

Project Start Date: 09-Oct-2018

Project Submission Date: 01-Sep-2018

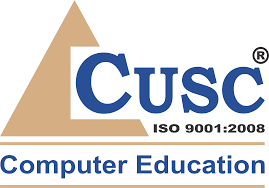
***Supervisor:***

HUONG HOANG LUONG

**Project – SEM 2**

**JAVA**

**Project: ATM Application**



***Group 1:***

Student1058384 HUY DANG TUAN

Student1111738 PHONG TRAN TRUNG

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| **Design Plan:**  ​**Automated Teller Machine (​ATM​)** | **Document Name:**  Problem Definition | **SWD/Form No.1** |
| **Effective Date: 09/10/2018** | **Version 1.0** | **Page 1/2** |

We are in the very exciting era of the world. Our world nowadays is on the rise of globalization. Everything that people had had to do before technology’s arrival took themselves a lot of time to be done. It has not been so long today since people have invented more and more things to facilitate every activity. We can travel faster and longer. We can communicate with each other more conveniently and faster.

Our business is rising too fast that we can barely manage with only our bare hands, pens, pencils, and books. Tons of reports and tons of transactions come every minute, and people cannot handle those copious problems. If there is something wrong with our business, we can hardly resolve that by looking along our writings in our books to figure out what our errors of a business are.

Therefore, to accommodate our need of extending business, technology comes in as an assistance for our management. We commence to transact through giant organizations which are called “banks.” Those organizations, as a result, would involve talented people who find and think of any ideas to effectively manage, protect, and sustain transactional system. People come up with a system that can help the banks and many people interact with each other in order to do any transactions. That system includes ATM (Automated Teller Machine)

 ATM is an electronic telecommunications device that enables customers of financial institutions to perform financial transactions, such as cash withdrawals, deposits, transfer funds, or obtaining account information, at any time and without the need for direct interaction with bank staff. Each time a new user enters the ATM room are supposed to provide their authentication details. The initial screen of the ATM system should appear “Enter your card number” button along with the keypad. Once the card number is entered and button is clicked it should check its availability in the database and if it is not available then the error message should be generated stating the user is invalid else the password field would appear, user needs to enter the password. Once the password is verified, the screen appears with following buttons: Deposit, Withdrawal, Balance, Enquiry, Change Password, Transfer money…Building a software simulation ATM is a pressing problem. The software is based on the Java programming language (Java swing). Software can simulate a complete ATM function.

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| **Design Plan:**  ​**Automated Teller Machine (​ATM​)** | **Document Name:**  CRS | **SWD/Form No.2A** |
| **Effective Date: 09/10/2018** | **Version 1.0** | **Page 1/4** |

**Client**: **Automated Teller Machine (​ATM​)**

* 1. **Business/Project Objective:**
* The application should be a server specific application, and it should provide a multi user access.
* The People of the agency department should be able to connect to the database, which is set up on the server from their respective systems.
  1. **List of Inputs to the system**
* **Input for the application**
* **Manager**
* Username: Name of Manager
* Password: Password of Manager
* FullName: Full Name of Manager
* Address: Address of Manager
* Email: Email of Manager
* Phone: Phone of Manager
* Role: Name of role of Manager
* **ATM**
* ID: ID of ATM Tree
* ATM\_Name: Name of ATM Tree
* ATM\_Place: Address of ATM Tree
* ATM\_Status: Status of ATM Tree
* **ATMCard**
* ATMCardID: ID of card ATM
* PIN: PIN code of card ATM
* Customer\_ID: ID of Customer
* ATMCard\_Active: Time Actice of card ATM
* ATMCard\_Expiry: Time Expiry of card ATM
* ATMCard\_Status: Status of card ATM
* **Customer**
* Cus\_Account: Account of Customer
* Cus\_Name: Name of Customer
* Cus\_Address: Address of Customer
* Cus\_Email: Email of Customer
* Cus\_Phone: Phone of Customer
* Cus\_Gender: Gender of Customer
* Cus\_Status: Status of Customer
* Cus\_Blance: Blance of Customer
* Cus\_Birth: Birth Day of Customer
* Cus\_IdentytiCard: IdentytiCard of Customer
* **Transaction**
* TS\_CustomerID: ID of Customer
* TS\_Customer\_Sub: ID of Customer
* ATMID: ID of ATM
* ATMCardID: ID of Card ATM
* TS\_Manipulation: Manipulation of Transaction
* TS\_Money: Money of Transaction
* TS\_Date: Date of Transaction
* TS\_Status: Status of Transaction
* TS\_Blance: Blance of Transaction
* **Setting**

