

Naval Surface Warfare Center

Carderock Division

West Bethesda, MD 20817-5700



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14. ABSTRACT Since the Center for Innovation in Ship Design (CISD) was established in 2002, its focus has been on knowledge, people, and innovation. Innovative ship design requires people with the proper training, education, and experience. It also requires the effective use of knowledge resources. The extent to which an organization performs well, will depend, among other things, on how effectively its people can create new knowledge, share knowledge around the organization, and use that knowledge to best effect. NAVSEA 05D recognized that effective knowledge management would help it achieve its overall strategy and goals. As a result, NAVSEA 05D funded CISD to work on a knowledge management project directed at their Ship Design and Certification Network (SDCN). Although it was realized that the resources available would limit the scope of the project, the intent was still to produce tangible results. The goal was to provide an effective way to find documents on the SDCN, an indication of a document's overall likelihood to contain reliable information, a method for personnel to provide feedback on the quality of any information in a document, and to ensure data files used for each design study remain unaltered and linked to the final design report. This report summarizes the work undertaken to achieve these goals.					
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Abstract

Since the NAVSEA Naval Surface Warfare Center, Carderock Division, Center for Innovation in Ship Design (CISD) was established in 2002, its focus has been on knowledge, people, and innovation. Innovative ship design requires people with the proper training, education, and experience. It also requires the effective use of knowledge resources. The extent to which an organization performs well, will depend, among other things, on how effectively its people can create new knowledge, share knowledge around the organization, and use that knowledge to best effect.

NAVSEA 05D recognized that effective knowledge management would help it achieve its overall strategy and goals. As a result, NAVSEA 05D funded CISD to work on a knowledge management project directed at their Ship Design and Certification Network (SDCN). Although it was realized that the resources available would limit the scope of the project, the intent was still to produce tangible results. The goal was to provide an effective way to find documents on the SDCN, an indication of a document's overall likelihood to contain reliable information, a method for personnel to provide feedback on the quality of any information in a document, and to ensure data files used for each design study remain unaltered and linked to the final design report. This report summarizes the work undertaken to achieve these goals.

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**Naval Surface Warfare Center Carderock Division
Center for Innovation in Ship Design**

NAVSEA 05D Ship Design and Certification Network Knowledge Management Project

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Knowledge Management

Introduction

The Naval Surface Warfare Center, Carderock Division (NSWCCD), Center for Innovation in Ship Design (CISD) has four primary focus areas:

1. human capital;
2. long range concepts;
3. ship design knowledge base; and
4. tools, methods and criteria for ship design.

The ship design knowledge base focus is to capture and make easily available ship design information, use knowledge base technology to support ship design, and communicate state-of-the-art ship design knowledge. In partial fulfillment of these goals, NAVSEA 05D funded NSWCCD CISD to work on a knowledge management task focusing on their Ship Design and Certification Network (SDCN). The NAVSEA05D SDCN is an unclassified Research Development Test and Evaluation (RDT&E) computer network located at the Washington Navy Yard consisting of a number of workstations connected to a server running Windows server 2003 SP1. There is no external connection to the Internet or other networks from the SDCN.

This project represented the first phase of a task focused on addressing some of the key knowledge management concerns that had been identified at NAVSEA 05D. These concerns include:

- an efficient way to find documents on their network;
- an indication of a document's overall likelihood to contain reliable information;
- a method for personnel to provide feedback on the quality of any information in a document; and
- a means to ensure data files used for each design study remain unaltered and linked to the final design report.

As a result, work focused on the following key work areas:

- search capability;
- quality review;
- certification process; and
- design database configuration.

This report documents the work under taken to address these concerns and work needed to prepare for activities likely to occur in follow-on tasks after the completion of this initial phase of the project.

