Inside Pacific but better

(System Design Document)

COMP 195
13th September 2021

Team
Alan Barragan (a_barragan1@u.pacific.edu)
Christopher Fines (c_fines@u.pacific.edu)

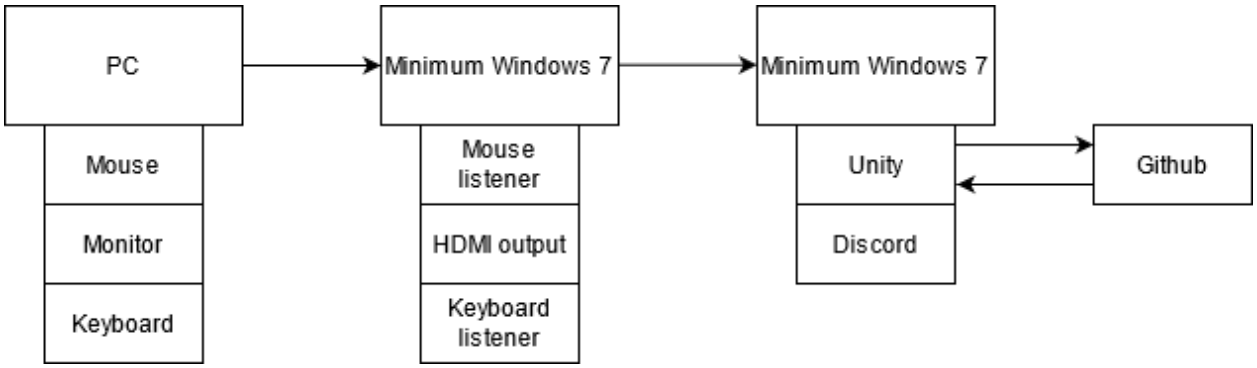
Project Website
https://github.com/comp195/senior-project-implementation-uop-inside-pacific-but-better

Instructor
Dr. Canniff

Table of Contents

System Architecture

- Software modules
    - Minimum Windows 7
- Hardware components
    - Keyboard
    - Mouse
    - Monitor Display
- User interface
    - Mouse listener
    - Keyboard Listener
    - Display output
- Interfaces to external systems
    - Discord (for communication)
    - GitHub



Hardware, Software, and System Requirements

Hardware Requirements:

- CPU: X64 architecture with SSE2 instruction set support
- Graphics API: DX10, DX11, and DX12-capable GPUs

Software Requirements:

