

CHAPTER IV

ANALYSIS AND DESIGN

4.1. Analysis

4.1.1. Use Case Diagram

User just need to set the preferences, create message and send it. Preferences consist of compression algorithm option and key for encryption.

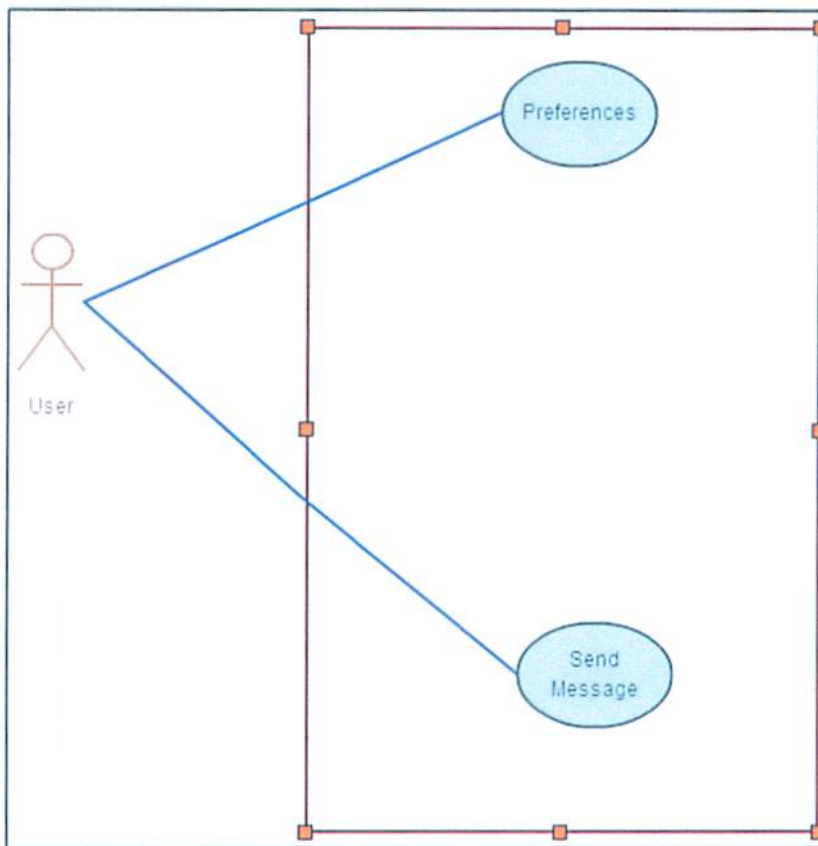


Figure 7. Use case diagram

4.2. Design

4.2.1. Data Flow Diagram

Sender set the preferences in menu settings, then user preferences data send to send message process. In send message process, Message and preferences data send to Encrypt & Compress process. Plain message stored to sent message database, then encrypted & compressed message send to recipient. After that in, the recipient device process begin with read the preferences which send by sender. Sender preferences and message send as data to decrypt & compress process, original message is a result from this process. original message stored in the inbox so that the recipient can read it.