Search Capability

Problem Statement

NAVSEA 05 personnel are presently experiencing difficulty in consistently obtaining electronic documents from their corporate shared drive (e.g., G: drive) including documents created internally and externally. With the introduction of the dedicated unclassified RDT&E SDCN computer network for NAVSEA 05D ship design and certification work, it was inevitable that the inability to consistently find and obtain electronic documents would also afflict the SDCN system.

Project Goal

The project's threshold goal was to improve the document search methodology, prototype a dedicated search capability on the NAVSEA 05D SDCN and investigate alternate file structures and naming conventions.

The objective was to implement a functional search capability, provide a search reporting capability (e.g. top queries, no-hit queries), provide user training for initial cadre and future new hires, and improve document indexes and metadata usage.

Work Strategy

To minimize costs and reduce risk, it was decided to use commercially available software, hardware or a combination of both to provide the required search capability. The search capability envisioned was to provide users with a level of functionality similar to that currently provided by Internet search engines (e.g., Yahoo®, Google™).

System Design Requirements and Constraints

The requirements and constraints established for the search capability shall:

- have a capacity to search the number of documents anticipated to be stored on the server in five years time;
- support all Microsoft® Office (MS-Office) file formats and common commercial business, administrative, and engineering software file formats;
- generate user search reports indicating search relevance;
- generate administrative reports indicating top queries and no-hit queries;
- be compatible with the SDCN architecture and operating system; and
- provide a spell checker, thesaurus, and searches using wildcards and advanced options (e.g. word proximity, Boolean).

The search capability should:

- index databases;
- limit search access based on the user's authorization level;
- provide RAID support;
- be affordable (both acquisition and in-service);
- require limited or no administrative maintenance; and
- have an intuitive, user-friendly interface.

Solution Provided

There are a number of vendors that provide software for searching corporate Intranets. The products provided by Thunderstone Software LLC and Google™ were assessed as being most suitable. Both vendors provide their proprietary search algorithms on an appliance designed to plug into a corporate network or Intranet thereby providing the

customer an easy to use internal search engine. A comparison was made of the two vendor's appliances capable of handling up to 500,000 documents.

The Google™ appliance could only be obtained through a licensing agreement with a term of two years. The cost was about \$30,000. The Thunderstone appliance could be purchased outright for \$13,600 with maintenance included for the first two years. Maintenance for subsequent years could be purchased for about \$2,500 per year. Google's appliance appeared to be better at indexing Internet web pages with multiple links between the pages whereas the Thunderstone appliance's algorithm was based more on the location and frequency of search query terms within a document. As a result, two Thunderstone™ search appliances (TSA500) were purchased; one to serve as the prototype search capability for the SDCN and the other to serve as a test and development platform on the CISD RDT&E computer lab at Carderock.

In parallel with the research for and procurement of the search appliance, a taxonomy for the SDCN was developed based on a combination of the organizational structures inherent in the USN ship and service craft classifications, the standard subject classification codes (SSCCs), ships work breakdown structure (SWBS), and the navy tactical task list. The sponsor, Capt N. Doerry, independently developed the taxonomy that was finally adopted. Appendix 1 contains this taxonomy along with a brief description of the proposed contents for each element.

Search Appliance Implementation

Overview

The Thunderstone search appliance was physically connected to the SDCN server and mounted to the designated shared drives using server message block (SMB) protocol. Operation of the search appliance, both as an administrator and as a user, is done through Internet explorer. A user on the network can obtain access to the search appliance by simply entering its IP address (e.g. <http://130.46.170.14>). This will redirect to a page containing links to the two primary functions: "dowalk" (administrator interface for creating profiles that contain instructions on what files to index), and "search" (user interface for searching).

The administrator should create standard Internet explorer favorites (a link to the search screen page) for each of the profiles created and provide these to the users to add to their favorites. It is recommended that the initial page for the users be the advanced search screen. The advanced search screen has links for search help and it shows the word forms that will be searched based on the query terms entered and how the appliance will rank the results based on such factors as the query terms proximity, order and frequency.

Searching

Appendix 2 contains a brief overview of some of the search appliance features as well as example figures showing the search and results screens. The following are a few query rules of thumb.

