

CAPSTONE PROJECT

ANIMATING AND AUTOMATING A DIGITAL WORLD

Objective

Create an interactive digital world using animation, web design, and programming. You will use Tupi 2D to create animations, HTML5 to design a webpage, and Python loops to add automation.

Session 1: Designing and Animating in Tupi 2D

Activities

1. Creating a New Project in Tupi 2D

- ❖ You will open Tupi 2D software, create a new project, and explore the components of the Tupi 2D window.
- ❖ You will create an animated scene using layers, frames, and tweens like a character walking or a moving object.

2. Working with Animation and Exposure Sheets

- ❖ You will use exposure sheets to manage their animation frames.
- ❖ You will use the tweening tool to make smooth animations, ensuring their animation flows from one frame to the next.

Outcome for Session 1

- ❖ A Tupi 2D animated project with multiple frames and smooth transitions.

Session 2: Web Design and Adding Interactivity Using HTML5

Activities

1. Building a Web Page with HTML5

- ❖ You will create a basic HTML5 web page to display their Tupi 2D animation.
- ❖ You will use HTML tags like ``, `<h1>`, and `<p>` to add images, titles, and descriptions.



2. Adding Multimedia to the Web Page

- ◊ You will insert their animation into the webpage.
- ◊ You will also learn to add audio, video, and use frames to organise the page's layout.

Outcome for Session 2

- ◊ A fully functional HTML5 web page that showcases their Tupi 2D animation, with additional multimedia content.

Session 3: Automating Actions with Python Loops

Activities

1. Writing Python Programs Using Loops

- ◊ You will write Python programs to automate actions, such as checking the time and changing a value (e.g., turning lights on/off at certain times).
- ◊ You will learn to use for loops and while loops to repeat actions over time.

2. Using Jump Statements in Python

- ◊ You will use jump statements to control the flow of the program, allowing the program to react to different conditions in their digital project.

Outcome for Session 3

- ◊ A Python program using loops to automate tasks, such as triggering actions in their animation or smart system.

Final Deliverables

Tick (✓) the box if submitted:

- ◊ Tupi 2D animation
- ◊ HTML5 webpage with animation and multimedia
- ◊ Python program using loops and jump statements



Final Presentation Statement

This capstone project connects animation, web development, and programming into one cohesive learning experience. You will use Tupi 2D, HTML5, and Python to design and present an interactive digital project that includes animation and automation.

