**LOW LEVEL DESIGN DOCUMENT**

ON

**ONLINE LLR APPLICATION SYSTEM**

**BY**

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| **Project Code:** | OLAS-01 |
| **Project Name:** | Online LLR Application System |

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# 1. INTRODUCTION

1.1 BACKGROUND

E-Service Transport Portal is the helps the users to get learner license (LLR) online. One who completed 18 years, can apply for LLR through online. Online portal is self-guided and fill up all information required.

1.2PURPOSE

It is proposed to develop a Portal for OLAS that will allow the Applicants to fill the online LLR application. The OLAS process will have both on-line and batch process to cater to the following functionality.

1.3 SCOPE

The scope of the OLAS will be to provide the functionality as described in Functional Requirements. The system will be developed on Z/OS machine using CICS, COBOL, JCL, VSAM and DB2.

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# 2. SYSTEMS OVERVIEW

2.1 SYSTEM DESCRIPTION

The Online LLR Application System should support the following users.

* Applicant

The OLAS will allow the User to apply LLR through the online portal.

The OLAS will have both on-line and batch process to cater to the following functionality.

This system will have the following on-line screens.

* Main Menu - To select the options like Apply/View status/Cancel
* Apply Online Screen - To fill the LLR application form
* View Status - Summary page
* Cancel request - To cancel the request

The batch process will need to address the following.

* Generate a report for summary and status of the application.

2.2 ENVIRONMENT

The system will be developed in Z/OS system using COBOL, CICS, JCL and DB2 and would provide a console-based user-interface.

* Z/OS
* COBOL, CICS, JCL and DB2

# 3. DATA ORGANIZATION

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This section explains the data storage requirements for E-Service Transport Portaland ***indicative***table (database) structure. The following sections explain few of the tables required for the application and if required other tables will have to be designed accordingly.

**Table: APPLICANT\_DETAIL**

The Course details such as Applicant ID, Name, age, gender, Aadhar number, address, state, city should be kept in table as necessary and applicable.

|  |  |
| --- | --- |
| **COLUMN NAME** | **DESCRIPTION** |
| APPLICANT\_ID | CHAR(15) NOT NULL, PRIMARY KEY |
| NAME | CHAR(30) NOT NULL |
| AGE | INTEGER(2) NOT NULL |
| GENDER | CHAR(10) NOT NULL |
| AADHAR NUMBER | CHAR(10) NOT NULL |
| ADDRESS | CHAR(30) NOT NULL |
| STATE | CHAR(15) NOT NULL |
| CITY | CHAR(15) NOT NULL |
| MAIL ID | CHAR(15) NOT NULL |
| MOBILE NUMBER | INTEGER(10) NOT NULL |

# 4. SUB-SYSTEM DETAILS

**4.1 Online Processing**

The User should be able to do following operations

* Main Menu
* Apply Online Screen
* View Status
* Cancel request

**4.2 Batch Processing**

* Generate Summary Report from student details Table.

# 5. RESOURCES ALLOCATED

# 

|  |  |  |  |
| --- | --- | --- | --- |
| **CICS MAPSET NAME** | **CICS+COBOL PROGRAM** | **LOGICAL FILE NAME** | **DB2 TABLESPACE NAME** |
| B24MPS1 | B24PGM1 | B24FIL1 | TCAPGB24 |
|  | B24PGM2 | B24FIL2 |  |
|  | B24PGM3 |  |  |
|  | B24PGM4 |  |  |
|  | B24PGM5 |  |  |
|  | B24PGM6 |  |  |

# 6. CICS MAP

**6.1 CICS MAP TABLE**

|  |  |  |
| --- | --- | --- |
| **CICS MAPSET NAME** | **CICS MAP NAMES** | **SCREEN FUNCTION** |
| B24MPS1 | SC1MAP | MAIN MENU SCREEN |
|  | SC2MAP | APPLICANT DETAILS SCREEN |
|  | SC3MAP | SUMMARY PAGE SCREEN |
|  | SC4MAP | CANCEL REQUEST SCREEN |

7. ALGORITHM AND FLOWCHART

7.1 MAIN MENU SCREEN

**E-Service Transport Portal**  **Date: MM/DD/YYYY**

**Main Menu Screen**

**Enter the option \_\_**

1. Apply LLR
2. View Status
3. Cancel Request

**<<<<< Message Area >>>>>**

PF2 – Next PF3 - Exit PF12 - Clear

7.1.1 ALOGORITHM

**STEP 1:** Create a Pseudo Conversational Cobol Program of Program name “**B24PGM3**”

**STEP 2:** Use Copy Statement to Copy Symbolic Variables of Map **SC1MAP** and Copy **DFHAID** Keys to Identify the AID Keys and Process Accordingly