If you get too many junk or nonsense answers, try to:

- add some more words to your query;
- decrease the range of the proximity control;

- change the word forms control to exact;
- look at the [\[Match Info\]](#) and see why they are showing up;
- use the exclusion operator (-) to remove unwanted terms; and
- if you are searching for a phrase, hyphenate the words together.

If you don't get any answers, or just too few:

- remove some more words from your query;
- examine your spelling;
- increase the scope of the proximity control; and
- it just might not be there.

Search Metadata

The search appliance's forte is indexing web HTML documents, since it can read the entire text body of the document and all the metadata tags. Its ability to extract the metadata from other document types varies considerably. In general, the Title field contained in the properties metadata can be extracted. Therefore, it is strongly recommended that all documents saved on the SDCN have meaningful descriptive words in the Title field. The search appliance will use these words to help find the document and it also displays the Title field in the search results screen. When the Title field is blank, the appliance uses defaults (e.g. "MSWord document" is the default for Microsoft® Word documents). Adobe PDF documents created from MS Office documents inherit the Title field from the parent document, so it is especially important that documents used as the basis of PDF documents have descriptive text in the properties Title field.

User Access Restriction

It is possible for the administrator to restrict access to folders containing sensitive information. The administrator must create a separate profile (index) for each root directory containing sensitive information in addition to the profile for general access folders. The profile for the general access information must specifically exclude the sensitive folders in the All Walk Settings screen.

Restricting access is done in the Search Settings screen for the profile. The administrator must change the authorization method from None to Basic/NTLM/file - prompt via form. It is recommended that the Basic/NTLM/file Cookie Type be set to Session. This automatically logs out users when their browser closes, so a login is required for each new session.

Quality Review

Problem Statement

When a document or information record is stored on the SDCN, there is no mechanism for users to provide feedback or make comments. This input could subsequently be used to aid other personnel in deciding on the value of the information contained within the original document.

Project Goal

The project's threshold goal was to deliver a mechanism for users to provide online feedback to and comments on text documents contained on the SDCN.

The objectives were to provide user training, include an automated feedback rating scale, enable preparation of reports showing documents most frequently reviewed, never reviewed, reviews older than a specific date, and expand quality review functionality to all document types.

Work Strategy

The initial strategy was to provide a capability similar to that found on web sites such as Amazon.com where customers can write reviews and rate items on the site. In addition, other customers can rate the usefulness of the initial review. It was felt that a solution to the quality review problem would be somewhat dependent on the search solution implemented.

Design Requirements and Constraints

The online quality review capability shall:

- enable users to provide written comments on any document contained on the SDCN;
- provide permanent reviews that can only be deleted by a system administrator;
- automatically record the reviewer's identity (e.g. name, position, phone number) and the date the review was made; and
- ensure the quality reviews remain linked to the subject document throughout its life cycle.

The online quality review capability should:

- produce an overall reviewer rating based on each individual's ordinal rating of the value of the info; and
- provide reporting capability indicating documents most often reviewed, never reviewed and reviews older than a specific date.

Solution Implemented

The sponsor developed a program to index the SDCN and create a HTML document for each directory with links up and down the directory tree structure. At the lowest level, there is an MS Excel document entitled "certification.xml" for each folder. This XML document has a link to the either the document or the first document of a collection (e.g., conference proceedings) contained in the folder. It contains some of the document's metadata on the first spreadsheet tab and another tab for providing quality review comments. There are three fields (columns) for the quality review: one for the reviewing author's name, the date comments were made, and the review comments.

Certification Process

Problem Statement

There is currently no formal process for adding documents to the SDCN. As a result, users can add documents containing information of any quality level. Without an indication of the level of 'certification', users cannot always accurately and quickly assess the usefulness or accuracy of information in a document.

Project Goal

The project's threshold goals were to recommend a process for adding documents to the SDCN and establish agreed levels of 'certification' (i.e. confidence levels) for information so that any document can be assessed against established criteria and classified accordingly prior to inclusion on the SDCN.

