

A Presentation on
IETM Level - IV

Registered With :



TNV Certification UK Ltd.



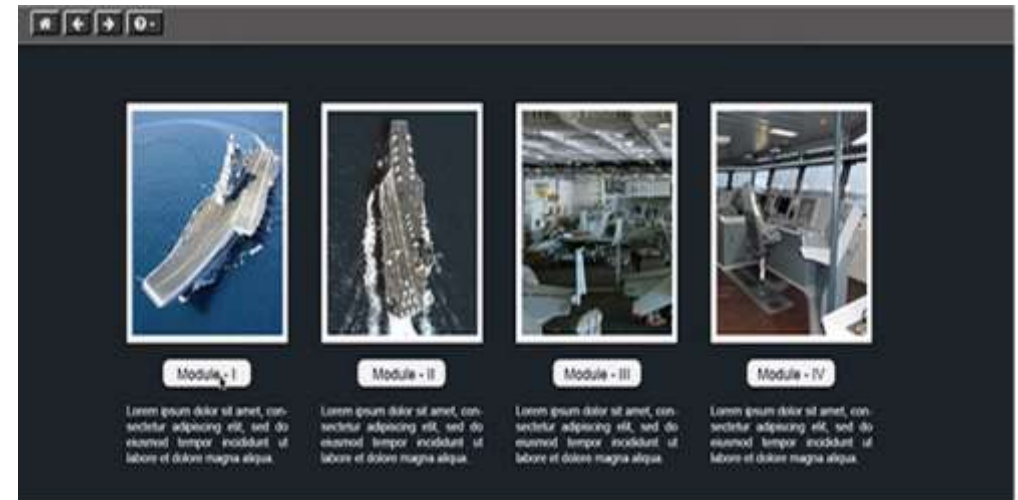
- ❖ Technical manuals (e.g. maintenance, user, training, operations, etc) published in electronic format are becoming more and more popular than paper based manuals for their interactivity, convenience and ease of use.

Paper Based Manuals



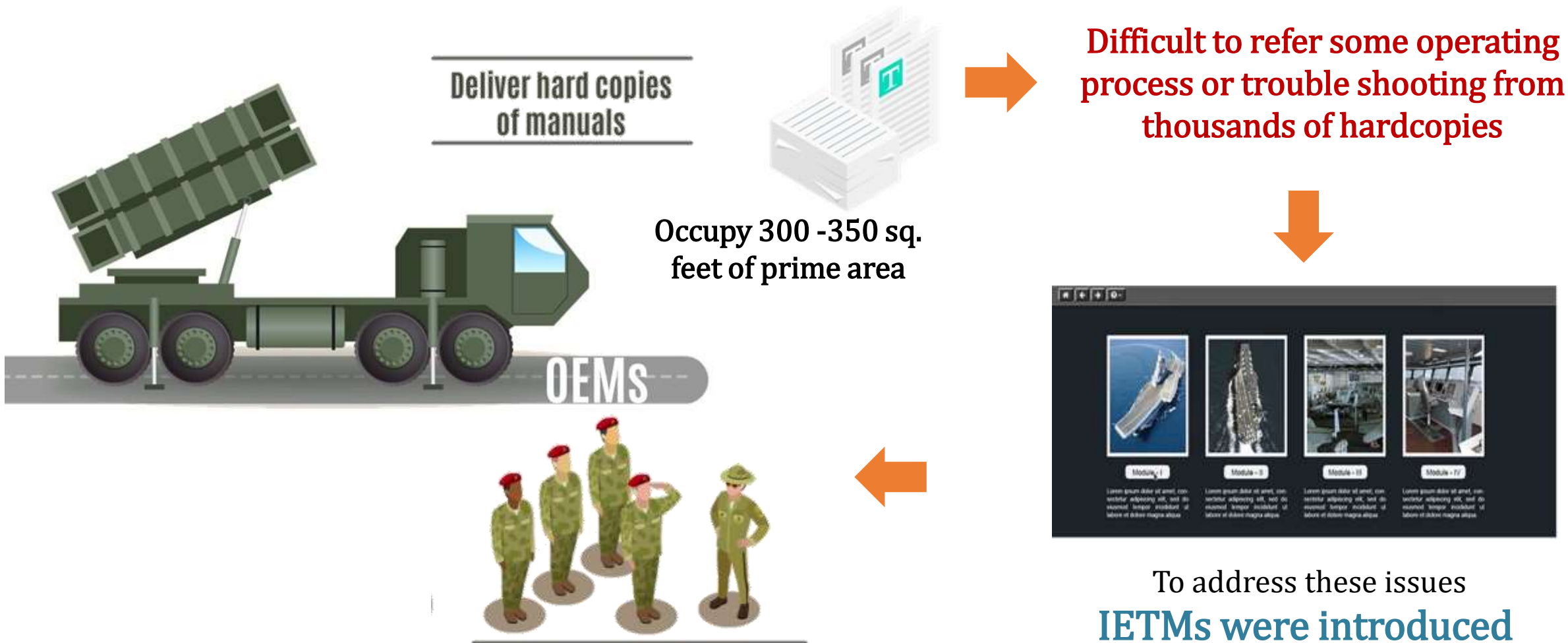
Electronic Format (IETM)