ID:

ST\_BlanceMin: Blance Min of Setting

ST\_Withdrawal\_MaxDay: Max day withdrawal of Setting

ST\_Withdrawal\_AmountMin:Amount min withdrawal of Setting

ST\_Withdrawal\_AmountMax: Amount max withdrawal of Setting

ST\_Withdrawal\_AmountDayMax: Amount day max withdrawal of Setting

ST\_Withdrawal\_Fee: Fee withdrawal of Setting

ST\_ViewBlacce\_Fee: Fee view blacce of Setting

* 1. **List of Outputs expected from the system**

Display a list of roles

Display a list of admins

Display a list of users

Display a list of transfer

Display a list of deposit

Display a list of withdraw

Display a list of history transaction

Information of ATM cards

* 1. **Overview of process involved in the system**
* Login
* Search
* Register

**Process Admin tools:**

* Add User/ Admin
* Block User/ Admin
* Add Card User/ Admin
* Edit User /Admin

**Process Users tools:**

* Edit Pin
* Transfer
* Deposits
* Withdraw
  1. **Hardware Requirements:**
* A minimum computer system that will help you access all the tools in the courses is a Core 2 Dual or better.
* 1G RAM or higher.
  1. **Software Requirements:**
* Windows XP (or higher if possible).
* Java Virtual Machine.
* NetBeans 8.2 (or higher).
* JDK8 (or higher).
* SQL Server 2008 R or higher.
* JDBC Driver.

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| **Design Plan:**  ​**Automated Teller Machine (​ATM​)** | **Document Name:**  CRS / Customer Acceptance Criteria | **SWD/Form No.2B** |
| **Effective Date: 09/27/2018** | **Version 1.0** | **Page** |

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| **S.No** | **Customer’s Acceptance Criteria** |
| 1 | *Software interface friendly* |
| 2 | *The application is easy to install* |
| 3 | *The Specification documents are easy to understand* |
| 4 | *The Design documents are full* |
| 5 | *Easy Maintenance* |
| 6 | *Black box testing* |
| 7 | *Do not generate much error when using* |
| 8 | *Security* |

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| **Design Plan:**  **Automated Teller Machine (​ATM​)** | **Document Name:**  **Project Plan** | **SWD/Form No.3** |
| **Effective Date: 09/10/2018** | **Version 1.0** | **Page 1/3** |

1. **Project Plan**
   1. **Project Details**
      1. **Name of Client**

* Company’s name: Poor Banking.
* Address: 1st Ly Tu Trong Street, Ninh Kieu District, Can Tho City.

**Date of Project Plan**

09-Oct-2018

* + 1. **Project Vision/Objectives**
* ATM are built complete with the Java programming language (Java Swing) with a desire that can help Poor Banking and many people interact with each other in order to do any transactions safely and effectively
  + 1. **Scope**

***There should be two modules in the system***

* **Admin Login**
* **User Login.**
* **ADMIN:**
* **Creating the account of the user by providing a unique identification number and four-digit PIN (Personal Identification Number) and also by filling the basic details like name, contact number, gender, address.**
* **Rules to be followed while performing transaction are:**

**DEPOSIT: -**​ There should be verification / check for deposit: a user neither can deposit more than 25000 $ in a single day nor the user can deposit more than 5 times in a single

day.