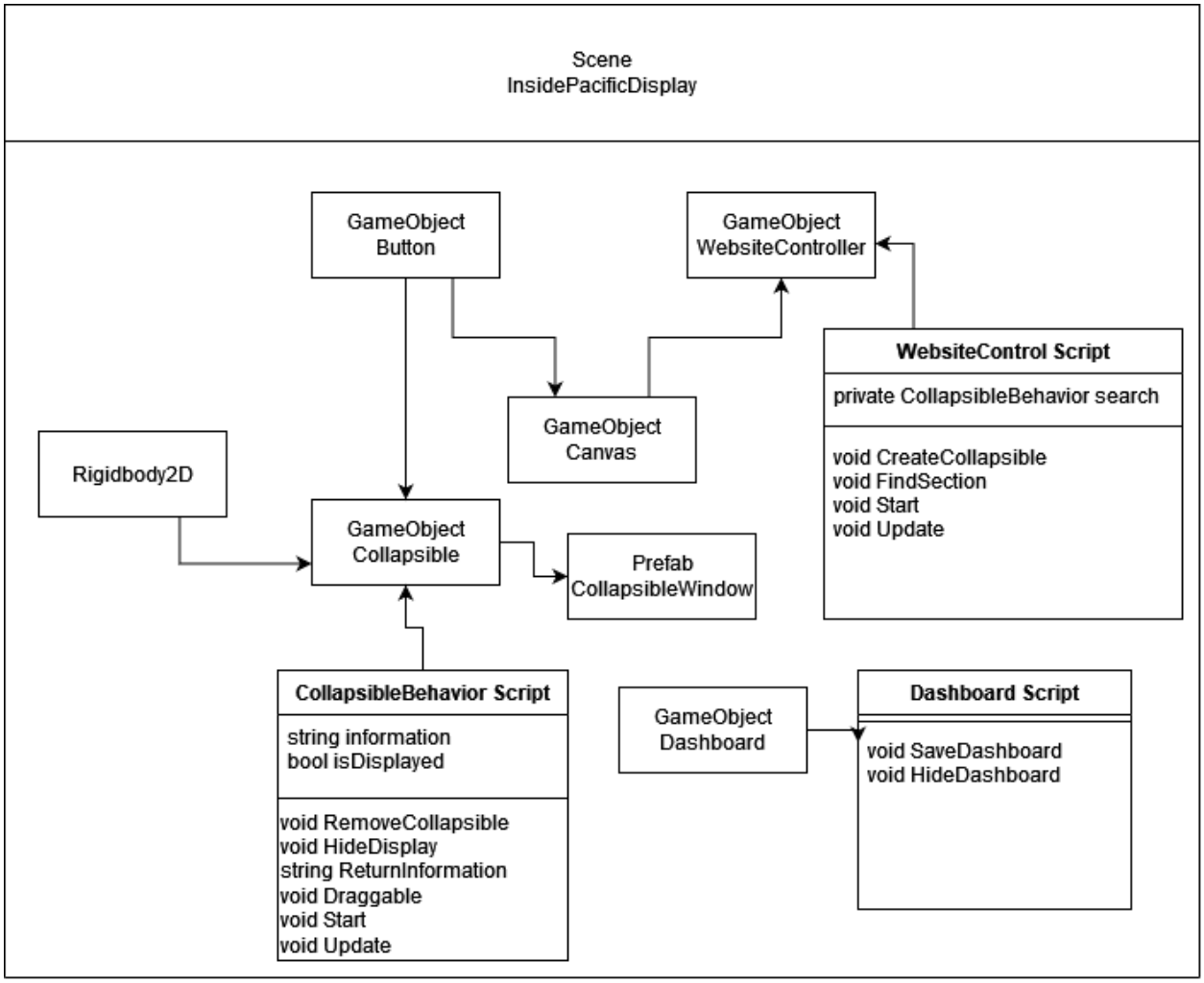
- Unity Version 2020.3.17f1 LTS

System Requirements:

- OS: Minimum Windows 7 (SP1+) or Windows 10 (64-bit versions only)

Class Diagram

***Subject to change**



Class Specifications

CollapsibleBehavior Script:

- Private String information
    - To be used as an ID to provide context as to which window this pertains to along with what information to display
- [SerializeField] Private Bool isDisplayed
    - Used to determine if the window is currently minimized or not
- Private Void RemoveCollapsible()
    - To be used to delete the GameObject if the user does not want that window on their screen
- Public Void HideDisplay()
    - To be used when user selects the minimize button and hides/shows the display of the window box
- Public String ReturnInformation()
    - Returns the string information to tell the system which window box it is referring to
- Public Void Draggable()
    - Allows the user to drag the window box to anywhere else within the screen
- void Start & void Public are automatic Unity implemented functions

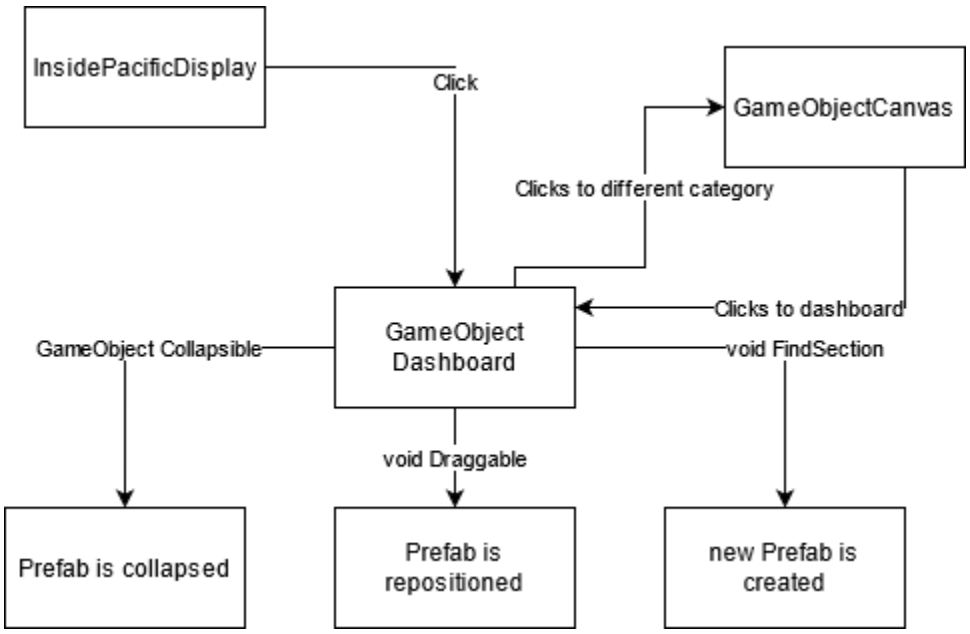
WebsiteControl Script:

