

# Task 1.1P

Hello Mobile World

## 1. Designing for Mobile

Three fundamental differences between mobile and PC operating systems are:

1. Telephony  
Smartphones by definition **must** be ready to accept an incoming phone call at a moment's notice, thus their apps must be able to handle being interrupted as they're less of a priority. This is a non-issue for PCs, which normally cannot take calls in the first place.
2. Hardware restrictions  
Smartphones are almost entirely used on battery, so preserving battery life must be considered. By contrast, this is another non-issue with Desktop computers and only a minor one with Laptops (where charging while in used is only a mild inconvenience.)
3. Aggressive Memory Allocation / Deallocation  
Smartphones have a very limited amount of processing power compared to the typical PC. Therefore, only the most recent two or three apps can be used, and memory hogs are likely to be deallocated. PCs on the other hand often have power to spare, so you can have many programs running at once.

Addendum, post discussion in lab:

4. Interruptions in the mobile environment  
Network and resource availability are not as guaranteed for a mobile device as they are on desktop. Mobile applications need to be developed with an expectation of an unstable connection so they can provide a smoother experience, while desktop programs don't have this constraint.
5. Difference in screen real-estate  
Also known as the separation of concerns. Using Gmail as an example, while the core content is still presented when accessed via mobile or via desktop, the design and layout of the site changes drastically to facilitate the mobile's smaller screen and specific needs. One can't have 'a bajillion' menus open and still see content in mobile, though it's still possible on desktop.
6. Handling lifecycle changes  
Unlike desktop programs which presume constant availability, mobile apps will be paused, resumed, stopped, restarted and so on. This means developers must consider how to preserve the user's data and the app's state as best as possible, just to give the illusion of a consistent experience.

## 2. My Own App

[Submitted Separately]