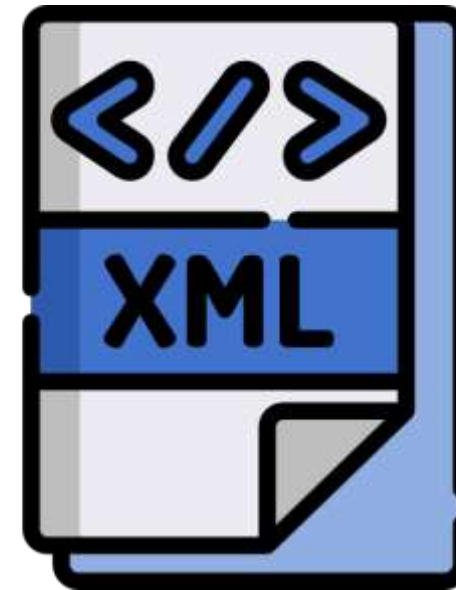
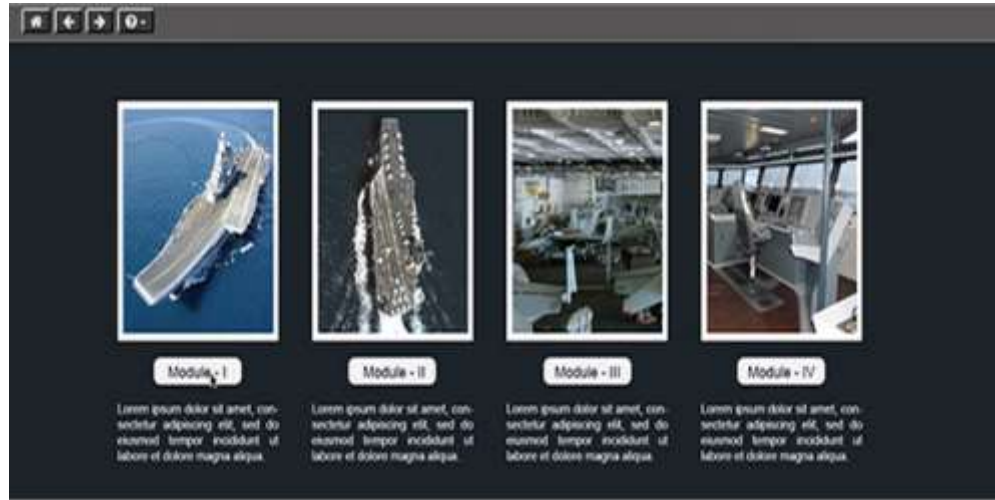
interactivity, convenience and ease of use



Introduction to IETM | History of IETM | What is IETM?

- ❖ For example, the maintenance and operation manuals of a warship, which used to occupy 300 -350 sq. feet of prime area with thousands of pages of technical literature





Interactive Electronic Technical Manuals (IETMs) or Interactive Electronic Technical Publications (IETPs)

- ❖ IETMs are a portable, electronic "library" which contain thousands of pages of documentation and images and allows end users to trace technical documentation in a more efficient manner, and the digital nature provides a more agile and accurate method of updating technical documentation.

The Classes of Electronic Technical Manuals



Level 0



Level 1



Level 2



Level 3



- Level 0 gives us the full description of the spectrum by providing the digital page with images that can be mean to plan for electronic archival filing.
- These pages allow the users to view only on an electronic device but it does not have the detailed index for navigation with this document for the online purpose.



- In this level systems with a digital page with images are provided with full page display and it allows the navigation by means of user-friendly which can be an automated index page.
- For e.g: Navy Advanced Technical Information System – ATIS).
- This type of systems which can be used in libraries and as well as used for reference setting for research and reading purpose



- Systems for Interactive Display of ASCII-Encoded Documents using an intelligent index and Hypertext tags inserted into an attached document file.
- In general, the document is the result of a simple conversion from a page-oriented document but with little or no alternative by a subject matter expert with the exception of adding hypertext tags.
- These allow a user to navigate through the document, but have very limited, if any, author inserted navigation aids or a content-driven "NEXT" function.