**WITHDRAW: -**​ There should be verification / check for withdrawal: a user neither can withdraw more than 25000 $ in a single day nor the user can withdraw more than 5 times in a single day

**BALANCE ENQUIRY: -**​ On click of this button user last balance should be stated. Along with this, user can view the last 5 transaction with a complete description such as date, debited, credited and particulars of the transaction.

**CHANGE PASSWORD: -**​ Here user can change the ATM SYSTEM password for these three fields should appear: one for the old password and other two for the new password and confirmation password respectively. Once the password is changed the user​ ​page should log out automatically and then he/she is supposed to login with the new password

* **Reports:**

**WITHDRAWAL REPORT**​: Here the Date is taken as input and all the withdraw transaction done on that day should be generated with the fields like name, unique number, withdraw amount, balance.

**DEPOSIT REPORT:** ​ Here also the date is taken as input and all the deposit transaction done on that day should be generated with fields like name, unique number, Deposited amount, balance.

**TRANSFER REPORT:** ​ Here also the date is taken as input all the transfer details report should be generated with fields such as Name of the debtor, Unique number of debtor money transfer, balance of the debtor, name of the creditor, unique number of the creditor, balance of the creditor.

**ACCOUNT REPORT:** ​Here the list of all the registered user should be displayed with details like name, unique identification number, password, contact number, gender, age.

* **USER:**
* **Rules to be followed while performing transaction are:**

**DEPOSIT: -**​ Every time user clicks on the deposit button a text field appears on which user can enter the amount he wants to deposit and then he needs to click on the ‘Enter” button to deposit the amount ATM SYSTEM

**WITHDRAW: -** Every time user clicks on the withdrawal button a text field appears on which user can enter the amount he/she wants to withdrawal and then needs to click on the ‘Enter” button to withdraw the amount. If the user is entering the amount more than his/her balance then the error message should be generated stating “Invalid Balance”

**BALANCE ENQUIRY: -** On the click of this button the available balance of the user should be on the display.

**CHANGE PASSWORD: -** It would help the user to change / reset the password. Once the user clicks on the change password button three password fields should appear: one for the old password and the other two fields for new password and confirmation of the new password respectively. Once the password is changed the user should be led to “very first screen” and needs to enter with the changed password.

* + 1. **Our understanding of the client organization**
* Poor Bank is an indigenous Kenya bank with 33 years’ experience using the power of finance to support businesses and projects that benefit the people and the planet. We know that banking can be a powerful force for good: serving individuals and communities as well as building a more sustainable society.
* We are investing in our customer relationships to create a web of successful and satisfied individuals and businesses that are contributing sustainable communities that effectively play their role in the economy. We are constantly embracing new technologies to offer you a definitive banking experience as we empower you to ACHIEVE THE EXTRAORDINARY.
* Poor Bank has carved a special niche in providing focused financial services and solutions to a wide range of client base who include individuals, Small and Medium Enterprises, and Corporate organizations, Saccos, Learning Institutions, Religious Institutions and service providers for various economic sectors.
* We facilitate efficient service to our business clients through innovative, customized financial solutions, emphasizing our main strengths in asset finance, trade finance, and international and local remittance solutions, invoice discounting, overdrafts and term loans. We also have a variety of personal banking solutions that are flexible and focused on meeting the specific financial needs of our individual customers in every economic sector of East Africa.
* We also offer a wide range of local and international money transfer services in partnership with other reputable money transfer organizations such as MoneyGram, Western Union, Trans Fast, Instant Cash, Al-Dadaab, Ria, iRem (for India) among others.
  + 1. **Project Organization with Responsibilities and Authorities**

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| --- | --- |
| **Authorities** | **Role** |
| Huy Tuan Dang A17007 | Team Leader |
| Phong Trung Tran A18038 | Member |