The objectives were to implement a certification process and provide training.

Work Strategy

The strategy was to develop a simple matrix for assisting users to consistently assign a certification level to a document or data file being added to the SDCN. The certification level will be based on criteria such as level of peer review, sign-off level, source of information, and the knowledge and experience level of the author(s).

Design Requirements

The certification process shall:

- be consistent with current NAVSEA 05D direction;
- be simple with few, if any, administrative steps; and
- employ mutually agreed 'certification' levels.

Solution Provided

Once a document is identified for inclusion in the SDCN, it was decided to limit the assessment of its overall quality by two independent parameters: experience of the document's author and the review process the document underwent. Initially, the file format was investigated as a third parameter to indicate the likelihood that the document could be electronically signed for authenticity.

Author experience was divided into three levels of confidence. The levels are:

- senior – personnel with 7 or more years experience including university professors;
- intermediate – personnel with 3 to 6 years experience including graduate students; and
- junior – personnel with less than 2 years experience, undergraduates and any authors with an unknown level of experience

Similarly, the review process was divided up as follows:

- thorough – comprehensive review by peers and releasing authority, e.g. articles published in professional journals, reports approved by branch, division, or directorate head (includes documents approved for public release);
- some – reviews limited to peers without a formal sign off process; and
- none – unknown review process or preparation and release by one individual.

For documents with multiple authors, the experience should be based on the most senior individual in the team of authors, and the review process should, as a minimum, be some.

The matrix below illustrates the certification parameters showing how confidence level in the information contained within a document increases as both author experience increases and the review process becomes more meticulous.

		Review Process			
		Thorough	Some	None	
Author Experience	Senior				Increasing confidence level
	Intermediate				
	Junior				

The certification level is captured on the “certification.xml” file associated with the document (or document collection). It appears on the spreadsheet tab containing the document’s metadata.

Ship Design Database Configuration Management

Problem Statement

NAVSEA 05D personnel cannot always locate ship design data files used during previous concept and feasibility studies even when the final report is at hand. In addition, even when data files are located it is often impossible to determine whether they are the most recent version used to prepare the report.

Project Goal

The project's threshold goals were to investigate techniques for maintaining links between all related underlying analysis documents for a particular study, and develop methodologies for ensuring ship and system design files remain linked to the parent design report thereby ensuring version control is maintained.

The objectives were to implement an initial ship design database configuration management system, and provide user training for initial cadre and new personnel.

Work Strategy

Work involved investigating techniques for maintaining links between all related documents. Consideration included techniques such as naming conventions, bundling (physical or collocation), and digital object identification techniques.

Design Requirements and Constraints

The ship design database configuration management capability shall:

- provide users with a link between each ship design report and the ship and system design data files created and used during the design study; and
- ensure version control between the report and data files is maintained.

The ship design database configuration management capability should:

- function even after the storage location of the design report is changed;
- provide linkage in either direction (i.e. report to data and data to report); and
- be compatible with the quality review functionality.

Solution Provided

There are many commercially available electronic document and record management systems. However, this was considered to be too expensive a solution to explore in detail at this phase of the project. A number of ideas relying on users were proposed. The first proposal was to include the names, directory path and save time of all the data and analysis files used to prepare a report in the body of that report.

It was also proposed to put the related electronic files in one location, i.e. the same directory or bundle them in an archive file that could be compressed or encrypted.