The Classes of Electronic Technical Manuals

 Level 0

 Level 1

 Level 2

 Level 3 

- Interactive Display of Technical Information which is SGML tagged using MIL-D-87269 tags to the maximum extent possible and using a Hypertext presentation system for display in accordance with MIL-M-87268.
- It is based on a sequential SGML document file and not a hierarchically based on Database.
- Navigation is based on author developed make employing features such as to bring dialog boxes and content-driven logical "NEXT" function.
- IETM Class-III is a linearly structured electronic document where the content is stored in smaller logical blocks of text with hyperlinked content to different logical pages and less use of scrolling compared to IETM Class-II.
- Class-III IETM is structured in freely flowing linear format following the logic of the content

Key Feature of our Class 3-IETM

- Content derived from Logically Hyperlinked Static Pages and not related to database
- Linear Structured Table of Contents with Hyperlinked data
- Interaction through dialog boxes
- Logical display of data in blocks related to content
- Logical NEXT and BACK functions for User navigation through content
- Page Search and Keyword search capabilities of content
- Text and graphics support for the content display
- Useful as interactive training, operation and maintenance aid and also Content specific help available
- Module wise deployment for Content, Manuals, Illustrations, Spares, Glossary, Help and E-Book View for manuals

Software Design



FRAME WORK / SOFTWARE

This software manages :

- Arrangement of Content Tree
- User Log Ins
- User Access to various topics of IETM
- Annotations
- Bookmark
- Search of Key word
- Access to related topics
- Access to Manuals/ Spares list/Drawings
- Word Explainer /Video Explainer/Image Explainer (Hot Spots)
- As a Admin, Add delete Content
- As a Super Admin: Convert pages to IETM compatible format etc.

IETM Development Team



Content Data Base / IETM PAGES

Step -1

- All Documents will be converted in to IETM Database (TOC in excel & HTML 5 conversion)

Step -2

- Building TOC in frame work
- Copying HTML code in frame
- All the text will be stored in data base

Step -3

- Linkages between pages/frames

Structure of IETM – Level 4

Using this software we build Table of content and build database of Text/Images/Links/Videos etc

All the text of manuals will be converted in to Database

One of the main characteristic of IETM Level -4 is managing data base

All the text will be stored as data base for easy accessing and fast loading and easy updation

It makes hyperlinking also easy

Every image Video will be given as a “code” dynamically, and the same code can be called multiple places as hyperlinks

IETM may have user manuals and Maintenance manuals

Based on the user, we can give only user manuals to one user “Log In ID” and Maintenance manuals to other “log in ID”

IETM also accommodates Spare parts list, Actual user manuals for reference

Software's used in Developing of Frame Work

Framework



Angular JS



Electron



Database : MySQL



HTML5

Frontend



Bootstrap

Deployment



Our IETM Frame work is cross platform compatible



It can be played as EXE (Executable file) Or can be played in Browser

It can be played on Windows OS and also in Linux OS



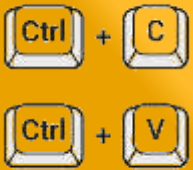
It can be installed in Client Server Environment and also in single System



Integration of Text in to Database



- This Framework has inbuilt authoring tool, where any person with basics knowledge of Computers can convert the text in to Database



- Its similar to “Copy” from PDF and “Paste” in Authoring tool of IETM



- One hour training is sufficient to make database from PDF/DOC files

IETM LEVEL -4 Expertise



We are proud to be in association with Indian Defense

Empaneled vendors to supply software to :



Electronics Corporation of India Limited
A Govt. of India (Dept. of Atomic Energy) Enterprise