**STEP 3:** Evaluate EIBCALEN

**STEP 3.1:** When EIBCALEN = 0, Send Map to CICS with System Data acquired using ASKTIME, FORMATTIME

**STEP 3.2:** When EIBCALEN = 1, Validate the AID (Attention Identifier Key).

**STEP 4:** Evaluate EIBAID,

**STEP 4.1:** WHEN EIBAID = DFHENTER, Validate the Choice Para.

**STEP 4.1.1:** WHEN OPTI = 1, Transfer Map to **APPLICANT DETAILS SCREEN**

**STEP 4.1.2:** WHEN OPTI = 2, Transfer Map to **SUMMARY PAGE SCREEN**

**STEP 4.1.3:** WHEN OPTI = 3, Transfer Map to **CANCEL REQUEST SCREEN**

**STEP 4.1.4:** WHEN OPTI = OTHER, “**SELECT VALID OPTION**” Message is Moved to Message Variable of SC1MAP

**STEP 4.2:** WHEN EIBAID = DFHPF3, Terminate the Transaction of SC1MAP

**STEP 4.3:** WHEN EIBAID = DFHPF12, Clear the Screen and Send the Map again

**STEP 4.4:** WHEN EIBAID = OTHER, “**INCORRECT PFKEY – PRESS THE CORRECT PFKEY**” Message is Moved to Message Variable of SC1MAP

7.1.2 FLOWCHART

START

Incorrect PF Key Pressed

Session End

Validate Option

Clear the Map

Check AID

Enter Menu Option

PF3 PRESSED

PF12 PRESSED

PF2 PRESSED

OTHER KEY

Invalid Option

Cancel Request Screen

Summary Screen

Applicant Details Screen

OTHER OPTION

VALID OPTION

OPTION 1 OPTION 2 OPTION 3

7.2 APPLICANT DETAILS SCREEN

**E-Service Transport Portal**  **Date: MM/DD/YYYY**

**Applicant details**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Gender: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mail ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mobile: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Age: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Aadhar Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

State: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

City: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**<<<<< Message Area >>>>>**

------------------------------------------------------------------------------------------

Enter-Confirm PF3-Exit PF12- clear

7.2.1.1 ALOGORITHM – VSAM CLUSTER

**STEP 1:** Create a Pseudo Conversational Cobol Program of Program name “**B24PGM4**”

**STEP 2:** Use Copy Statement to Copy Symbolic Variables of Map **SC2MAP** and Copy **DFHAID** Keys to Identify the AID Keys and Process Accordingly

**STEP 3:** Evaluate EIBCALEN

**STEP 3.1:** When EIBCALEN = 0, Send Map to CICS with System Data acquired using ASKTIME, FORMATTIME

**STEP 3.2:** When EIBCALEN = 1, Validate the AID (Attention Identifier Key).

**STEP 4:** Evaluate EIBAID,

**STEP 4.1:** WHEN EIBAID = DFHENTER, Validate the User Details entered in APPLICANT DETAILS SCREEN.

**STEP 4.1.1:** Perform **Validation-Para** where Input Data Validated whether it is NULL OR NOT NULL and Applicable to all the standards to write to File.

**STEP 4.1.2:** If MAILID is Already Present in File “MAILID ALREADY EXISTS” message is moved to MSG3O (Message variable of Map).

**STEP 4.1.3:** If Mobile Number is Already Present in File “MOBILE NUMBER ALREADY EXISTS” message is moved to MSG3O (Message variable of Map).

**STEP 4.1.4:** If Aadhar Number is Already Present in File “ADHAAR NUMBER ALREADY EXISTS” message is moved to MSG3O (Message variable of Map).

**STEP 4.1.5:** IF Any of The Symbolic Map Variable with suffix “L” is validated to ‘0’ Dynamic cursor is Performed by “MOVE -1 TO (MAPVAR)L”

**STEP 4.1.6:** WHEN **Validation** is satisfied, Primary Key is Auto Generated Using **STARTBROWSE** and **READPREV** Commands of CICS

**STEP 4.1.7:** Using the New Primary Key Record is written to the File

**STEP 4.1.8:** Using **COMMAREA** New Primary Key is transferred to **SC3MAP (SUMMARY PAGE SCREEN)** using XCTL Command.

