Ponder 02: Quality Model

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In *The Pearl of Great Price* we read, “I, the Lord God, created all things spiritually before they were naturally upon the face of the earth. [1]”(See Moses 3:5). Then standard works comprising the Holy Bible, the Book of Mormon, Doctrine and Covenants and Pearl of Great Price all contain not only evidence by insight into how the process was made. During this creative period it is clear that standards of quality were determined and ultimately carried out under the direction of Heavenly Father. Analysis of this celestial quality model is both instructive and ultimately necessary if we are to obtain the fullest measure of creation. To that end a quality model for software engineering will be attempted here that is patterned after the celestial quality model outlined in the Holy Scriptures and taught by modern prophets.

The model of software quality derived can be expressed using the following formula:

**Relevance to Market**

This is measure of whether a software product or service is doing something that the market cares about. If a software product is addressing a real and tangible need then it’s more likely to return value. The latest and greatest spoon means nothing to someone who needs a knife. Software development must be laser focused on getting and remaining relevant to the market. “Every Feature adds value; either measure it or don’t do it.” [2]

**Efficacy**

This is the measure of whether a software product does what it is supposed to do. Ensuring that software functions the way it was designed and intended is the most fundamental of measure of software quality. If software does work then it is of little value to anyone.

**Scalability**

Quality software can be extended, repurposed, and reused. It should be able to both vertical and horizontal scaling. Let’s explore what this means exactly:

**“***Vertical scaling* means that you increase your overall capacity by increasing the capacity of its machines. E.g.: if you’re running out of disk space, you could add more hard disks to your database server.

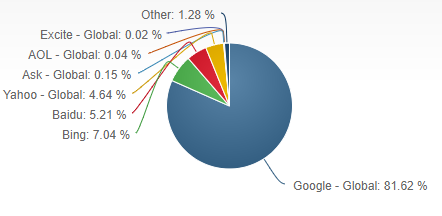
*Horizontal scaling* means adding more machines to your setup.” [3]

Quality software is written to accommodate both type of scaling and vertical scaling. Software that requires massive amounts of rework, configuration and change to meet the changing needs of stakeholders reflects a lack of scalability. Software should be written as generically as possible so that it functions without it becoming limited by how it performs operations.

**Trust and Creditability**

Trust and Creditability are slight different. Trust refers specific to the degree in which something can be relied on. Creditability refers to people’s perception of that trustworthiness.

Quality software becomes something upon which users naturally rely or trust. This metric is something that is really an x-factor measure of all the previous metrics presented. Software that has a high level of trust becomes something that users use regularly. Consider the following analysis of search Engine usage by Net Market Share [4]:



The Google search engine has become so trusted that they added it the Merriam-Webster added them to the dictionary. Other search engines despite offering the same sort of thing are simply suffer from not having the same level of trust or creditability. Trust and creditability are multipliers of all other quality metrics. Note the effect of having little to no trust. If you have zero trust then the overall software value dismisses. The value created from having trust cannot be overemphasized. Trust is extremely powerful.

**Conclusion**

In sales, value refers to the point at which a customer will act to get something. In this software quality model, value refers to the point at which a software’s quality drives users to use it.

Ultimately the goal of designing software is to create something that solves a problem. Committing to create high quality is about solving problems in the best way possible.

# Works Cited

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| [1] | The Pearl of Great Price. |
| [2] | "9 metrics that can make a difference to today’s software development teams," TechBeacon, [Online]. Available: https://techbeacon.com/9-metrics-can-make-difference-todays-software-development-teams. [Accessed 23 09 2017]. |
| [3] | M. Mullie, "How to make your code scale," [Online]. Available: https://www.mullie.eu/why-your-code-doesnt-scale/. [Accessed 23 09 2017]. |
| [4] | "Webster's Third New International Dictionary, Unabridged.," Merriam-Webster, [Online]. Available: http://unabridged.merriam-webster.com/. |