Follow-on Phase Planning

Problem Statement

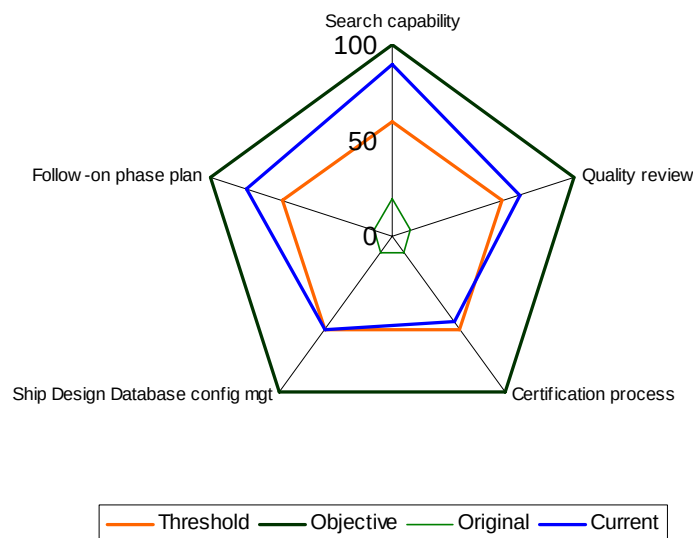
The knowledge management project will be unable to complete a comprehensive integrated data environment (IED) on the NAVSEA 05D SDCN during this initial phase. Since, subsequent phases will be required; a plan to address the implementation of remaining functionality is needed.

Project Goal

The goal is to develop a plan for implementing the remaining features desired for the system including any objectives unrealized during this initial phase.

Initial Phase Work Status

At the completion of the initial phase of the knowledge management project, the status of the work in the five work areas is as shown in the figure below.



The details behind this visual representation are contained in Appendix 3.

Next Phase Work

During the next phase of the knowledge management project, the following work areas and action items have been identified:

Improve document search capability

Improving the existing search capability will involve:

- customizing how the search results are displayed;
- developing a ship design specific thesaurus to improve the search results;
- ensuring access controls based on user privileges fulfill access restrictions;
- developing standard metadata terminology for user created reports and analysis files; and
- investigating techniques for providing access to information resident on other sites (e.g., DTIC)

Improve document quality review functionality

To enhance the existing quality review function, work will focus on:

- ensuring document quality review is properly linked to documents retrieved using search appliance; and
- continuing development of the prototype quality review functionality.

Implement collaboration and technical review capability

Implementing a collaborative work environment will involve investigating the use of product life cycle management solutions.

Implement ship design database configuration management system

The inclusion of ship design files such as ASSET and LEAPS into the ship design database configuration management system will enhance the functionality of this system.

Appendix 1: Ship Design and Certification Network Taxonomy

Documents on the NAVSEA 05D Ship Design and Certification Network are organized by three major time groupings:

1. Before 2000,
2. 2001 to 2005, and
3. 2006 to 2010.

Within each of these time groupings, documents are further divided into the folders organized as shown in **bold** below. The proposed description of the type of documents within each folder follows each folder name.

Aerospace – air and space travel, manufacturing and associated research.

Conferences – formalized events where information such as research, concepts, proposals, and case studies are presented in speeches, workshops or by other means. The event is usually organized to discuss a pressing issue or key theme.

Design – creative endeavor; the process of originating and developing a plan for a new or modified ship or ship's system. A design can also be the final (solution) plan (e.g. proposal, drawing, model, description) or the result of implementing that plan (e.g. object produced, result of the process).

Cost Estimation – cost data (labor & material), cost estimating algorithms and techniques.

Design Data – input data used as basis to develop a new design.

Design Processes – relates to the steps required to produce a final solution regardless of the level of detail with the first step being to establish the design goal or object.

Design requirements – constraints on the design such as the ship's performance, physical characteristics, and operating environment.

Design Tools – design aids (e.g. software) used during the design process.

Ship Specifications – explicit set of requirements to be satisfied by a ship delivered from a shipyard under contract.

Land Vehicles – non-living means of transportation primarily intended for use on land.

Naval Force Structure – relates to the composition of the fleet and task forces.

Policy – any plan of action to guide decisions and actions.

Other – documents that do not fall into any other category

Ship Acquisition – information concerning the procurement of naval vessels such as budgets, supply and material records, integrated logistics support, project management, life cycle costing, and contracting.

