

# Intergration requirments

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2015-02-21

As the system will be accessed remotely through the internet it needs to integrate with web services. The GUI will be integrated online with HTML, JavaScript, CSS and any frameworks or libraries the developer decides to use as long as the system itself remains compatible on all browsers and does not use browser exclusive functionality. The system must be integrated with the server thus make use of appropriate server side technology such as AJAX and PHP. In summary the system needs to be accessed anywhere on any browser through any device regardless of screen resolution, computer operating system or hardware specification. Also the system must work with these technologies in a robust and consistent manner.

For mobile development the system is required to integrate with the Android mobile operating system. It must work correctly on all previous versions thus no dependency on current feature sets. It must also be scalable to future Android releases and switching from account access through Android to web access and vice versa must be seamless and secure. On that note the system must integrate well with security measures.

Externally the system must be integrated with a database system such as LDAP, MongoDB or an appropriate alternative the developer decides on. Provided that the system integrates with the database securely and it remains scalable. The system is also required to send emails to users thus it must have email integration either through external email servers, or technologies, or an internally created one. Any libraries or packages needed to realise the functional requirements must be integrated with the other technologies being used. It was decided that the system does not need to integrate with Google Calendars thus it will not be using the Google API.

The system will generate reports in the form of spreadsheets and this must be integrated with the appropriate technology such as Microsoft Excel or LibreOffice Calc. The system will also regularly generate statistics and graphs so it is imperative the system integrates with statistical modelling technologies. As the system will be primarily an internet based application the HTTP suite will be primarily used for website data passing from client to server. The sending of emails should adhere to the SMTP suite and message passing through the system can be achieved through TCP.

All integration needs to be seamless and not interfere with system performance. Security is also a major concern, thus technologies integrated must not threaten the system's security as a whole or other technologies. The system must remain portable to any Android device and to any browser. As the system may grow and shrink as users are added and deleted the system must be scalable. The data stored in the system will also increase thus storage integration must be scalable as well. The system must remain reliable with each integrated technology added, and any errors must be able to be traced to the technology causing it.