**Rollno : 1714097 Experiment 2 Batch: B2**

**Aim : Identification of functional and non-functional requirements**

**Results:**

**Functional Requirements:**

* **Customer :** The requirements of the valid customer are offered.
* **Login** : A customer to be able to use this system, he/she has to enter username and password which he/she has created before and been saved in the database in the Login page. The input in this function most be valid username and valid password and the output if the user is valid user then he/she will get into a page which can makes has/her transaction, but if the user made wrong in username or password then he/she will be invalid user and will see a message “Alert Invalid Username and Password” and to login again.
* **View Account** : View Account allows to a customer to view today’s up-to the minute balance information on deposit (saving/current), credit card, etc. But the customer most be logged in the internet banking.
* **Pay Bills** : The customer most be logged into Banking System. With internet banking, customers can make payments to corporations that include utilities, assessments, Insurance, telecommunications, and other services. The customers can use Online Pay Bill service to pay bills by debiting their account. The customer needs to key in his/her bill account number each time you make a payment.
* **Authentication :** When logging in, users commonly enter usernames and passwords for authentication purposes. This login combination, which must be assigned to each user, authenticates access. However, this type of authentication can be circumvented by hackers.So in order to avoid this verification of user presence is performed by sending OTP to the registered phone number/mail account etc. This makes it more difficult for hackers to break into systems.
* **Authorization levels :** A user can authorise transactions up to his/her daily limits and/or transaction limits. Different staffs are assigned different levels of access to user accounts.
* **Legal or Regulatory Requirements :** The most important rationale for regulation in banking is to address concerns over the safety and stability of financial institutions, the financial sector as a whole, and the payments system. Mandatory deposit insurance schemes are introduced in order to avoid bank runs.
* **Transaction History :** After the user has logged in , he/she can view the transaction history. the system will show the View Account page and display a message” Please click on the respective account/card types for more details. Customer can choose current account or saving account for more details.
* **Apply for extra bank features:** unique features to their accounts tab along with the usual ones:
* **Set a saving goal** — User can set a desired amount and a time by which they want to save it.
* **Make an investment** — User can place an investment order if they have an investment account.
* **Make repeat payments** — If Users have already sent money to a friend or family member, they can tap on a previous transaction and send money again without entering any recipient data.
* **Intelligent chatbot for customer support** --  A chatbot can easily answer hundreds of customers at the same time without making them wait in line.

**Non-Functional Requirements:**

* **Performance :** The online banking system is a multi- user system, which implies distinctive clients can access the system simultaneously and the system will work accurately and proficiently. So the client is more worried about the performance of the online banking. The term performance suggests the ability of the system or software to process the same number of transactions every second as submitted to it without failure.
* **Scalability** : The degree to which the system is able to expand its processing capabilities upward and outward to support business growth. The system shall support unlimited customer, account, and transaction relationships.
* **Availability** : The degree to which users can depend on the system to be up (able to function) during “normal operating times”. The System shall be available for use between the hours of 6:00 a.m. and 11:00 p.m. IST.
* **Recoverability :** Recoverability implies the ability to restore your software to the point when failure occurred. restarting the machine when the online banking application is running, or it is getting information and so on. Software can get back from failures at the very instance when the failures occur. The online banking must have the capacity to recover itself from the failures which may happen due to internet problem or because of some other reason. The online banking ought to have the capacity to recover the influenced information after failure and must have the ability to restore the sought level of execution or performance.0
* **Maintainability** : The ease with which faults in a software system can be found and fixed.
* **Security/Safety** : The degree to which the software system protects sensitive data and allows only authorized access to the data. Security Number shall never be viewable at the point of entry or at any other time.  Only the last four digits of a SSN will be displayed on printable electronic documents. The customer service call center shall analyze 95% of the problem reports within 2 hours.  Items classified as “urgent” shall be repaired within 3 business days in 98% of the reported cases. The system shall not be shut down for maintenance more than once in a 24‐hour period.

**Questions:**

**1. Explain difference between functional and non-functional requirements.**

| **Parameters** | **Functional Requirement** | **Non-Functional Requirement** |
| --- | --- | --- |
| What it is | Verb | Attributes |
| Requirement | It is mandatory | It is non-mandatory |
| Capturing type | It is captured in use case. | It is captured as a quality attribute. |
| End-result | Product feature | Product properties |
| Capturing | Easy to capture | Hard to capture |
| Objective | Helps you verify the functionality of the software. | Helps you to verify the performance of the software. |
| Area of focus | Focus on user requirement | Concentrates on the user's expectation. |
| Documentation | Describe what the product does | Describes how the product works |
| Type of Testing | Functional Testing like System, Integration, End to End, API testing, etc. | Non-Functional Testing like Performance, Stress, Usability, Security testing, etc. |
| Test Execution | Test Execution is done before non-functional testing. | After the functional testing |
| Product Info | Product Features | Product Properties |

**Outcomes:**

Understand process models.

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**Conclusion:**

Successfully identified the Functional and Non-functional Requirements for a E-Banking System Software.