Indian Navy



Indian Army



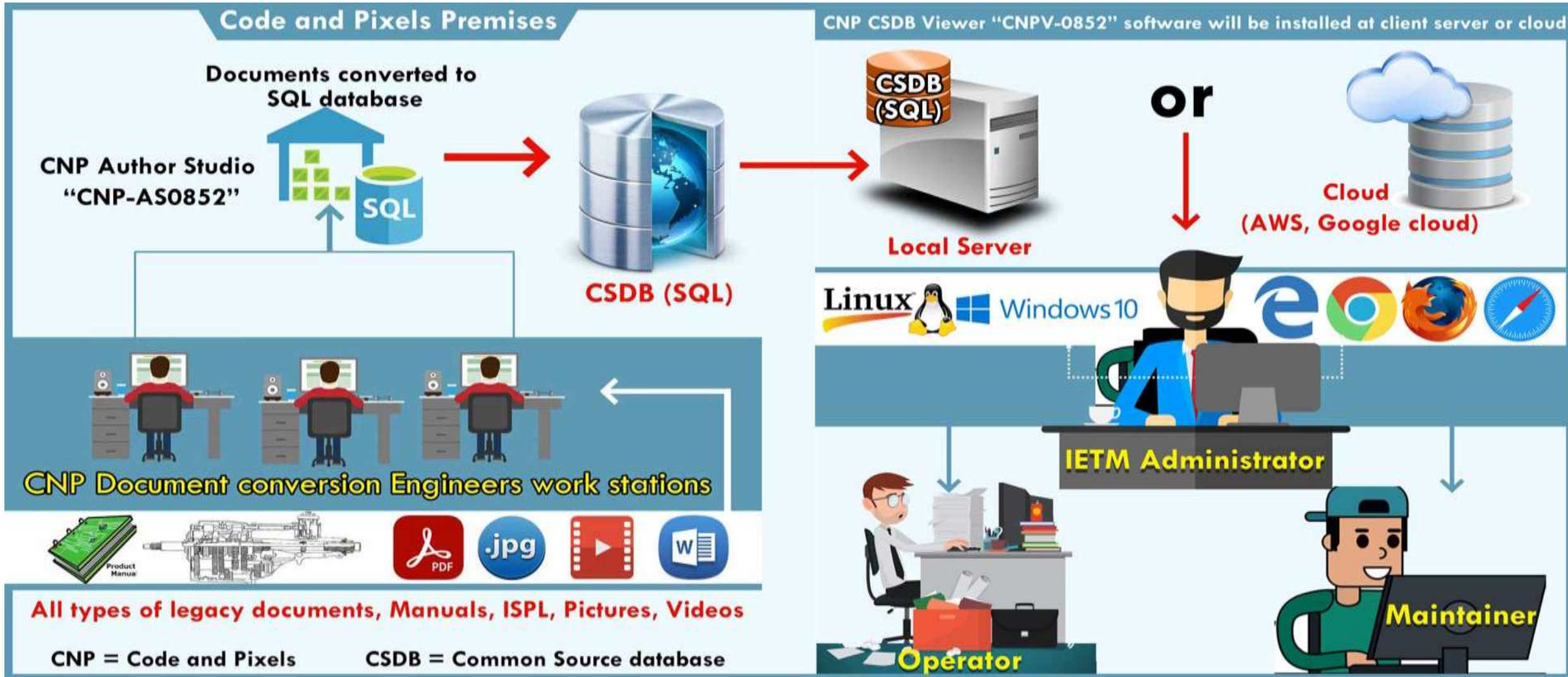
Indian Air force



30+
IETMs



IETM Architecture



IETM Architecture

JSG -0852 :2001



Documents converted to
SQL database



CNP CSDB Author Studio
"CNPAS-0852"



CSDB (SQL)



IETM LEVEL -4 Expertise

Adherence to Standards

- ❖ MIL-M-87268, MIL-D-87269, and MIL-Q-87270
- ❖ JSG-0852:2001 Joint Service Guide Document

Graphic User Interface

- ❖ Graphic User Interface as suggested in JSG-0852:2001 Joint Service Guide Document
- ❖ Standard Navigation Tools
- ❖ Easy to navigate, Tree structured based content tree and user friendly Graphic user interface
- ❖ Frame oriented instead of being page oriented



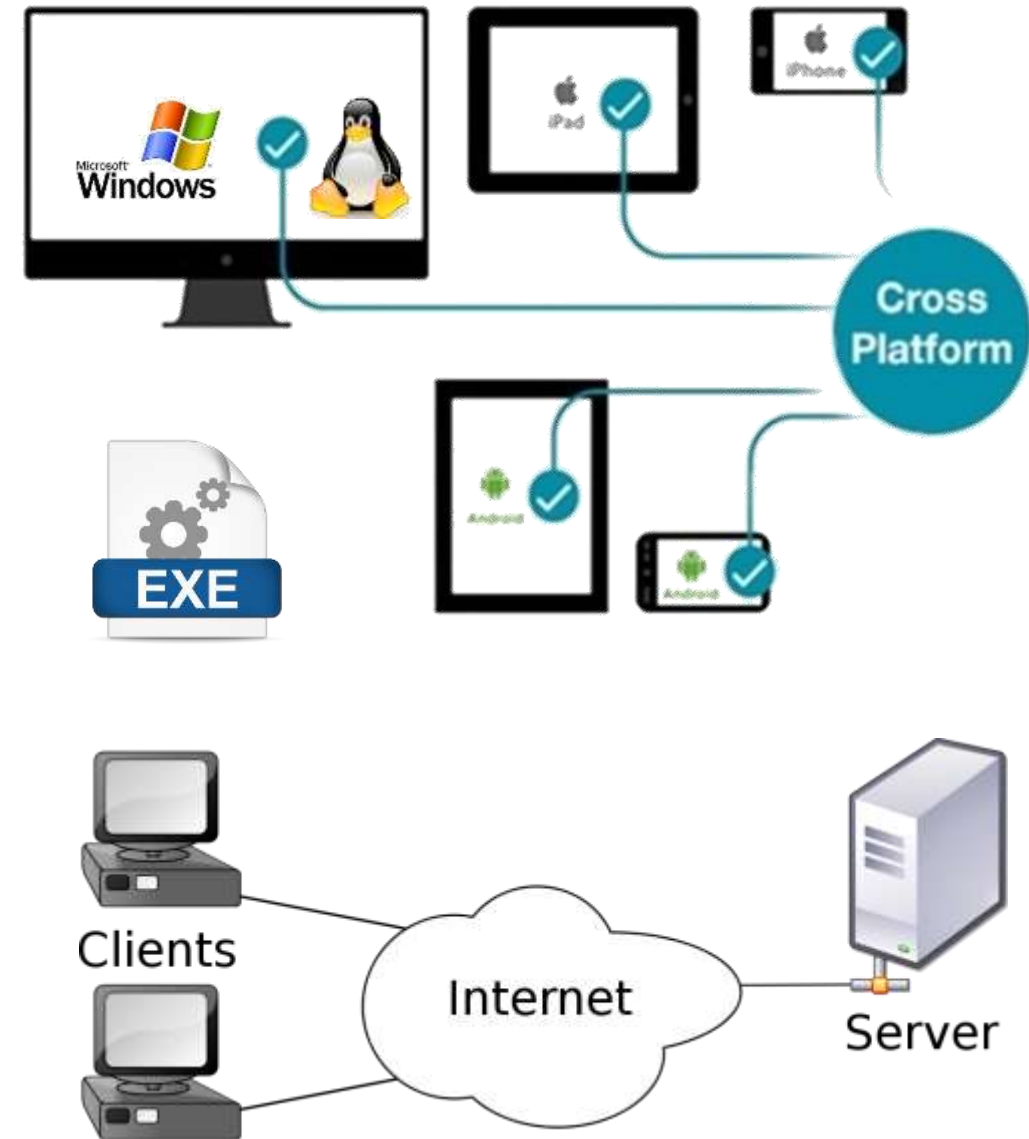
Security:



