# Architecture requirements

## Architecture constraints

The constraints regarding the architecture of the system gives us a boundary or barrier outlining the system, and specifying our design within certain limitations.

According to the client, constraints in the system exist both on the hardware and software of the application.

**Hardware Constraints**

Firstly the system needs to be able to function on any personal computer. On this type of hardware the user will access the system via a browser and internet which we will get to in the software constraints.  
   
The system also needs to be able to run on any and all tablets available and should also be accessible through a browser, but more likely through an Android Application.  
  
Lastly, the system will need to function on a mobile phone. Older phones might only access the system from a browser, and newer smartphones should be able to access it both from a browser as well as an Android Application.

**Software Constraints**

The software constraints of the system are discussed a bit more and form a larger part of the boundary that we may better understand where and how we are limited. The technologies that must be used in this system are specified as the following:

* On web based systems, the application needs to function on all browsers available as well as all the versions of these browsers.
* Android is the only app based system that an app needs to be designed.
* MySQL will be used as database to store all the information such as marks and other student related information.
* GitHub will be used for a web based repository to store all of the information regarding the project.
* LDAP (Lightweight Directory Access Protocol) will be used as a user database that requires only a single sign on password.
* Python programming language should be used to create the system.
* Django must be used as a web framework, which is written in python, to complete the web based systems.
* SOAP (Simple Object Access Protocol) will be used as interface for exchanging information on the web services and across the network.
* UTF-8 must be used for encoding to keep information safe and secure.
* Audit trials must be followed for all access made to the system.