In this assignment I tried to develop two applications using two Architecture Design Patterns, these are…

1. Timer desktop application using layered architecture

2. a server that serves a page using client-server architecture

The Timer Desktop app:

This app provides basic clock functionality like Count Down Timer, Stop Watch and Alarms and is built using HTML, CSS and Java Script to construct the front end and Node Js to program the back end. I also used Git hub’s **electron** to convert the web based app to a native desktop app.

The development of this app follows a kind of **course grained layered architecture** that electron uses called **“RENDERER PROCESS – MAIN PROCESS ARCHITECTURE”**.

The renderer process takes care of displaying the user interface controlling the user experience and listening to events by creating web pages while the Main process manages the app by creating an instance of a window and loading these web pages on it. The main process is also responsible for communicating with the underlying platform to access system resources and databases.

This two layers of this architecture communicate with each other using a protocol called **“Inter Process Communication, IPC”** by which each layer emits and listens for an event in the other process.

**PS.**

* You can start the app by running the terminal command “electron .” in the main directory if node.Js and npm are installed on the machine.
* The alarm functionality is still under construction.