* **Planning**
* **Build the logical model for Address-Book Application.**
* **Build the physical model for Address-Book Application.**
* **Coding**
* **Operation**

**Systems Development Life Cycle**

**Planning Phase**:

Describe Information System, and Information System requirements.

Preliminary Investigation/ Feasibility Study

Planning Phase (Address Book)

The Address Books primary goal is to allow the user using a graphical user interface (GUI) to access the Microsoft Access DataBase allowing information about the other users to be accessed and or created.

InfoSystem Requirements:

* GUI Graphical User Interface
* Embedded SQL
* DataBase Connection
* Access DataBase

Preliminary Investigation:

Evaluation of the Problem:

Allowing users to access information, create new information pertaining to the Address Book.

*Issues : Duplicate Variables, Unauthorized Access, Change to pre existing Data.*

Feasibility Study

* No cost to this information system.
* No benefits to any particular organization and or company.
* Course Of Action: review process of address books, document features, apply features and descriptions to the info system.

**Analysis Phase**

Logical Model

Develop and ERD to show the info system entities and relationships.

Satisfy User; database requires Four tables including; People, Address, PhoneNumber, Email that will connect allowing for a person to be created and connected to a particular address tuple, which will in return be connected to a specific communication tuple.

Entities: People, Address, Email, PhoneNumber

Relationships: Obtain, Create, Purchase

Represented in an ERD.

Systems Requirements Document

**User Requirements:**

* User must establish tuples for the people table to be able to be identified. Storing Data in other tables will not be allowed if the person has ont obtained an ID as a person.
* Users must list a particular address they reside at that will represent their location.
* Users must also provide contact information that will help identify them using their phone number.
* Users must create and have a unique email address per account created with them. This email address will be used to identify multiple tuples of this person with their contact ID from their unique email address.
* The email address will also allow someone to make a duplicate account and still be able to be unique, or correct the issue of a user with similar credentials from being mixed up with.

**Design Phase**

Physical Model

Programs: Microsoft Access,  Eclipse for JAVA.

UI: Java related Graphical user interface that will allow for the user to input all necessary information as well as display the out form the access database once entered.

GUI:

The graphical user interface requirements are to establish buttons that allow the user to interface directly with their database as well as contain text fields to allow the user to input their data and or receive their data from the database.

Design:

Panel with labels, textboxes, and buttons to allow the user to see where the input goes and how the user interacts with the system.

 7 Buttons, each for an action to take place to interact with the database or manipulate the gui itself.

10 Text Fields each for every specific field in the database that needs user information to be sent and or received.

SQL: Structured Query Language will be used to take the inputs from the GUI and provide this information and list it in the form of SQL that will communicate with the Access Database and provide the information listed in the command.

Inputs: the particular information related to the specific attributes of the database that will be inserted, deleted, updated, located, through the text fields in the gui.

Outputs: the related information from the database that correlates to the specific inputs that were inserted through the GUI. These outputs will include the integers and strings from the corresponding tables in the database and print neatly in a gui for the user.

**Implementation Phase**

Constructing an algorithm of the code that will be use to guide the java programming.

Using the algorithm as well as the ERD the source code will be created to connect the java source code to the microsoft access database. This will be done by using JDBC libraries.

The main application of the project will be created to establish a database connection.

The next goal will be to write the source code to perform all the necessary functions and features of the working database.

The last goal will be to construct and create the GUI that will take in the inputs and perform all the instructions through this UI and relate it back neatly for the user.

**Address-Book Algorithm**

* Establish a connection with the database.
* Allow the user to select a command to act on the database

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* Users will choose values for the command on the database.
* Command will then be run.
* Database will then output specific results from users input.

**Shorthand java code showing algorithm**

Import AccessDb

Import connection libraries

ConnectionLibraries object = new Connection Libraries // Connection to database

object = database

Output = select command for database // Set commands

Input = keyboard (values) // User sets values

Data = object.action(values) // Action is performed using some values

Output (Data) // output data to screen

(Idea behind how algorithm should function)