**STEP 4.2:** WHEN EIBAID = DFHPF3, Transfer to **MAIN MENU SCREEN**

**STEP 4.3:** WHEN EIBAID = DFHPF12, Clear the Screen and Send the Map again

**STEP 4.4:** WHEN EIBAID = OTHER, “**INCORRECT PFKEY – PRESS THE CORRECT PFKEY**” Message is Moved to Message Variable of SC2MAP

7.2.1.2 ALOGORITHM – DB2

**STEP 1:** Create a Pseudo Conversational Cobol Program of Program name “**B24PGM4**”

**STEP 2:** Use Copy Statement to Copy Symbolic Variables of Map **SC2MAP** and Copy **DFHAID** Keys to Identify the AID Keys and Process Accordingly

**STEP 3:** Include the **DCLGEN** Variables and Include the **SQLCA** (Communication Area) which is used to communicate during runtime and get the **SQLCODE**

**STEP 4:** Evaluate EIBCALEN

**STEP 4.1:** When EIBCALEN = 0, Send Map to CICS with System Data acquired using ASKTIME, FORMATTIME

**STEP 4.2:** When EIBCALEN = 1, Validate the AID (Attention Identifier Key).

**STEP 5:** Evaluate EIBAID,

**STEP 5.1:** WHEN EIBAID = DFHENTER, Validate the User Details entered in APPLICANT DETAILS SCREEN.

**STEP 5.1.1:** Perform **Validation-Para** where Input Data Validated whether it is NULL OR NOT NULL and Applicable to all the standards to write to File.

**STEP 5.1.2:** If MAILID is Already Present in File “MAILID ALREADY EXISTS” message is moved to MSG3O (Message variable of Map).

**STEP 5.1.3:** If Mobile Number is Already Present in File “MOBILE NUMBER ALREADY EXISTS” message is moved to MSG3O (Message variable of Map).

**STEP 5.1.4:** If Aadhar Number is Already Present in File “ADHAAR NUMBER ALREADY EXISTS” message is moved to MSG3O (Message variable of Map).

**STEP 5.1.5:** IF Any of The Symbolic Map Variable with suffix “L” is validated to ‘0’ Dynamic cursor is Performed by “MOVE -1 TO (MAPVAR)L”

**STEP 5.1.6:** WHEN **Validation** is satisfied, Using INSERT Query of SQL the Values are inserted in the table along with the Applicant-ID which is Autogenerated at time of insertion

**STEP 5.**1.7: EVALUATE SQLCODE,

**STEP 5.1.7.1**: WHEN SQLCODE 0, Insertion is Successful.

**STEP 5.1.7.2**: WHEN SQLCODE -803, Check Constraint is violated and This Error is handled by “MOVE -1 TO (MAP)I VARIABLE”

**STEP 5.1.7:** Using **COMMAREA** Primary Key is transferred to **SC3MAP (SUMMARY PAGE SCREEN)** using XCTL Command.

**STEP 5.2:** WHEN EIBAID = DFHPF3, Transfer to **MAIN MENU SCREEN**

**STEP 5.3:** WHEN EIBAID = DFHPF12, Clear the Screen and Send the Map again

**STEP 5.4:** WHEN EIBAID = OTHER, “**INCORRECT PFKEY – PRESS THE CORRECT PFKEY**” Message is Moved to Message Variable of SC2MAP

7.2.2 FLOWCHART

START

ENTER DETAILS

CHECK AID

PF12 PRESSED PF3 PRESSED

CLEAR SCREEN

MAIN MENU SCREEN

DISPLAY SUMMARY PAGE

RECORD WRITTEN

VALIDATE DETAILS

ENTER PRESSED

INVALID

VALID

DFHCOMMAREA(U-IDD)

7.3 SUMMARY PAGE SCREEN

**E-Service Transport Portal**  **Date: MM/DD/YYYY**

**Summary Page**

**Applicant ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Name Appln ID Status Mail ID Mobile Number

XXXX 111111 Submitted xxxxx@xxx.com 9999999999

**<<<<< Message Area >>>>>**

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Enter-Submit PF12-Exit

7.3.1.1 ALOGORITHM – VSAM CLUSTER

**STEP 1:** Create a Pseudo Conversational Cobol Program of Program name “**B24PGM2**”

**STEP 2:** Use Copy Statement to Copy Symbolic Variables of Map **SC3MAP** and Copy **DFHAID** Keys to Identify the AID Keys and Process Accordingly

**STEP 3:** Evaluate EIBCALEN

**STEP 3.1:** When EIBCALEN = 0, Send Map to CICS with System Data acquired using ASKTIME, FORMATTIME

**STEP 3.2:** When EIBCALEN = 1, Validate the AID (Attention Identifier Key).

**STEP 3.3:** When EIBCALEN = 15, Perform the Read Command.

**STEP 3.3.1:** The Applicant ID is received from **APPLICANT DETAILS SCREEN** using the **Linkage Section** of **SUMMARY SCREEN** and Moved to COMMAREA.

