Document Engineering – Custom E Book

Team Members:

Name	Roll Number	E-Mail
Eashwar V	MT2011041	Eashwar.v@iiitb.org
Nishanth T S	MT2011092	Nishanth.ts@iiitb.org
V Anil Kumar Gontla	MT2011165	Anilkumar.gontla @iiitb.org
Vyshak G V	MT2011174	Vyshak.GV@iiitb.org

Under the Guidance of:

Prof . Chandrashekar. R

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1. Objectives:

An IETM or Interactive Electronic Technical Manual is a portal to manage technical documentation. Interactive electronic documentation allows the user to determine the material to be viewed by interacting with the computer.

The objective is to build a tool that creates an IETM document and a reader which reads an IETM document.

2. Functionalities:

1. The tool will be able to convert existing documents to IETMs.
2. The end user simply needs to do a "convert to IETM", corresponding to which processing takes place and the output is delivered to the location of the user's choice.
3. The tool accepts the data from the user which may be text or graphical and generates an IETM file.
4. IETM generated documents are secure i.e., cannot be modified.
5. IETM reader will support to view the contents of IETM document.
6. The tool provides flexibility to the user.
7. The Reader provides the user, appropriate page view for the document.

3. Deliverables:

3.1 Milestones:

20th February, 2012: Setting up the MySQL database (backend)

10th March, 2012: User Friendly front end, which can be used by the user to store data in the database.

2nd April, 2012: IETM reader tool

8th April, 2012: Testing of various modules

15th April, 2012: Integration of various modules, submission of final integrated software.

4. **Estimated total time:** 200 hours

5. **Hardware and software requirements:**

Yet to be decided.

6. **Technology and Architecture**

An IETM is a basically a complete collection of database elements stored in an IETM database in a standardized manner. All data modules that are applicable to the subject equipment are to be stored and managed by a DBMS (MySQL) in a Standalone Workstation or a Central Server. The purpose of storing information in the database is to promote reuse of the information in as many different technical documents as possible. In general, the IETM database consists of an assembly of data elements, specific attributes possessed by data elements and logical relationship among various data elements. IETM database would be constructed with provisions to incorporate any changes, which will automatically update all aspects of database affected by that change. This database now serves as the basis to construct or update IETM display.

IETM Data Base Module may have the following functional sub modules for enabling authorized data entry into IETM database:

- Admin module for defining/creating user accounts with various levels of access control: These users may be Subject Matter Experts (SME) or Technical Writers (TW) for creating and organizing technical information or just the users of technical information.

- Data Entry module with user friendly front end for building XML data base: SMEs and TWs, without the knowledge of XML programming, should be in a position to build IETM Database with six types information for any given project, viz. Descriptive Information, Procedural Information, Fault finding Information, Parts Information, Drawings Information and Link Information for JSS Documents in PDF format. Data Entry Module should enable either direct data entry into IETM Database, importing from standard word processor files (preferred) or copy/paste functions from any other source of text data.

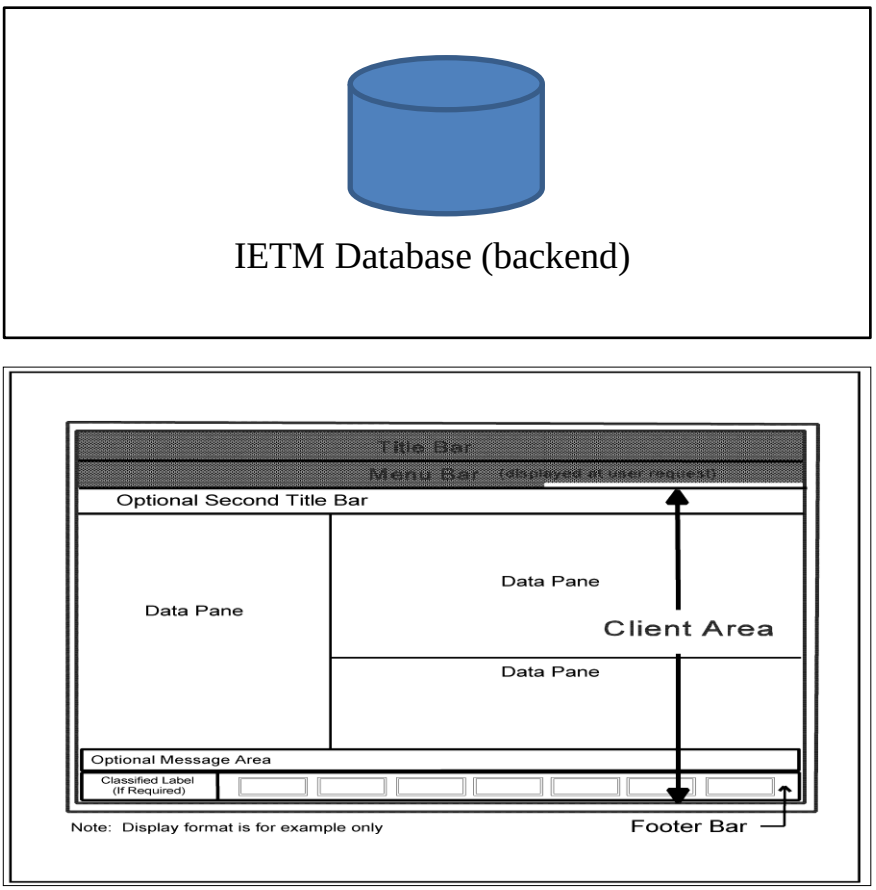

Figure 1: System Architecture (database module)