- Private CollapsibleBehavior search
    - Instance variable from the CollapsibleBehavior script to allow the usage of its functions
- Private void CreateCollapsible()
    - Allows the user to create a collapsible window
- Private void FindSection()
    - Allows the user to search for a specific section that they need
    - Essentially the search bar
- void Start & void Public are automatic Unity implemented functions

Dashboard Script:

- Private void SaveDashboard()
    - Saves the current layout that the user desired within their custom dashboard
- Private void HideDashboard()
    - Hides the dashboard

Interaction Diagrams

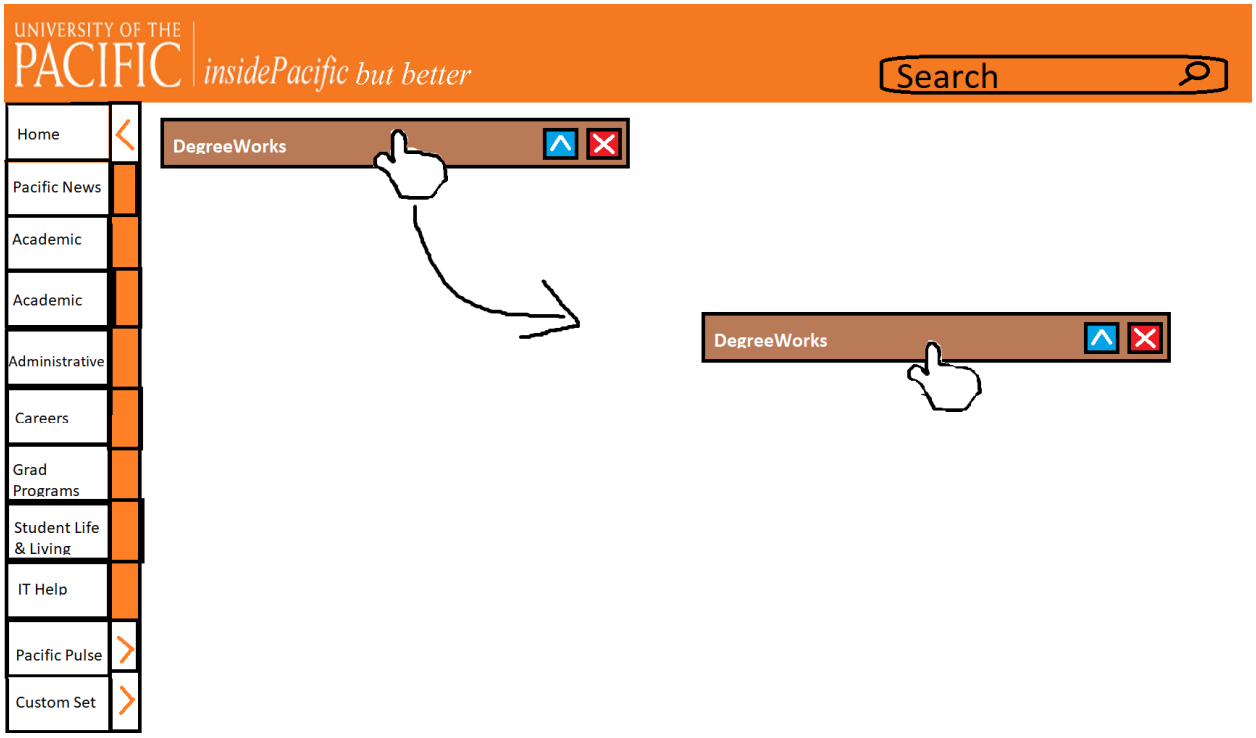


- User begins in the InsidePacificDisplay scene, starting on the Dashboard page
    - User clicks on a prefab containing a collapsible button, it will collapse
    - User drags a prefab to another section of the dashboard, it will be repositioned
    - User clicks the search bar and enters in a specific prefab (Degree works, Schedule, Add classes, etc), new prefab will be added to the dashboard accordingly
    - User clicks on the default sidebar categories (Academic, Administrative, Careers, etc.), the respective webpage corresponding to that category (GameObjectCanvas) will be displayed