- ❖ Role based Login Control and Dynamic User access control (User, Admin)
- ❖ Database configured as per MIL -PRF 28001 Standards document
- ❖ Dynamic User Access control to reduce the risk of unauthorized access to content data
- ❖ Backup and Restore Module for protecting the loss of data

Cross Platform Compatibility and Deployment :

- Our IETM Frame work is cross platform compatible
- Code and Pixels Frame works is compatible for multiple devices i.e. Lap tops, PCs, Tablets etc
- IETM can be operated in Windows Operating systems and also LINUX OS
- IETM can be browser based or EXE based as per the clients requirements
- No 3rd party tools are required to install IETM in Clients Machine
- It can be played as EXE (Executable file) Or can be played in Browser
- It can be installed in Client server Environment and also in



Performance :

- In Class-IV IETM the data to be stored in a relational database, obtaining benefits of data integrity and removal of data redundancy.
- As the content (Images, Text, tables, Hyperlinks, Hot spots) is saved in database, hence content will be loaded in fraction of seconds from server.
- Content completely hyperlinked are mapped directly to relations in the database schema.
- Content will be driven dynamically from Database based
- Dynamic data access from Relational database and reduced use of static pages
- Content data derived in textual, graphical, audio or video formats in a relational database which is composed of logically connected but randomly accessible IETM data elements
- High-end Server with good bandwidth LAN would make IETM more efficient.
- Our IETM frame work supports 1 lakhs plus pages and 500 concurrent users

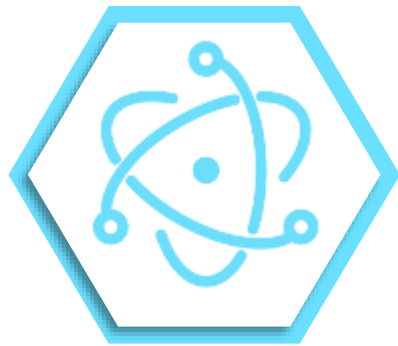
Modern and Latest Technologies

HTML 5 (responsive) based content integration and module based deployment

Framework



Angular JS



Electron



Database : MySQL



HTML5

Frontend



Bootstrap

EED-P-23: Naval Specifications for IETMS



Users

IETM is equipped with User management tools, content management tool, Authoring tools

User Dashboard

User Dashboard consist of features like Manage Bookmarks, Manage Annotations , View Activity, Change Password, Enter IETM, Logout.

Admin

Admin can control the documents access based on user profile. I.e. For Operator user , only manuals related to operator can be given access and for maintainer user only Maintenance related documents can be give access. Admin can see user login history and user Annotations and feedback etc .

View Activity

View Activity Feature consist of Last login, Created Date and a Table with all the previous login and logout's gets displayed

Change Password

This Feature enables User to change his own password and to update his own security questions.

Enter IETM

This Feature enables User to enter into IETM Core and access the IETM Data by selecting the desired module.

IETM Core

IETM core consist of IETM Content section on the Right and Tree Menu on the Left for navigation of content, IETM Core consist of Global Search, Local Search, Print, Annotation, Bookmark, Help and Select Module, History Navigation and Home options.

Annotations

Annotations are displayed by an icon at the Top Right beside the Global Search with Annotations Count of particular page. User can select the text with mouse and Add Annotation option appears to users to add new annotation in the content page.

Print IETM Core

Print feature is provided in IETM Core to print the current page content

Bookmark

A Bookmark Icon is provided at the top of content section to bookmark a particular page and can be added by clicking the Bookmark icon, A popup with Name Bookmark name field gets appeared.

Word Explainer

Word explainer feature helps in providing a Description/Explanation to a word by clicking on the word and is highlighted with a color in IETM Content

Image Explainer

Image Explainer feature helps in linking a related image to a word in the IETM content, the word with the image explainer is highlighted with a color in IETM content.

Video Explainer

Video Explainer feature helps in linking a related Video to a word in the IETM content, the word with the video explainer is highlighted with a color in IETM content.