The OS for the IETM package is MS Windows based. MySQL engine (free ware) is to be used for the database server, data structure. We intend to

construct an **IETM viewing tool**, which would extract details from the IETM database and provide the same to the user. This would essentially consist of building a tool which would present XML data from the backend, in a format which would comply to IETM standards. This tool is basically an **authoring tool.** An authoring tool is one, which helps us to write hypertext/multimedia applications. It basically ensures that various elements present in a database, can be combined together and can be presented in a viewable format to the user. These customised ebooks are to be viewed by the end user using this reader tool. We intend to build an IETM viewer/reader tool, which may look like the following view provided:

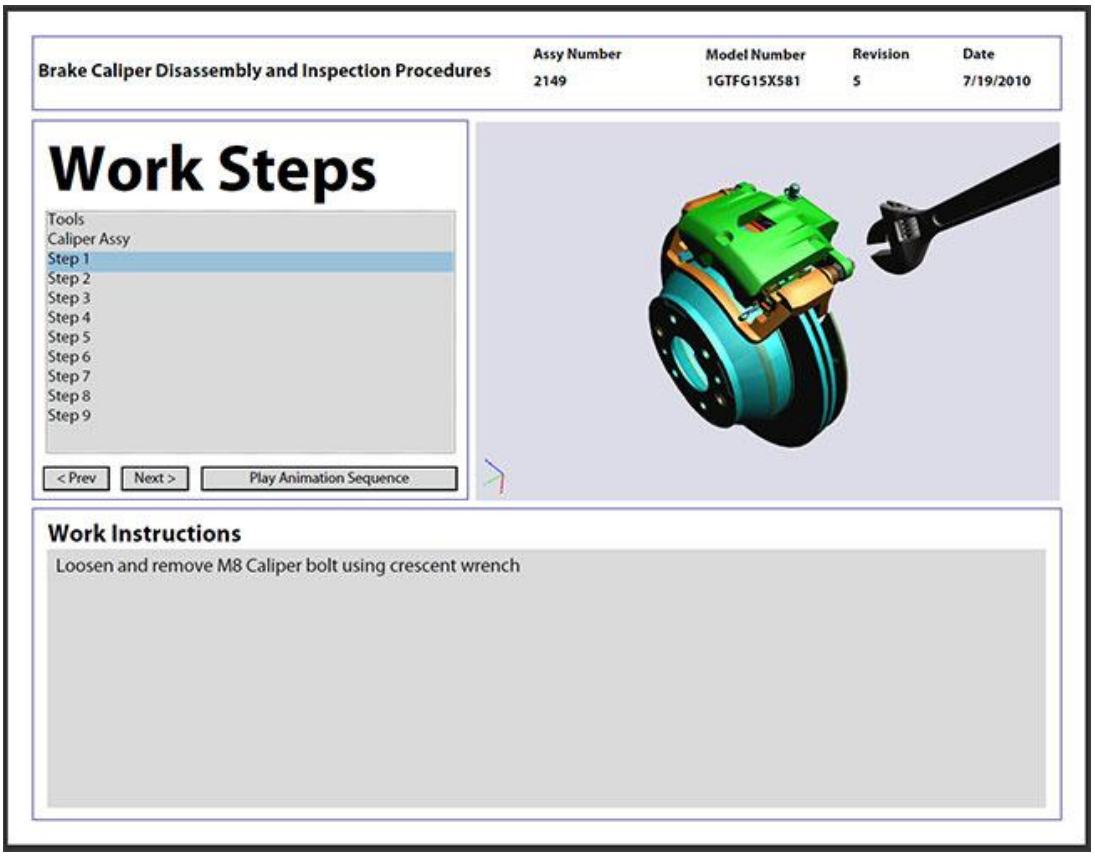

Figure 2: IETM reader/viewer tool

This would essentially consist of an user friendly interface, providing various options to the user to view the manual/e-book. User should find it easy to navigate the manual/ebook and view the graphical description of the same. From the figure above, we can observe the left side pane providing various options to the reader, which would help him/her to navigate easily. We too intend to build a reader/viewer of similar sort, which would basically allow the

user to navigate and view the IETM easily and in the desired manner. Minimum hardware configuration is required for the IETM Viewer Module.