* 1. **Project Initiation/Requirement Documents**

**Xong roi giao cai gi cho nguoi ta**

* 1. **Deliverables**
* Document

Customer Requirement Specification

* DFD
* Process Diagrams

Design document

* DB Design / Structures
* Flow Charts
* ER Diagrams
* Data Structures

User Guide / Installation Guide

* 1. **Project Dependencies**
* Budget
* Staff
* Equipment
* External interfaces
* Safety
* Security
* Cost-Effectiveness
* Capacity
* Environment
  1. **Major Project Milestones**

|  |  |  |
| --- | --- | --- |
| **Date** | **Task with Mr. Huong** | **Note** |
| **9 – 10 - 2018** |  |  |
| **11 – 10 - 2018** |  |  |
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* 1. **Quality Plan**
     1. **Review Activities**
     2. **Testing Activities**

**Nhap lieu**

* + 1. **Backup and recovery strategies**

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| **Design Plan:**  **Automated Teller Machine (​ATM​)** | **Document Name:**  **GUI Standards Document** | **SWD/Form No.4** |
| **Effective Date: 09/10/2018** | **Version 1.0** | **Page 1/?** |

**Document Design**

|  |  |
| --- | --- |
| **Property** | **Values** |
| Document name and color scheme |  |
| Form- Background color | White |
| Title-Font Size |  |
| Title-Font Color | Black |
| Title-Font Style | Times New Roman |
| Title-Alignment |  |
| Background color of Controls on the form |  |
| Foreground color of Controls on the form |  |
| Control Caption  Font Size |  |
| Control Caption  Font Color |  |
| Control Caption  Font Style |  |
| Controls caption and controls-Alignment |  |
| Command button-Alignment |  |

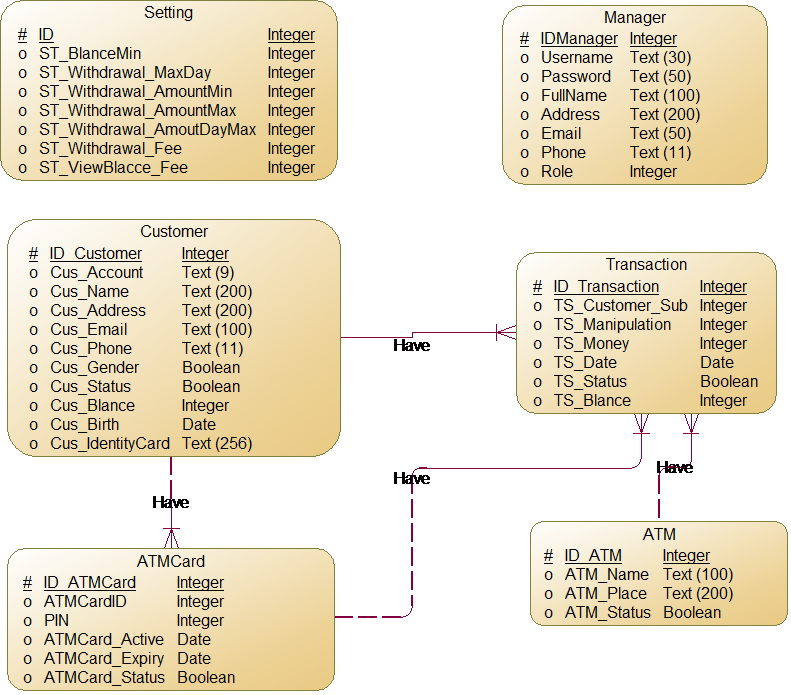
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| **Design Plan:**  **Automated Teller Machine (​ATM​)** | **Document Name:**  **Interface Design Document** | **SWD/Form No.5** |
| **Effective Date: 09/28/2018** | **Version 1.0** | **Page 1/?** |

**List of forms to be create**

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| **Document Name** | **Description** | **Controls on the Document** |
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| **Design Plan:**  **Automated Teller Machine (​ATM​)** | **Document Name:**  **Table Design Document** | **SWD/Form No.6** |
| **Effective Date: 09/28/2018** | **Version 1.0** | **Page 1/?** |

1. **CMD (Conceptual Data Models)**

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1. **Tables Design**
   1. **ATM (ATM Tree)**