Hotspotting

Hotspotting functionality is used to link a word to respective image/Drawing of the same page, works with mouse hovering or selecting text or part of a image by which respective drawing or image will highlighted.

Hyperlinking

Hyperlinking feature enables user to navigate from one page to the other related hyperlinked page by mouse click, the hyperlinked data is highlighted with a color and underlined.

Image Viewer

By clicking on image or enlarge icon of the image at the right bottom of image respective image is displayed in a popup of image viewer.

Page Navigation

Page navigation feature enable the user to navigate to next and previous pages , by clicking on Prev Button at the left bottom of content area user gets navigate to the previous page of the content.

History Navigation

This feature enables the user to navigate to his previous steps based on his navigation history of the current session, by clicking on the right arrow in the top header user gets navigated to the forward.

Global Search

Global Search provides a functionality to search a keyword with matching page name and also content text form entire IETM Core and the results are displayed in tabular format with Page Title and Module Name. by clicking page title user gets navigated to that page.

Local Search

Local Search provides a functionality to search a keyword in the same page and the matching text is highlighted with a color in that single page.

Related Content

Related Content features is located at the right bottom of IETM content section. We can link the Related Pages of IETM Core, Document and Drawings which are related to this page content in this feature.

Page Expand View

IETM Page can be expanded upon clicking the arrow button provided at the bottom of the tree menu section

Manuals Tab

Manuals tab is provided in the header above the tree menu. All the manuals related to can be placed in this tab and can be viewed with the help of pdf viewer provided in the IETM application.

Logs Tab

Logs tab is provided in the header above the tree menu. This section enables User to add and store the logs of required data for the user

Glossary Tab

Glossary tab consist of Add, Sort , Find options with a tabular display of the glossary Related to content in IETM Core

Select Modules

User can be navigated to desired module form this Select Module Button, A list of all available modules will be displayed in dropdown.

Help for IETM

This consist of two pages About IETM and How to use IETM with the information related to IETM and a video how to use IETM.

Logout

Logout enables the User to close his session and logout form the IETM dashboard and redirects out of application from his access to login page of IETM.

IETM Level -3 vs. Level 4

Feature	Description -IETM -3	Description -IETM -4/5
Login Password	Yes. But common for All	Yes. Different for all. Maintainer, Operator, Admin, Super admin(Developer mode)
Database	No data base, Documents will be stored as HTML	SQL – Complete text and user information will be stored in SQL database
User access	All the contents will be visible to all the users. No control over access rights to specific users	Based on login credentials we can restrict users. I.e. Operator will be able to see only contents and PDFs and Drawings related to operator only.
Bookmark, Annotations	NO	Yes. User wise bookmarks and annotations
Glossary	Yes	Yes
Admin	NO. Only single log in for all users.	Yes. Admin can create and manage users.
Super admin/Developer mode	No	Yes. Client can update the content
Delivery & Execution	CD and DVD or USB	Installation. Cant be played from DVD/USB. Need client server environment
Dependent software's to play	NO	NO
Operating systems	Linux	Windows and Linux
Search	Local Search	Local and global search

IETM Level -3 vs. Level 4


Feature	Description -IETM -3	Description -IETM -4/5
Dash board	No	User dash board Admin Dash board
Nature of content	Static	Dynamic
Interactivity	Less	More
User activity monitoring	NO	Yes. User log in history will be tracked
Hyperlinks	Yes, Hardcoded	Dynamic. Each frame, Images or topic will be given a unique code.
Hotspots (A pop up window having image, Video and Text plainer)	Yes ,Hardcoded	Dynamic
Contents Tree structure	YES	YES
When to use	Up to 5000	Any where 5000 to 2 lakhs
Specifications	JSG 0852:2001 Joint service Guide	JSG 0852:2001 Joint service Guide MIL Standards - 87268, 87269 (DATABASE)
Print	No	Admin can Print the required files
Content	Page based approach. HTML pages are developed and integrated	Frame based approach. No pages exists. All data will be stored in database. Based on request from user, content will be fletched from server and displayed.





We are OEMs and serving Indian navy. Our client wants us to deliver IETM along with the Machinery/System/Vehicle/Equipment. What inputs should I take from my client? We have no knowledge about IETM. We are supplying all the manuals in PDF format and hard copies. Why navy needs IETM?