**STEP 3.3.2:** Using the **READ** Command of CICS and RIDFLD as User’s Input and The Values are Displayed in the **SUMMARY PAGE SCREEN**.

**STEP 4:** Evaluate EIBAID,

**STEP 4.1:** WHEN EIBAID = DFHENTER

**STEP 4.1.1:** The **Applicant ID** is requested from User in form of input

**STEP 4.1.2:** Using the **READ** Command of CICS and RIDFLD as User’s Input and The Values are Displayed in the **SUMMARY PAGE SCREEN**.

**STEP 4.2:** WHEN EIBAID = DFHPF12, Terminate the Transaction of SC1MAP

**STEP 4.3:** WHEN EIBAID = DFHPF3, Clear the Screen and Send the Map again

**STEP 4.4:** WHEN EIBAID = OTHER, “**INCORRECT PFKEY – PRESS THE CORRECT PFKEY**” Message is Moved to Message Variable of SC3MAP

7.3.1.2 ALOGORITHM – DB2

**STEP 1:** Create a Pseudo Conversational Cobol Program of Program name “**B24PGM2**”

**STEP 2:** Use Copy Statement to Copy Symbolic Variables of Map **SC3MAP** and Copy **DFHAID** Keys to Identify the AID Keys and Process Accordingly

**STEP 3:** Include the **DCLGEN** Variables and Include the **SQLCA** (Communication Area) which is used to communicate during runtime and get the **SQLCODE**

**STEP 4:** Evaluate EIBCALEN

**STEP 4.1:** When EIBCALEN = 0, Send Map to CICS with System Data acquired using ASKTIME, FORMATTIME

**STEP 4.2:** When EIBCALEN = 1, Validate the AID (Attention Identifier Key).

**STEP 4.3:** When EIBCALEN = 15, Perform the Read Command.

**STEP 4.3.1:** The Applicant ID is received from APPLICANT DETAILS SCREEN using the Linkage Section of SUMMARY SCREEN and Moved to COMMAREA.

**STEP 4.3.2:** Using the **SELECT** Query of DB2 and Condition as User’s Input and The Values are Displayed in the **SUMMARY PAGE SCREEN**.

**STEP 4.3.3**: EVALUATE SQLCODE,

**STEP 4.3.3.1**: WHEN SQLCODE 0, Insertion is Successful.

**STEP 4.3.3.2**: WHEN SQLCODE -803, Check Constraint is violated and This Error is handled by “MOVE -1 TO MAPI VARIABLE”

**STEP 5:** Evaluate EIBAID,

**STEP 5.1:** WHEN EIBAID = DFHENTER, Validate the Choice Para.

**STEP 5.1.1:** The **Applicant ID** is requested from User in form of input

**STEP 5.1.2:** Using the **SELECT** Query of DB2 and Condition as User’s Input and The Values are Displayed in the **SUMMARY PAGE SCREEN**.

**STEP 5.2:** WHEN EIBAID = DFHPF12, Terminate the Transaction of SC1MAP

**STEP 5.3:** WHEN EIBAID = DFHPF3, Clear the Screen and Send the Map again

**STEP 5.4:** WHEN EIBAID = OTHER, “**INCORRECT PFKEY – PRESS THE CORRECT PFKEY**” Message is Moved to Message Variable of SC3MAP

7.3.2 FLOWCHART

DFHCOMMAREA(U-IDD)

CASE 2

CASE 1

ENTER APPLICANT ID

MAIN MENU SCREEN

PF12 PRESSED

CHECK AID

OTHER KEY

INVALID KEY

ENTER

PRESSED

CHECK APPLICANT ID

RECORD FOUND

DISPLAY APPLICANT RECORD

RECORD NOT FOUND

7.4 CANCEL REQUEST SCREEN

**E-Service Transport Portal**  **Date: MM/DD/YYYY**

**CANCEL REQUEST PAGE**

**Applicant ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Name Appln ID Status Mail ID Mobile Number

XXXX 111111 Submitted xxxxx@xxx.com 9999999999

**<<<<< Message Area >>>>>**

------------------------------------------------------------------------------------------