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| --- | --- | --- | --- | --- |
| **Table: ATM** | | | | |
| **Fields** | **Data Type** | **Allow Nulls** | **Key** | **Description** |
| ID | int | Not Nulls | Primary Key | ID of ATM Tree |
| ATM\_Name | nvarchar (100) | Not Nulls |  | Name of ATM Tree |
| ATM\_Place | nvarchar (200) | Not Nulls |  | Location of ATM Tree |
| ATM\_Status | bit | Not Nulls |  | Status of ATM Tree |

* 1. **ATM Card**

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| --- | --- | --- | --- | --- |
| **Table: ATMCard** | | | | |
| **Fields** | **Data Type** | **Allow Nulls** | **Key** | **Description** |
| ID | int | Not Nulls | Primary Key | ID of ATM Tree |
| ATMCardID | int | Not Nulls |  | ATM Card ID |
| PIN | int | Not Nulls |  | Pin Code |
| Customer\_ID | int | Not Nulls |  | ID of Customer |
| ATMCard\_Active | datetime | Not Nulls |  | Date Active |
| ATMCard\_Expiry | datetime | Not Nulls |  | Date Close |
| ATMCard\_Status | bit | Not Nulls |  | Status of Card |

* 1. **Transaction**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table: Transaction** | | | | |
| **Fields** | **Data Type** | **Allow Nulls** | **Key** | **Description** |
| ID | int | Not Nulls | Primary Key | ID of Transaction |
| TS\_CustomerID | int | Not Nulls | Foreign Key | ID of Customer |
| TS\_Customer\_Sub | int | Not Nulls |  | ID of Customer (receiver) |
| ATMID | int | Not Nulls | Foreign Key | ID of ATM |
| ATMCardID | int | Not Nulls | Foreign Key | ID of ATM Card |
| TS\_Manipulation | int | Not Nulls |  | Manipulation with Transaction |
| TS\_Money | bigint | Not Nulls |  | The amount of the transaction |
| TS\_Date | datetime | Not Nulls |  | Day trading |
| TS\_Status | bit |  |  | The status of the transaction |
| TS\_Blance | bigint |  |  |  |

* 1. **Customer**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table: Customer** | | | | |
| **Fields** | **Data Type** | **Allow Nulls** | **Key** | **Description** |
| ID | int | Not Nulls | Primary Key | ID of Customer |
| Cus\_Account | varchar(9) | Not Nulls |  | Account of Customer |
| Cus\_Name | nvarchar(200) | Not Nulls |  | Customer Name |
| Cus\_Address | nvarchar(200) | Not Nulls |  | Address of Customer |
| Cus\_Email | varchar(100) | Not Nulls |  | Email of Customer |
| Cus\_Phone | varchar(11) | Not Nulls |  | Phone of Customer |
| Cus\_Gender | bit | Not Nulls |  | Gender of Customer |
| Cus\_Status | bit | Not Nulls |  | Status of Customer |
| Cus\_Blance | bigint | Not Nulls |  | Balance of Customer |
| Cus\_Birth | datetime | Not Nulls |  | Birthday |
| Cus\_IdentityCard | varchar(9) | Not Nulls |  | Identity Card |

* 1. **Setting**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table: Setting** | | | | |
| **Fields** | **Data Type** | **Allow Nulls** | **Key** | **Description** |
| ID | int | Not Nulls | Primary Key | ID of Setting |
| ST\_BlanceMin | bigint | Not Nulls |  | The minimum amount in the account |
| ST\_Withdrawal\_MaxDay | int | Not Nulls |  | The maximum number of withdrawals of the day |
| ST\_Withdrawal\_AmountMin | bigint | Not Nulls |  | The minimum withdrawal amount 1 times |
| ST\_Withdrawal\_AmountMax | bigint | Not Nulls |  | The maximum withdrawal amount 1 times |
| ST\_Withdrawal\_AmoutDayMax | bigint | Not Nulls |  | The maximum withdrawal amount 1 day |
| ST\_Withdrawal\_Fee | bigint | Not Nulls |  | Withdrawal fee of 1 time |
| ST\_ViewBlacce\_Fee | bigint | Not Nulls |  | View Balance fee of 1 time  (Free) |

