Prototype LSW Programming Interview

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1. **Assembly Definition**

   For the main structure, I'm using 3 assembly definitions for dependency management. They are an assembly for handle system, assembly for handle ui, and assembly for handle utility.

   a) Assembly for handle system

      For this assembly, I named it lsw-programming-system.dll. This assembly handles all the system of the game, such as move, interacting, interacted, raycasting etc.

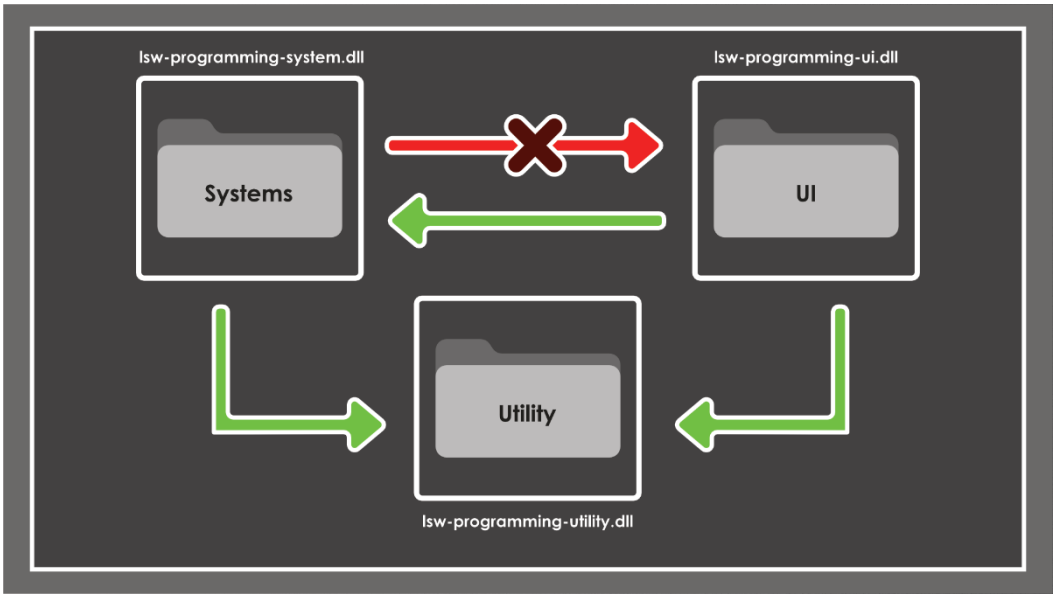
   b) Assembly for handle UI

      This assembly is named lsw-programming-ui.dll. This assembly handles all the menu UI, such as show menu, transition menu, print the text, spawn blocks etc.

   c) Assembly for handle all the Utility

      This assembly is named lsw-programming-utility.dll. This assembly handled global calculation, extended behaviour, create reference variable.

This is the rule for the architecture that I use :



The rule that I use, system only can access the utility but can't access UI, UI can access The system for getting the data, and can access the utility.

For the one case of this game, when the player interacts to shopkeeper or etc. it needs to trigger to open the dialog menu UI, or shop view UI. I can't directly call UIManager

from the system to show up the MenuUI. So in this case I'm creating a ScriptableObject that I put in a utility definition called MenuLink. This MenuLink contains action to open the menu UI.

2. **SOLID PRINCIPLE**

I'm implementing SOLID Principle for this game. I'm using a lot of interfaces and always give namespace for all the scripts. My vision is to always keep the code clean. I try to keep the code less or no coupling.

3. **MVC and Fly Weight Design Pattern using ScriptableObject**

For this section, I'm implementing ValueReference using ScriptableObject. I create a ScriptableObject class that handles for only one type data. Example: That ScriptableObject handles Float typedata. I put that ScriptableObject on MyUIComponent to show the Float value of that ScriptableObject. When I change the float value of the scriptableObject from the system, the UI will change too because ScriptableObject is a reference Type.

This system can be used to minimalize using singleton or instance object. So from one script to another script the dependency can be minimalized. I know this system from this video https://www.youtube.com/watch?v=raQ3iHhE_Kk&t=195s, and from this article https://unity.com/how-to/architect-game-code-scriptable-objects.

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Plugin :

- DoTween for tweening
- AsyncAwaitUtil for asyncronus task

How To Play The Game :

- Move using W, A, S, D or using Arrow Keyboard
- Interacting using "E" Button

Note :

Almost all my scripts on this game is created when i do this interview test. Some script that I take from other resource is abstract MenuController, and MenuManager. I took them from my fulltime job office in my country. I'm not take all of module. I just take some of them and modify it on my own.