- a) From 2018, all Defense/Navy/Air force clients are asking for IETM along with other training Aids such as CBT, Video Film, Charts and Boards, and Technical literature Hardcopies.
- b) Based on the complexity of your Machinery/System/Vehicle/Equipment, you will need to provide different types of manuals as deliverables. (User handbook, Design specifications, Technical manuals, and Illustrated spares parts list)
- c) Manufacture recommended list of spares, DIM, SMT & STE, ISG, MS, PRS, Inventory, Deployment manuals, Combat manuals, Operating manuals, Maintenance manuals and many more as per your system. The count of all together may range from 5000 to 25,000 for big systems.
- d) If the user has to refer for a topic, then she/he has to refer to all 10-15 manuals hard copies or soft copies (PDFs) separately. It's a time taking and troublesome process and also not completely resourceful.
- e) For example, if a user wants to search for some particular LRU (line replaceable unit) then he has to open each and every PDF and search for the LRU. He will get many results and it will be hard to refer to all the 16 PDFs at a time. Sometimes, he may have to refer to 2-4 manuals together for a solution. In this case, traditional PDF file or Hard copy will have many limitations.
- f) To overcome the limitations, IETMs are designed.
- g) IETM basically combines all these manuals and creates interactivity between all the manuals and drawings etc. That's the reason it's called Interactive Electronic Training Manual.
- h) In IETM, all the manuals and drawings, images, and videos will interact with each other through hyperlinks, hot spots and cross references etc. Thus, searching for topics is made possible in a single click with 100% efficient result.
- i) Ask your client whether they want IETM Level 3 or Level 4. And count how many pages of text they have.
- j) Price varies based on the number of pages and the Level of IETM. Level 3 is less expensive than Level 4

 What is the deliverable format of IETM manual? PDF or HTML or DOC?

- a) Though the name reads Electronic Training Manual, it is not a single file or Manual. IETM is a software package.
- b) A software where all the pages of manuals are converted and embedded in IETM framework or IETM software.
- c) IETM is a software where all your manuals sit.

 I want exploded view of our machine in IETM.

- a) If you have any Videos or Images already made, then we will put exploded views in IETM. The IETM vendor's responsibility is to embed all inputs provided by OEM into IETM frame work.
- b) The IETM scope does not cover the designing of Charts, Blowups, Exploded Views, and Animations etc.
- c) If you want exploded views, then that will be taken as content development activity.



What inputs you need to make IETM?

- a) May it be IETM level -3 or LEVEL -4, we need all the manuals which are to be converted (either into PDF or Word format), all the images (JPEG, PNG, TIF) and all the CAD drawings converted in PDFs and Videos that are to be embedded into IETM.
- b) We need table of content/content classification done by your subject matter experts.
- c) We also need your subject matter expert's help in connecting documents and also giving hyperlinks, related topics, glossary etc.



How many days will it take to develop IETM?

- a) It depends on the number of pages to be converted. We have done almost 35 IETMs of various levels. As per our experience to make Level 3 IETM having 5000 pages, it takes around 30 days.
- b) For documents 10,000 to 20,000 it takes around 60 days.
- c) Major hindrance that we face is availability of final documents from OEM.
- d) We had this experience several times that OEMs have to collect documents from many sources and number of versions are available for each document. OEMs usually focus on actual equipment but not on documentation of equipment. Collecting final approved files from OEM is the biggest challenge in IETM development. If all the final approved documents are in place, it takes standard time as mentioned above.



What will be our role?

- a) You need to nominate a person as a Point of Contact from your end. Our technical team will be in constant touch with the POC to take approval on UI and UX (User interface and user experience), i.e. the logos to be used, color formats, table of content finalizing and cross checking of IETM etc.



My client wanted IETM in DVD.

- a) Probably, your client must be looking for IETM level -3. IETM level -3 only can be played from CD/DVD player. IETM -4 requires installation as it used Database.



When do we need IETM -3 and IETM -4?

- a) It depends on your client's requirement. General practice is, IETM level 3 is used when documents are less, i.e. below 5000. When documents are more, IETM -4 is required.
- b) Having said that, we have also done 5000 Pages IETM Level 4 and 6000 pages Level 3.
- c) It completely depends on the Client. If your system is small, you can convince them to go for IETM level -3



I find very few IETM vendors and how different are you from others?

- a) We are the only company in Hyderabad having experience of delivering 30 + IETMs in past 5 years.
- b) We worked closely In associated with all the Defense Labs and we are fully aware of their requirements as almost 30 IETMs are being used by various Army or Naval, Air Force headquarters and training centers and Army Air Defense Colleges etc.
- c) You ask for Purchase Orders from other vendors. Majority of vendors don't have POs from clients.
- d) Many vendors don't have IETM softwares with them to showcase demo.
- e) We are available any day to give demonstration on IETM level 3 or 4
- f) Ask them to show standard documents. Many vendors don't know how they look and they don't have latest version copy. Because IETM standard documents are not available openly on websites.
- g) IETM is the combination of software and data conversion. We have the strength of 50 + software and content development professionals and we guarantee delivery date as we have experienced resources having dealt with 30 project life cycles.
- h) We have a strong R&D team, which exclusively works on improving software as per the latest technologies.



What is the difference between IETM level -3 and Level -4?