* 1. **Manager**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table: Setting** | | | | |
| **Fields** | **Data Type** | **Allow Nulls** | **Key** | **Description** |
| ID | int | Not Nulls | Primary Key | ID of Manager |
| Username | varchar(30) | Not Nulls |  | Username |
| Password | varchar(50) | Not Nulls |  | Password |
| FullName | nvarchar(100) |  |  | Full Name |
| Address | nvarchar(200) |  |  | Address of Manager |
| Email | varchar(50) |  |  | Email of Manager |
| Phone | varchar(11) |  |  | Phone of Manager |
| Role | int | Not Nulls |  | Role |

1. **Database Diagrams**

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| **Design Plan:**  **Automated Teller Machine (​ATM​)** | **Document Name:**  **Process Design Document** | **SWD/Form No.7** |
| **Effective Date: 09/28/2018** | **Version 1.0** | **Page 1/?** |

1. DFD: Data Flow Diagrams
2. Flowcharts

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| **Design Plan:**  **Automated Teller Machine (​ATM​)** | **Document Name:**  **Coding Standard Document** | **SWD/Form No.8** |
| **Effective Date: 09/28/2018** | **Version 1.0** | **Page 1/?** |

1. Admin Interface
2. User Interface
   1. Vietnamese
   2. English

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| **Design Plan:**  **Automated Teller Machine (​ATM​)** | **Document Name:**  **Task sheet** | **SWD/Form No.9** |
| **Effective Date: 09/28/2018** | **Version 1.0** | **Page 1/?** |

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| **Project Ref. No: 1** | | **Project Titles:**  **ATM Application** | **Activity Plan Prepared By:**  **Huy Dang Tuan** | **Date of Preparation of Activity Plan:**  Project Start Date: | | | | |
| **Sr.No** | **Task** |  |  | **Actual Start Date** | **Actual Days** | **Team Mate Names** | **Status** | **Total Status** |
| 1 |  |  |  |  | 100% | Complete |
|  |  |  | 100% | Complete |
|  |  |  | 100% | Complete |
|  |  |  | 100% | Complete |
|  |  |  | 100% | Complete |
|  |  |  | 100% | Complete |
|  |  |  | 100% | Complete |
|  |  |  | 100% | Complete |

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| **Design Plan:**  ​**Automated Teller Machine (​ATM​)** | **Document Name:**  Testing Document | **SWD/Form No.10** |
| **Effective Date: 09/10/2018** | **Version 1.0** | **Page 1/?** |

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| S.No | Features Tested | Remarks |
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| **Design Plan:**  ​**Automated Teller Machine (​ATM​)** | **Document Name:**  Project Reviews | **SWD/Form No.11** |
| **Effective Date: 09/10/2018** | **Version 1.0** | **Page 1/?** |

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| --- | --- | --- | --- | --- | --- |
| Date: | Project Plan Activity/ Milestone | Work Specification | Status of Activity | Remark | Responsibillity |
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| **Test Document:** | **Document Name:**  Final Check List | **SWD/Form No.12** |
| **Effective Date: 09/10/2018** | **Version 1.0** | **Page 1/?** |

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| **No.** | **Aspect tested** | **Suggestion/Remarks** |
| 1 | Have all the modules been properly integrated and are they completely functional? |  |
| 2 | Does each unit meet its objective and purpose? Are all the validations happening as specified in Process Design? |  |
| 3 | Have all Design and Coding standards been followed and implemented? |  |
| 4 | Is the GUI design consistent all over? |  |
| 5 | Are the codes working as per the specification? |  |
| 6 | Does the application’s functionality resolve the client problem and satisfy his needs completely? |  |
| 7 | Have the hardware and software been correctly chosen? |  |
| 8 | Additional features and utilities that give value addition to the entire project |  |