# SOFTWARE ENGINEERING: HOMEWORK - 1

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**GitHub Repository URL:**

https://github.com/Projects-ITU/Yadain

**Project Requirements:**

"Yadain" is a mobile application for traveling enthusiastic in Pakistan. The unique modules of this application are (1) Travel Companion, (2) Share and Preserve Pakistan's Oral History. It allow you to save and share your traveling logs which will be helpful in tracking your travel route history. It also recommends you a place that your friend or majority of users also explored when they came at the same place. That makes it a Travel Companion. You can tag picture at any specific place virtually using Augmented Reality while traveling, tagged picture will be visible to the users that opens the app and points the camera at the same place where you tagged the image. By that, memories can be preserved and shared with your loved ones. This will help in preserving Pakistan's Oral History. Users that don't want their information to be shared with anyone will have the option to keep it private.

**Do you think you need mathematical verification of correctness of your system or a part of your system? Why?**
No. Project is comprised of building a mobile application that will access some pre-build map API's as well as Augmented Reality modules. There isn't any module of the project that requires mathematical verification.

**Can you separate various concerns of your project from functional and quality perspectives? Highlight the concerns and describe how can you handle concerns separately?**
The main concern that I have is how to display the images that are supposed to be tagged using Augmented Reality. For that we thought to take help from Human Computer Interaction design principles.
Another concern is that Google maps API's are not totally free, they just allow few requests per month. For that we thought of using some open source map API's.

**Identify some functional modules in your system. Discuss coupling and cohesion aspects.**
There are two common modules in this mobile application. The first module is related to travel logging and recommending path. The second module is related to adding Augmented Reality based images at some specified geolocation. These two modules are not dependent on each other that's why we can say that they have low coupling. In each of its modules, there is high coherence in elements of modules because all of them are highly related to each other. Like in the case of first module, recommending path is based on the travel logs that are obtained by the users that visited the same place.

**Identify the potential future changes in your system. Pick one potential change and discuss how would you address it in your system?**
Most likely potential future change in the system can be that videos will also be allowed to tag using Augmented Reality. To get it done, it requires to make changes in the second module which is related to adding Augmented Reality based images at some specified geolocation. What is needed to be changed is that user will require to display a choice now and if the choice is image, the old functionality is supposed to be performed. If the choice is video, some new functionality is supposed to be implemented here that will be triggered.

**Which increments would your suggest if you are asked to build your system incrementally?**
If I am building my app incrementally, I will start with:
Build-1: Implement a basic travel logger that logs the path of the user.
Build-2: Implement travelling route recommendation in it.
Build-3: Implement AR based Image tagging at specified geolocation.