S. No	Feature	Description -IETM -3	Description -IETM -4/5
1	Password Protection	Yes	Yes
2	Login Password	Yes. But common for all.	Yes. Different for all. Maintainer, Operator, Admin, Super Admin(Developer mode)
3	User access	All the contents will be visible to all the users. No control over access rights to specific users.	Based on login credentials, we can restrict users. I.e. Operator will be able to see only contents and PDFs and Drawings related to operator only.
4	Admin	NO. Only single log in for all users.	Yes. Admin can create and manage users and content access rights.
5	Super admin/Authoring tool	No	Yes. Client can update the content. Using Super admin or Authoring tool, IETM can be edited. Text, images, Content tree, hyperlinks can be done using Authoring tool.
6	Database	No data base. Documents will be stored as HTML	SQL – Complete text and user information, Content structure will be stored in SQL database
7	Dash board	No	User Dash Board to manage user activities. Admin Dash Board to manage admin activities.
8	Nature of content	Static	Dynamic. Complete data is stored in the database.
9	Interactivity	Less	More
10	Bookmark, Annotations	No	Yes. User wise bookmarks and annotations.



What is the difference between IETM level -3 and Level -4?

S. No	Feature	Description -IETM -3	Description -IETM -4/5
11	Glossary	Yes	Yes
12	Search	Local Search	Local and global search(Full IETM search).
13	Delivery & Execution	CD and DVD or USB	Installation. Can't be played from DVD/USB. Need client server environment.
14	Dependent software's to play	No	NO. IETM has inbuilt image and video players, PDF viewers, hence no 3 rd part installations are required at client side.
15	Operating systems	Linux	Windows and Linux. IETM can be browser based or EXE based.
16	User activity monitoring	No	Yes. User log in history will be tracked.
17	Hyperlinks	Yes , Hardcoded	Dynamic. Each frame, Images or topic will be given a unique code.
18	Hotspots (A pop up window having image, Video and Text plainer)	Yes , Hardcoded	Dynamic
19	Contents Tree Structure	Yes	Yes
20	When to use	When page count is up to 5000	Anywhere from 5000 to 2 lakhs.
21	Specifications	JSG 0852:2001 Joint service Guide	JSG 0852:2001 Joint service Guide MIL Standards - 87268, 87269 (DATABASE)
22	Print	No	Admin can print the required files.
23	Content	Page based approach. HTML pages are developed and integrated	Frame based approach. No pages exist. All data will be stored in database. Based on request from user, content will be fetched from server and displayed.



**We are Just
a Call away**

Thank You

Code and Pixels Interactive Technologies Pvt. Ltd.
CNP Elite Tower, Plot Number 4, Door Number – 3-11-206/4
Road Number -5, Sri Shankar colony,
Seris Road, L.B Nagar , Hyderabad 500074
Tel: 90000 90702
e-mail: gopikrishna@codeandpixels.net
www.codeandpixels.net

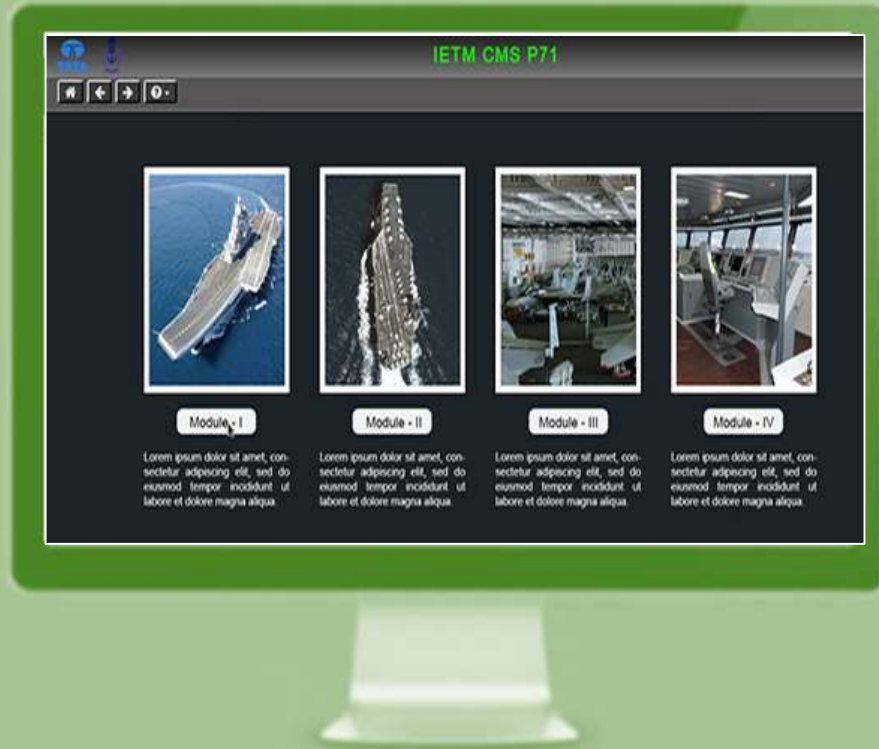


CODE & PIXELS

Interactive Technologies Private Limited



CODE & PIXELS
Interactive Technologies Private Limited



A Presentation on IETM Level - 4

Thank You

Registered With :



एन. एस. आई. सी.
National Small Industries Corporation
राष्ट्रीय लघु उद्योग निगम लिमिटेड



MSME
सूक्ष्म, लघु एवं मध्यम उद्योग
MICRO, SMALL & ENTERPRISES



TNV Certification UK Ltd.