Design Considerations

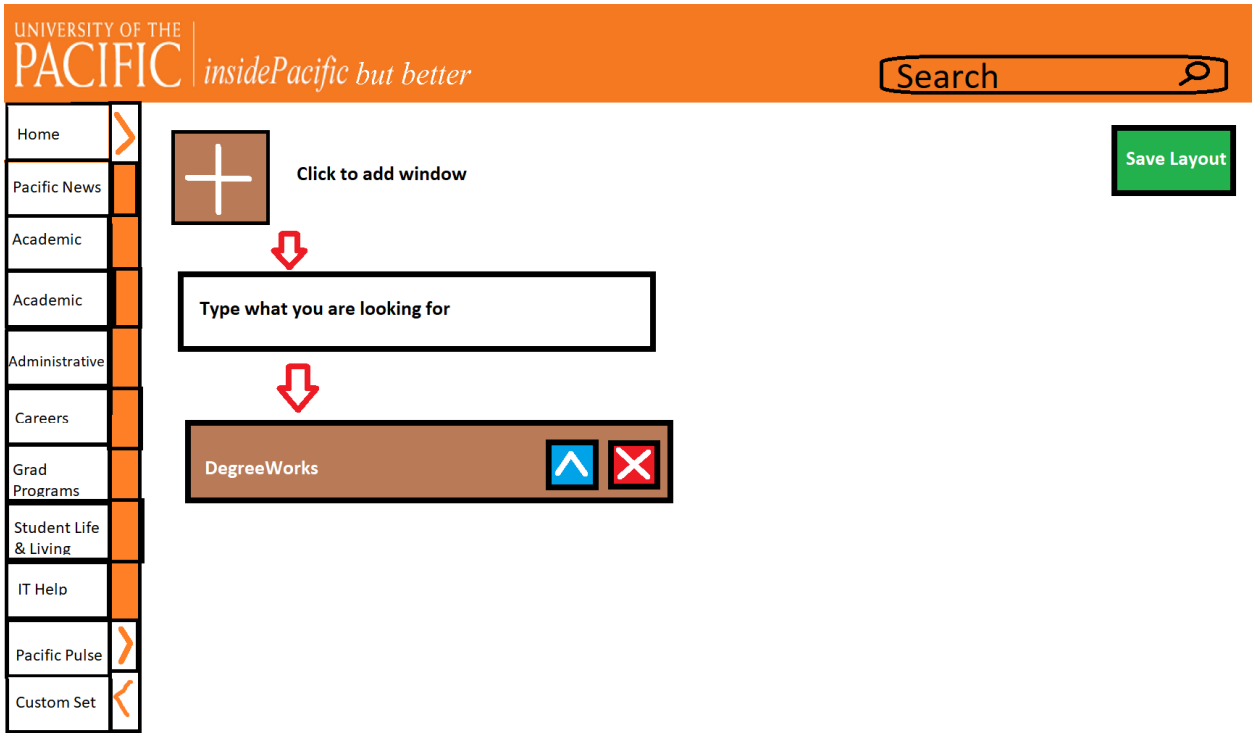
- Prefab of each collapsible window containing links and texts
- Collapsibles
    - Text displayed within each block can me minimized
- Draggable and positionable text blocks
    - Each block is able to be place in whatever order the user desires within the respective page
- Search bar
    - Specific text blocks can be searched through keywords
- Dashboard
    - Customizable home page where any text block from inside pacific can be added
- Preset Side Windows
    - To potentially be made into separate scenes to allow for smoother navigation

User Interface Design



Example of dragging windows

Example of minimizing windows



Example of customizing layout

Glossary

GameObject: The base class for all entities in Unity's scenes

Scene: A run-time data structure for *.unity files

Prefabs: A method to create, configure, and store presets for GameObjects

C# Scripts: A type of component that controls the behaviors of GameObjects using the C# language

Collapsable: A type of button that when selected shows a drop down of information

Draggable: A behavior that allows for an object to be moved with the mouse when the user holds down left-click

Dashboard: A graphical user interface that displays at-a-glance views of key indicators to a particular objective or business process

References

- Technologies, U. (n.d.). *Creating and using scripts*. Unity. Retrieved September 11, 2021, from https://docs.unity3d.com/Manual/CreatingAndUsingScripts.html.
- Technologies, U. (n.d.). *System requirements for unity 2020 LTS*. Unity. Retrieved September 10, 2021, from https://docs.unity3d.com/Manual/system-requirements.html.