Enter-Cancel PF12-Exit

7.4.1.1 ALOGORITHM – VSAM CLUSTER

**STEP 1:** Create a Pseudo Conversational Cobol Program of Program name “**B24PGM6**”

**STEP 2:** Use Copy Statement to Copy Symbolic Variables of Map **SC4MAP** and Copy **DFHAID** Keys to Identify the AID Keys and Process Accordingly

**STEP 3:** Evaluate EIBCALEN

**STEP 3.1:** When EIBCALEN = 0, Send Map to CICS with System Data acquired using ASKTIME, FORMATTIME

**STEP 3.2:** When EIBCALEN = 1, Validate the AID (Attention Identifier Key).

**STEP 4:** Evaluate EIBAID,

**STEP 4.1:** WHEN EIBAID = DFHENTER

**STEP 4.1.1:** The **Applicant ID** is requested from User in form of input

**STEP 4.1.2:** Using the **READ** Command of CICS and RIDFLD as User’s Input The Status of That Applicant ID is checked.

**STEP 4.1.2:** When STATUS = “**SUBMITTED**”, Using the **READ** Command of CICS along with UPDATE and REWRITE COMMAND and RIDFLD as User’s Input the Status Variable in the VSAM Record Structure is Updated as **CANCELLED**

**STEP 4.1.3:** When STATUS = “**CANCELLED**”, “**APPLICATION ID ALREADY CANCELLED**” message is sent to message variable of SC4MAP

**STEP 4.2:** WHEN EIBAID = DFHPF12, Terminate the Transaction of SC1MAP

**STEP 4.3:** WHEN EIBAID = DFHPF3, Clear the Screen and Send the Map again

**STEP 4.4:** WHEN EIBAID = OTHER, “**INCORRECT PFKEY – PRESS THE CORRECT PFKEY**” Message is Moved to Message Variable of SC4MAP

7.4.1.2 ALOGORITHM – DB2

**STEP 1:** Create a Pseudo Conversational Cobol Program of Program name “**B24PGM5**”

**STEP 2:** Use Copy Statement to Copy Symbolic Variables of Map **SC4MAP** and Copy **DFHAID** Keys to Identify the AID Keys and Process Accordingly

**STEP 3:** Evaluate EIBCALEN

**STEP 3.1:** When EIBCALEN = 0, Send Map to CICS with System Data acquired using ASKTIME, FORMATTIME

**STEP 3.2:** When EIBCALEN = 1, Validate the AID (Attention Identifier Key).

**STEP 4:** Evaluate EIBAID,

**STEP 4.1:** WHEN EIBAID = DFHENTER

**STEP 4.1.1:** The **Applicant ID** is requested from User in form of input

**STEP 4.1.2:** Using the **SELECT** Query of DB2 and CONDITION as User’s Input the Status of That Applicant ID is checked.

**STEP 4.1.2:** When STATUS = “**SUBMITTED**”, Using the **UPDATE** Query of DB2 along with CONDITION as User’s Input the Status Variable in the DB2 Table is Updated as **CANCELLED**

**STEP 4.1.3:** When STATUS = “**CANCELLED**”, “**APPLICATION ID ALREADY CANCELLED**” message is sent to message variable of SC4MAP

**STEP 4.2:** WHEN EIBAID = DFHPF12, Terminate the Transaction of SC1MAP

**STEP 4.3:** WHEN EIBAID = DFHPF3, Clear the Screen and Send the Map again

**STEP 4.4:** WHEN EIBAID = OTHER, “**INCORRECT PFKEY – PRESS THE CORRECT PFKEY**” Message is Moved to Message Variable of SC4MAP

7.4.2 FLOWCHART

START

ENTER APPLICANT ID

CHECK STATUS

Main Menu Screen

CHECK AID

PF12 PRESSED

ENTER PRESSED

CHECK APPLICANT ID

APPLICATION CANCELLED SUCCESSFULLY

ALREADY CANCELLED

NOTFND

RECORD NOT FOUND

FOUND

CANCELLED SUBMITTED

8. ARCHITECTURE DIAGRAM

**CICS REGION**

TRANSACTIONS

MAIN MENU

OPTION CHECK

CANCEL REQUEST SCREEN

SUMMARY SCREEN

USER DATA ENTRY SCREEN

**VSAM CLUSTER/**

**DB2**