This activity allows students to experience the game development process while developing essential coding, critical thinking, and teamwork skills. Applying the

<table>
<tr><td></td><td>acquired skills in ICT-SCRATCH Programming Modules 1 to 10.</td></tr>
<tr><td>Timeline of Activities</td><td>Date Started: December 9, 2024
Date Finished: January 31, 2025
(see learners' progress report form below for the timeline of activities.)

<table>
<tr><th>DATE</th><th>ACTIVITY</th></tr>
<tr><td>Dec 9, 2024</td><td>Project Kick-Off: Explain the project overview, objectives, and timeline. Brainstorm ideas for games.</td></tr>
<tr><td>WEEK 1: December 10-16, 2024

OUTPUTS: Game Development Plan and Progress Report</td><td>Game Planning: Research chosen themes, select game genres, develop game concepts, and create a storyboard. Create a detailed plan for the game, including sketches and descriptions of mechanics.</td></tr>
<tr><td>WEEK 2: December 16-20, 2024

OUTPUTS: Game characters, sprites, backgrounds, buttons, controls, game mechanics, and instructions.</td><td>Scratch Development (Part 1): Develop sprites, backgrounds, and initial gameplay elements. Focus on basic movement and interactions.</td></tr>
<tr><td>WEEK 3: January 2-10, 2025

OUTPUTS: Game COding and Prototyping</td><td>Scratch Development (Part 2) Coding and Prototyping: Implement game mechanics (points system, challenges, levels) and enhance gameplay.</td></tr>
<tr><td>WEEK 4: January 13-17, 2025

OUTPUTS: Game Testers Evaluation for Alpha Testing</td><td>Testing and Debugging: Test for functionality, receive peer feedback, and make necessary improvements.</td></tr>
<tr><td>WEEK 5: January 20-24, 2025

OUTPUTS: Game Testers Evaluation for Beta Testing</td><td>Final Touches: Refine visuals, audio, and final game elements. Prepare presentation.</td></tr>
<tr><td>WEEK 6: January 27-31, 2025

OUTPUTS: Actual Scratch Game Output and Accomplished Reflection Form.</td><td>Presentation and Reflection: Present final games to the class, explaining inspiration and game mechanics.</td></tr>
</table></td></tr>
<tr><td>Person's Involved:</td><td>MS. ESPERANZA R. SABANGAN - ICT Teacher
• 3 Game Alpha Testers: students from another class or your classmates
• 3 Game Beta Testers: students from another class or your classmates</td></tr>
<tr><td>Project Rubric:</td><td>(Please see attached rubric.)</td></tr>
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Guide Questions

Here's a set of guiding questions that will help you develop your project plan for the "Game Development in Scratch" project. These questions will encourage you to think critically about each aspect of their game, from its overall concept to its specific functions, and to meaningfully integrate Filipino culture and traditions into their design.

Game Overview

- *What is the main theme or inspiration for your game in Filipino culture, literature, or traditions?*
- *Which type of game, such as a platform, adventure, puzzle, racing, sports, or story game, will you create, and why did you choose this genre?*
- *What cultural or educational message do you want players to understand or experience from your game?*
- *How will you make your game fun for your target audience?*

Gameplay and Visuals

Start by thinking about what your game actually does. What does it look like? How do you

actually play it? What will make it fun, interesting, or relevant to the player?

- *What are the main objectives or goals for the player in your game?*
- *How will the player interact with the game (e.g., through keyboard commands, clicking, and dragging)?*
- *What visual style will you use to represent Filipino culture (e.g., traditional patterns, colors, or iconic symbols)?*
- *How will you keep players engaged through gameplay elements, like levels, points, or challenges?*
- *What audio or sound effects will you include to enhance the cultural atmosphere of your game?*

Describe Your Game

- *Write a short description or storyline for your game. What will happen from the start to the end of the game?*
- *What are the main characters or elements in the game, and how do they draw inspiration from Filipino folklore or traditional stories?*
- *What challenges or obstacles will the player encounter that reflect Filipino culture or values?*
- *How does the story or goal of the game reflect Filipino beliefs, festivals, or historical events?*

In a couple of sentences, describe the game you are going to build and how it will work.

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Backgrounds

- *What scenes or locations are important in your game, and how do they reflect Filipino landscapes, cities, or traditional settings?*
- *Are there specific Filipino landmarks or natural features you would like to incorporate in the backgrounds?*
- *How will you design the backgrounds to make the setting feel authentic and related to the Filipino theme?*
- *Does the background change as the player progresses? How does it affect the story or gameplay?*

Draw a quick sketch or digital image/s of the possible background(s) of your game. The backdrops in scratch should be related to the theme and concept of your game.

Sprites and Variables

Using the description of your game above, figure out what information and characters you'll need to keep track of through your game. Fill in a description for each in the space below.

- *What symbols, icons, or objects will you include that represent Filipino traditions or cultural items (e.g., bahay kubo, jeepney, traditional musical instruments)?*
- *What are the main variables in your game—e.g., score, time, health—that players will need to track?*
- *How will these symbols or variables contribute to the cultural feel of your game?*
- *Will any items or symbols have special effects or meanings that add depth to the gameplay or story?*

Sprites

In the table below, list information about the different sprites in your game. Where are they located? How do they move? How do they interact with other sprites?

Name (Label) and Appearance	**At Start of Game** (Animation, position, rotation, velocity, rotation speed)	**User and Sprite and Interactions** (Does the user control this sprite? How does it move? Does it ever need to reset its position? Does it interact with other sprites? How?)

Variables

Think about the information your game needs to keep track of. Is there a score? A number of lives? Describe each variable in the space below.

Name (Label)	**What It Keeps Track Of**	**How It Changes During the Game** (What's the starting value, When will it change?)

Functions

- *What specific functions or game mechanics will you use (e.g., jumping, collecting, and racing) to create interactivity in the game?*
- *How will these functions relate to the player's actions or decisions in the game?*
- *Are there unique features you plan to add (e.g., character power-ups, level unlocks) that will make the game more interesting?*
- *How will your game handle different scenarios, such as winning, losing, or moving to the next level?*

Your draw loop shouldn't have a lot of complex code. Instead, break your program up into

the major steps you'll need for your game to work. The different behaviors you described for your sprites and variables should help you decide what these steps should be. Then describe what the code for that function should do.

Function Name	**What Happens in This Function?** What behaviors that you outlined for your sprites does this function include? Can this function be used at multiple places in your program?

_____ _____

[PRINTED NAME OF STUDENT] **[PRINTED NAME OF PARENT]**

_____ _____

[PRINTED NAME OF STUDENT] **[PRINTED NAME OF PARENT]**

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MS. ESPERANZA R. SABANGAN

G7 ICT Teacher