# Imprinted Software Quality

Quality is the measurable degree to which the software satisfies requirements, conforms to specifications, and meets vendor’s expectations. The 911 subsystem has implanted following McCall quality attributes to strive for a better performance of the subsystem:

## Integrity

LogIn component is to ensure that control is only passed after authentication. This is to prevent unauthorized personnel from accessing the data in 911 system. The following diagram shows the structural implementation of this quality attribute:

https://lh3.googleusercontent.com/I3-JySUVj1WXYcSeUr7bgDQNnpeaGrFrLp8xoN5kW2Y7TKzPFZABtYAjQ0nsqUbvMfvymBmc_w2f8AlWEdCTG6d-7o8e1Qdh7Ggk1sattul9eLNISXMtht4tEnhFBgEh3foM3rYC

As seen from the diagram, operators need to authenticate themselves before being able to enter the system. They need to enter their own userID and password for log in purposes, and the information will be then passed to LogIn component for verification. Only upon successful authentication will the control be passed to the next process, in this case, CreateRequest.

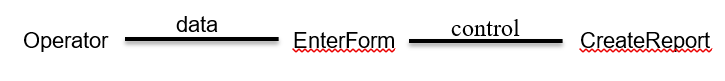
## Flexibility

The system should be able to handle exceptions risen from the system. For example, in the 911 subsystem, if a user fails to log in for a few times, some exception handling process will be triggered. The following diagram illustrates our idea:

flexibility.png

In the case of several consecutive times of log-in failure performed by the user, the system will go to AuthenticationFailHandling component to work on this exception.

## Usability

Upon successful login, the operator, once answered the call, would be required to key in the details in the form before generating the report. The following diagram illustrates our idea:  


Upon creating the report, the system will go back to the main page and wait for another incident call, before creating another report.

## Correctness

The main objective of our system is to allow our operators to be able to create a report based on details given by the caller. So, our functionality allows the operator to log in, upon successful logged in, then would the operator be able to create report. However, if the operator’s authentication failed, then AuthenticationFailHandling will handle the exception, as per the specification of the 911 system.