## Quality Attributes

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| Quality | Concern | Description |
| Performance | Response time | Indication of responsiveness of a system to execute any action within a given time interval. It can be measured in terms of latency or throughput. Latency is the time taken to respond to any event. Throughput is the number of events that take place within a given amount of time |
| Delay time | For interactive into systems requires more time to handling, these transactions are processed and with an average latency of two seconds. |
| Availability | Easy to configure | Concerned with system failure and its associated consequences. A system failure occurs when the system no longer delivers a service consistent with its specification |
| Security | Security Member’s information | The capability of a system to prevent malicious or accidental actions outside of the designed usage, and to prevent disclosure or loss of information. A secure system aims to protect assets and prevent unauthorized modification of information |

The Quality Attributes ranking must base on both priority of stakeholder (Important) and project team. The following ranking table has 5 point scale increase from 1 to 5.

QA will be calculate in Priority column with formula Priority = (SP\*2 + TP)/3

* The priority is high if point >= 4.0
* The priority is medium if point 3.5<= Final <4.0
* The priority is medium if point Final <3.5

**Quality Attribute Ranking Table**

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| --- | --- | --- | --- | --- | --- |
| Quality Attributes | QA\_ID | Short Description | Stakeholder Point | Team Point | Priority |
| Performance | QA\_P01 | Sales staff scanning products code while the system is operating normally, |  | 5 |  |
| QA\_P02 | The manager performs the statistical reports while the system is operating normally |  | 5 |  |
| QA\_P03 | The staff scans the Member's card while the system is operating normally |  | 5 |  |
| QA\_P04 | Sales staff sends confirmation of payment request while the system is operating normally |  | 5 |  |
| Availability | QA\_A01 | Computer in retail store send a request for bill payment to server in head office while the system is operating normally. |  | 3 |  |
| Security | QA\_S01 | Sales staff login into the system from an external computer while the system is operating normally |  | 4 |  |
| QA\_S02 | The manager request to view a statistical report from any computer with an internet connection while the system is operating normally. |  | 4 |  |

### Performance:

Sales staff scanning products code while the system is operating normally, the system will display product’s information within 1 second

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| --- | --- |
| Portion of scenario | Possible values |
| Scenario ID | QA\_P01 |
| Source | Sales staff |
| Stimulate | Scanning products code |
| Artifact | System, information in the system |
| Evironment | System is operating normally |
| Respone | Display product’s information |
| Respone measure | within 1 second |

The manager performs the statistical reports while the system is operating normally, the system displays information reported within 5 seconds

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| Portion of scenario | Possible values |
| Scenario ID | QA\_P02 |
| Source | The manager |
| Stimulate | Performs the statistical reports |
| Artifact | System, information in the system |
| Evironment | System is operating normally |
| Respone | System displays information reported |
| Respone measure | Within 5 seconds |

The staff scans the Member's card while the system is operating normally; the system displays the Member information within 2 s

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| --- | --- |
| Portion of scenario | Possible values |
| Scenario ID | QA\_P03 |
| Source | The staff |
| Stimulate | Scans the Member's card |
| Artifact | System, information in the system |
| Evironment | System is operating normally |
| Respone | System displays the Member information |
| Respone measure | Within 2 s |

Sales staff sends confirmation of payment request while the system is operating normally, system confirm request, save billing information in the database and notify successful payment within 2 s

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| --- | --- |
| Portion of scenario | Possible values |
| Scenario ID | QA\_P04 |
| Source | Sales staff |
| Stimulate | Sends confirmation of payment request |
| Artifact | System, information in the system |
| Evironment | System is operating normally |
| Respone | System confirm request, save billing information in the database and notify successful payment |
| Respone measure | Within 2 s |

### Availability:

Computer in retail store send a request for bill payment to server in head office while the database has been crash. The system will accept payment requests, stores the information in the database backup and respond to machines in retail store with no downtime

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| --- | --- |
| Portion of scenario | Possible values |
| Scenario ID | QA\_A01 |
| Source | Computer in retail store |
| Stimulate | request for bill payment |
| Artifact | System, information in the system |
| Evironment | The database has been crash |
| Respone | The system will accept payment requests, stores the information in the database backup and respond to machines in retail store |
| Respone measure | No downtime |

### Security

Cashiers login into the system from a computer outside of the retail store while the system is operating normally. The system will not allow logins and sends out a message to the user that they can’t log in from external computer systems

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| --- | --- |
| Portion of scenario | Possible values |
| Scenario ID | QA\_S01 |
| Source | Cashiers |
| Stimulate | Login into the system from a computer outside of the retail store |
| Artifact | System, information in the system |
| Evironment | System is operating normally |
| Respone | The system will not allow logins and sends out a message to the user that they can’t log in from external computer systems |
| Respone measure | Within 2 s show “Login failed” message |

The manager request to view a statistical report from any computer with an internet connection while the system is operating normally. The system displays the information reported within 5 seconds

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| Portion of scenario | Possible values |
| Scenario ID | QA\_S02 |
| Source | The manager |
| Stimulate | Request to view a statistical report from any computer with an internet connection |
| Artifact | System, information in the system |
| Evironment | System is operating normally |
| Respone | The system displays the information reported |
| Respone measure | Within 5 seconds |