CHAPTER 5

IMPLEMENTATION

In this chapter, the implementation of ACIS is discussed. The chapter presents the choice of implementation tool of this thesis - Lotus Notes. Lotus Notes is reviewed in terms of its brief history, its features and functions.

5.0 History of Lotus Notes

Notes and Domino find their roots in some of the first computer programs written at the Computer-based Education Research Laboratory (CERL), at the University of Illinois. In 1973, CERL released a product called PLATO Notes. At that time, the sole function of PLATO Notes was to tag a bug report with the user's ID and the date, and make the file secure.

In 1976, PLATO Group Notes was released. Group Notes took the original concept of PLATO Notes and expanded on it by allowing users to:

- Create private notes files organized by subject
- Create access lists
- Read all notes and responses written since a certain date
- Create anonymous notes
- Create director message flags
- Mark comments in a document
• Link notes files with other Plato systems

• Use multiplayer games

PLATO Group Notes became popular and remained so into the 1980s. However, after the introduction the IBM PC and MS-DOS by Microsoft in 1982, the mainframe-based architecture of PLATO became less cost-effective. Group Notes began to metamorphose into many other "notes type" software products.

The original vision of Notes included online discussion, e-mail, phone books, and document databases. However, the state of the technology at the time presented two serious challenges. First, networking was rudimentary and slow compared to today. Therefore, the developers originally decided to position Notes as a personal information manager (PIM), like Organizer, with some sharing capability. Second, PC operating systems were immature, so developers had to write a lot of system-level code to develop things such as the Name Server and databases. Eventually, as networking became more capable, the concept of Notes as "groupware" has been established. The term groupware (which eventually grew virtually synonymous with Notes itself) refers to applications that enhance communication, collaboration, and coordination among groups of people.

Lotus Notes is a powerful enterprise-class system that provides a framework for sharing information. Although there are other competitors such as Microsoft Exchange Server and Novell’s GroupWise, Lotus Notes stands to be the most reliable and user-friendly software in the market.
Lotus Notes provides an interface and access to databases, mail and development tools. The Notes client comes in three flavors: the full client which includes applications development tools, Notes desktop and Notes Mail which provides e-mail and access to basic databases.

Lotus Notes makes a very good prototyping tool due to the rich development environment:

◆ The ease with which databases can be created from scratch
◆ The ability to create like databases using a template
◆ The feature-rich form creation tools
◆ The ability to easily add advanced, field-level extended attributes
◆ The ease of adding form/field dynamics via logic in scripts
◆ The ability to “inherit” template changes

With Lotus Notes, a prototype system can be quickly put together for your customer to view. Prototypes provide a far better impression of the “look and feel” of a potential implementation. The experimental analysis of partial implementation can be used to inform the refinement of detailed specifications towards full implementation.

The best approach to Notes development in most cases is to abandon the traditional methodologies and use prototyping; a prototype is a version of the application that is functional, but not ready for final implementation.
In Figure 5.0, shows how Notes users can simultaneously access and reference the same information in the same convenient location.

*Figure 5.0  Simultaneously accessing the same information at the same location*

It gives the users a chance to play with the application without any consequences, and it gives them the opportunity to catch design flaws well in advance of the release to production date. The prototype doesn't have to be pretty; it just has to give the user an idea of how things work and how far the project has come.

Domino is a collection of server processes, including databases replicating, mail routing and indexing. Domino also hosts Domino Web Server, POP3 server and SMTP Message Transfer Agent. These are managed from a single server console.

At Domino's core are Lotus's original strengths: a rich-text, document-oriented, flat-file message store with multi protocol database replication and integrated
applications development tools. Lotus's strategy with Domino is to take Notes views, forms and documents – central Notes application parts and convert them to HTML on the fly.

E-mail is still a central Domino and Notes function; just as it is with Exchange and GroupWise. In a Notes mail message you can include rich text, OLE objects, and Notes Component objects (Lotus's ActiveX applets). On the Internet side, Notes mail can be made available to Web browser users.

Notes continues to offer one of the most flexible remote-access models of all products tested. Mail and other databases can be replicated locally, making it simple to work off-line. Selective replication lets you limit which documents are replicated, minimizing connect time.

