**Quality assurance**

Quality is hard to define and measure as quality can be subjective. There are two criteria to consider when addressing quality:

>Qualitative- Something which can’t really be measured and is somewhat down to individual opinion. e.g. looks good? Value for money etc (subjective properties)

> Quantitative this can help measure quality as it is usually a statistic/ measurement. By having measurements allows you to have an acceptable quality level? (Objective properties)

A common theme if the end product is ‘quality’ is if the software has turned out as expected, met specification, user requirements, legislation etc.

Looking at our project we looked at quality factors (external view) related to the example quality criteria (measurable criteria) to make sure our app for the engineering company will be to standards expected.

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| **Factors** | **Quality criteria** |
| **Software Build** -Correctness | **Traceability-** The app should store who has made changes i.e. Added Stock, Made an order etc, so if errors occur or problems occur, the item record can be restored/ staff consulted. |
| **Consistency –** Item locking to make sure, if software is accessed at the same time, updates won’t be lost. |
| **Completeness –** have required fields for adding new items to stock system. |
| -Reliability | **Fault tolerance**- What happens if the app breaks ortablet system goes down? Have a backup so the stock system can carry on working without any issues. |
| **Accuracy-** Validation and error messages to allow the app to be run smoothly |
| **Simplicity-** Avoid overcrowding of information, clear and easy to read, simple GUI/interface, simple commands. |
| -Efficiency | **CPU, Disk and Memory efficiency –** Any temporary storage to wipe, when app is closed. Limit fields and only store necessary information. |
| -Integrity | **Access control-** As there is no personal data stored in the app, security isn’t necessary but you don’t want unauthorised staff changing information. A pass code would be required to edit or delete data. |
| -Usability | **Operability-** Simple and easy to use . |
| **User friendliness-** Simple GUIS/Interface, Help available through the app, Simple instructions and buttons. Allow change of font sizes. |
| **Late stages of software development -**Maintainability |  |
| **Self-descriptiveness-** Keep the system simple and easy to use, which anyone working in a engineering company would be able to use. Clear, Simple English. |
| -Testability | **Testing-** The app should be fully tested before being released and installed, to fix any bugs which may occur. Beta testing by proposed clients, to see the app working in the environment it is expected too. Test the system against the research, aims and objectives, requirement specification. Create test plan to see if apps gain expected results and navigation work as excepted etc. |
| -Flexibility | **Modularity –** The nature of android as a development platform is that it is very modular. The application must be designed to exploit the activity segregation that is inherent in the android development platform. Where possible implicit intents must be used for system calls. |
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| **Expandability-** The app is currently for a local engineering company but eventually the aim is to expand so it will be in use in most warehouses which require stock control. Use on android smart phones and conversation to work on Apple products too. |
| **The apps future**  -Portability | **Machine independence**- The software can be installed on any tablet which runs android. And can be used anywhere in the companies warehouse as it will be installed on a tablet. |
| -Reusability | **Software system independence-** Can be installed on any android tablet. To make sure the system stays reliable when on more than one system, record lock will allow this. |
| -Interoperability | **Interface commonality-** In this case the database is in SQL so it is important that it can be exported in an SQL format for other applications to manipulate data |
| **Data commonality-** Consistency between stock and system**.** |