**Assignment # 1**

1. Write down the five examples of different types of external quality attributes and five internal quality attributes of MAJU Portal. Please write two examples of each external and internal quality attributes.

**External Quality Attributes:**

# Availability:

AVL-1: The Maju Portal 85% available from 8am to 12pm. On Saturday and Sunday 90% portal available from 8am to 5pm.

AVL-2: The downtime of portal is on Sunday from 1 AM to 5 AM.

# Integrity:

INT-1: The portal will not allow insertion, deletion and updating from an unauthorized person.

INT-2: The Portal will notify immediately when an unauthorized person is trying to access the portal.

# Performance:

PER-1: At a time, system can handle 200 insertion of data and it will take 10 insertions in 10 sec

PER-2: Portal will fully open in an average of 4 Seconds and can run on 10 mb/sec internet connection.

# Robustness:

ROB-1: if portal crash it will immediately log out all current users that are currently login. After portal again start to work all data will be recovered.

ROB-2: on invalid inputs the portal will tell what to enter and portal can handle invalid inputs and work perfectly.

# Security:

SEC-1: The limit of unsuccessful attempts to login is 3 after that the user will be considered an unauthorized person.

SEC-2: All Students, Teachers and Faculty data will be secure and can be access by only authorized members. Like Teachers and Students.

**Internal Quality Attributes:**

# Scalability:

SCA-1: The portal memory capacity 5000 records, but in extreme condition this memory will expand to 10000 records within an hour.

SCA-2: The Maju Portal shall be able to accommodate up to 100 members.

# Efficiency:

EFF-1: The portal will safe 40% of memory to deal with the memory load condition when System consume that memory than system will notify user about system load.

EFF-2: EFF-2: portal can perform 100 insertions with time limit of 1 min if this surpass than system will run on extreme condition and notify user about the condition or usage load.

# Portability:

POR-1: The portal is run on browser chrome, after modifying this can also be run in Firefox, Safari by changing 10% of code.

POR-2: The system code is easy to understand and can be modify easily. The system can be modified to use on android and IOS as an app.

# Reusability

RES-1: The portal Functions like students details entry, Marks entry, Courses entry, update, delete and user interface can be reuse by some modification.

RES-2: At least 30 percent of the web application architecture shall be reused in future projects.

# Verifiability

VER-1: If portal is showing bugs so, the tester shall be able to debug the web app to find bugs and resolve them.

VER-2: Tester can verify results by looking at Actual and Expected results like Grade Calculation. And can resolve the error if there is any.