5.1 Domino

On the development side, Domino provides its integrated development environment for creating forms and views and developing automation code. This code can be developed with LotusScript, which is a BASIC-like scripting language, or with Notes' older and simpler @Function and @Command macro environment. For developers using third-party tools such as Visual Basic, Notes APIs give access to database functions. Notes even offers a set of higher-level development tools; called HiTest, to give third-party products easier access to Notes underpinnings.
Notes supports ActiveX objects, including a line of enhanced ActiveX applets called Lotus Components. ActiveX applets can be included in Notes forms or called Lotus Script, which offers even greater programming flexibility.

5.2 Implementation of ACIS

Main screen replaces views or can be used as a home page. Navigator screen in ACIS consists of five options that user can choose. When user goes through the buttons, it is highlighted when touched and display different background color. Example of navigator screen can be seen in Figure 5.1.

Figure 5.1 shows the options available in ACIS namely Assignment, Discussion and Exit.
In Assignment sub module, users may choose three options available in the module namely Assignment Viewing and Selection, Assignment Creation and Assignment Submission as shown in Figure 5.2.

In Assignment Viewing and Selection, students are able to view and select assignments. Assignment Creation lets students to start doing and discussing the assignment. Assignment Submission allows students to post their complete assignment to their respective lecturer via e-mail and other supporting tools. Exit lets student to exit ACIS and return to Main Menu.

![Diagram of ACIS sub modules](image)

**Figure 5.2 Assignment sub modules**
In Figure 5.3, Assignment Viewing and Selection gives an overall view of all assignments available in the database. Students choose the assignment via clicking on the respective code.

![Assignment Viewing and Selection Table]

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCE4552</td>
<td>Electronic Commerce</td>
<td>Write an essay (not 1000 words) describing the impact of electronic commerce in Malaysia. Include in the essay your recommendations on how to improve the selling products in Malaysia. Give your essay a suitable title.</td>
</tr>
<tr>
<td>TAE732</td>
<td>Project Management</td>
<td>What effective form of organization could one use for 100 engineers on a 4000-person-month job? Describe this in about 16 sentences. Support your answer with a short article/quotations.</td>
</tr>
</tbody>
</table>

**Figure 5.3  Assignment Viewing and Selection**

In Figure 5.4, Assignment Creation is whereby guidelines for completing the assignment are given and student need to key in the ID and name for verification purposes. Student may also start discussing arising issues pertaining to the assignment given.

![Assignment Creation](image)

**Assignment Creation**

**The Question/Guidelines**

**Write an essay**

The impact of electronic commerce in Malaysia. State your recommendation(s) regarding the steps of improving selling products via electronic commerce.

You are required to do the following:

1. Draft the essay, state brief introduction of electronic commerce
2. Think of a title that suits your essay
3. Based on your knowledge of selling products in Malaysia via traditional commerce, convert the selling into electronic selling and state your recommendation(s).
4. Give at least 3 recommendations.

**Student ID**  BIT43685  
**Name**  HAMIDAH ABDUL WAHAB  
**Course**  ELECTRONIC COMMERCE  
**Assignment**  2

**Figure 5.4 Assignment Creation**
In Figure 5.5, Assignment Submission needs students to enter their particulars for identification purposes. On top of the screen, there are four available icons for students to use for easy navigation. This is important as not to let students get mislaid in the middle of their work.

![Assignment Submission](image)

**Figure 5.5** Assignment Submission

Figure 5.6 shows the entry screen for discussion module. Students may post discussions and view the posted discussions in the discussion module in Figure 5.7.

Discussion option lets students post any topics and others can reply or even post their own problem or suggestion.
Discussion

Figure 5.6 Discussion Entry Screen

<table>
<thead>
<tr>
<th>Subject</th>
<th>Author</th>
<th>Created</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to relate waterfall model with prototyping model?</td>
<td>Siah Bae Keong</td>
<td>1/8/2002</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subject</th>
<th>Author</th>
<th>Created</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are lots of articles regarding this in the web. Use search word 'software development models'</td>
<td>had</td>
<td>06-Aug-02</td>
</tr>
<tr>
<td>Re: Check out the Pressman book. The relationship has been defined clearly in Chapter 2 of the book</td>
<td>had</td>
<td>06-Aug-02</td>
</tr>
<tr>
<td>Fifth Edition, page 102</td>
<td>had</td>
<td>06-Aug-02</td>
</tr>
</tbody>
</table>

Figure 5.7 Published discussions

5.3 Summary

From the interfaces shown in this chapter, it is clearly stated that Graphical User Interface is the most suitable design for the ACIS. Not only it is widely used, but also it is the most easiest and user-friendly interface available especially for novice users.

The next chapter discuss on the testing of ACIS.