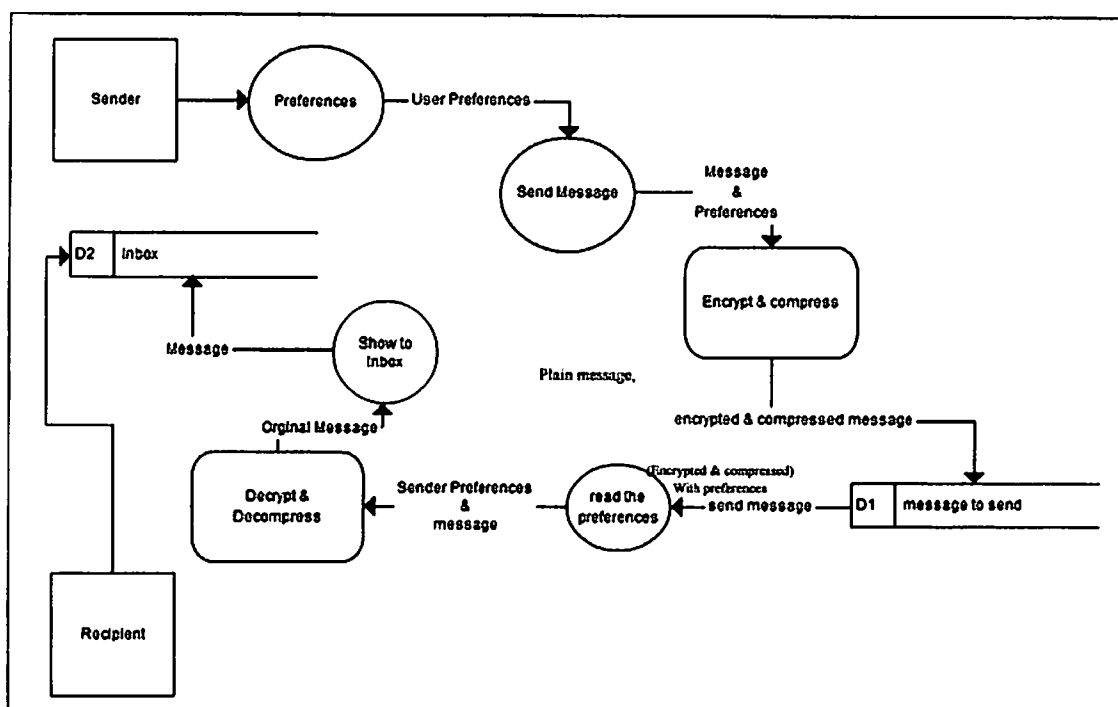


Figure 8. Data Flow Diagram

4.2.2. Class Diagram

Main activity is a main class that connect to CreateMessage class, Inbox class, sent class, help class, and UserSetting class because this project have five menus. The important class is CreateMessage class and UserSettings class. CreateMessage class connect to the compression algorithm (Huffman class, LZW class, Shannon Fano class) and encryption process (kripto class), Node class and

NodeShannon class is used for build a tree in Huffman class and Shannon Fano class. UserSetting class is used for set a compression algorithm and public key for encryption. Inbox class is class to show the message that received in the device. Sent class is class to show the message that send from the device. Help class contains image tutorial to use this program.

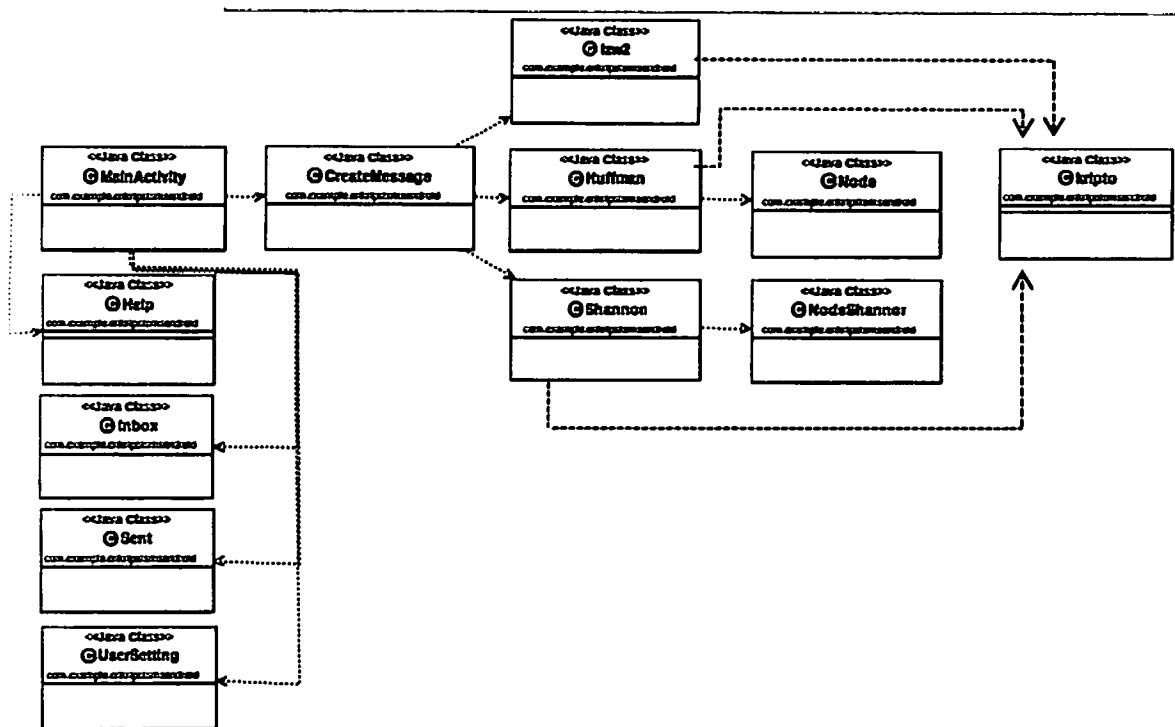


Figure 9. Class diagram