Ship Production – information related to the manufacture of a vessel such as production engineering, integration, design support, quality assurance, ship assembly and support services.

Ships – major types of naval and merchant vessels

Aircraft carrier – warship designed to deploy and recover aircraft enabling a naval force to project air power

Amphibious warfare ships – Amphibious warfare ships provide firepower and logistics to project military power ashore. Also includes command ships, which provide communications, office space, and accommodations for a fleet commander and staff, and serve to coordinate fleet activities

Auxiliary, Sealift and MSC Ships – vessels operated by the Military Sealift Command organized around four programs: Naval Fleet Auxiliary Fleet, Special Mission, Prepositioning, and Sealift

Commercial – non-naval ships for transporting goods and people

Craft – support vessels normally deployed outside a combat zone in coastal and harbor locations

Mine Warfare – vessels designed to perform mine countermeasures activities (detect, identify, classify, mark, avoid, neutralize and disable). Mine warfare also includes vessels primarily intended to conduct counter mobility by laying mines

Multiple Types – documents dealing with more than one type of ship

Oceanographic and Research – vessels used for research and study of the world's oceans

Submarines – watercraft that can operate underwater at pressures beyond the range of unaided human survivability

Surface Combatants – armed naval vessels that operate on the surface of the water

Shore Facilities – structures, facilities and services on land to support naval forces.

Strategy and Tactics – strategy deals with the planning and conduct of campaigns, the movement and disposition of forces, and the deception of the enemy. Tactics deals with the execution of plans and maneuvering of forces in battle, and logistics.

NAVSEA 05D Ship Design and Certification Network Knowledge Management Project Systems – components as defined in the Extended Ship Weight Breakdown Structure (ESWBS) defined in NAVSEA Publication S9040-AA-IDX-010/SWBS 5D.

100 Hull – as defined in the ESWBS

200–300 Propulsion and Electrical – as defined in the ESWBS

400–700 C4I and Combat Systems – as defined in the ESWBS

500–600 Auxiliaries and Outfitting – as defined in the ESWBS

Auxiliaries and Outfitting – as defined in the ESWBS

Ship Loads – ship’s payload, armament, aircraft, cargo

Ship Manpower and Human Systems Integration – ship’s complement (number, ranks, occupation specialty), human factors engineering, ergonomics, human-computer (machine) interaction, and user interface.

Training and Workforce Development – training, education, professional development, career development and progression, human capital strategy.

Appendix 2: Thunderstone Search Appliance Basic Use

Search – Query Term Input Screen

The screenshot shows the Thunderstone Search Appliance interface within a Microsoft Internet Explorer browser window. The address bar displays a URL: `http://130.46.170.14/textis/search?dropXSL=html&pr=test&prox=page&order=500&rprox=750&rdfreq=500&rwfreq=750&rlead=250&rufs=1&order=r&depth=0&query=&cmd=Adv`. The search interface includes input fields for "Search for this:", "Without this:", and "From this domain:". There are buttons for "Submit", "Hide Advanced", and "Logout". A checkbox for "sort by date" is also present. The "SEARCH HELP" section lists links: "Using logic operators", "Phrase Matching", "Wild Card Searches", "Using the Thesaurus", "Regular Expressions", "Quantity Searching", and "More Subjects...". The "PROXIMITY" section has radio buttons for "line", "sentence", "paragraph", and "page" (selected). The "WORD FORMS" section has radio buttons for "Exact match", "Plural & possessives" (selected), and "Any word forms". The "RANKING FACTORS" section has a table with "Rank Factor" and "Importance" columns.

Rank Factor	Importance
Word ordering	medium
Word proximity	high
Database Frequency	medium
Document Frequency	high
Position in text	low
Depth in site	off

Search Help

Search Help has a number of links to more information about performing high-quality searches including the use of:

- wildcards: query term sp*ce will return space, spice, spruce....etc
- search logic: e.g. exclude terms with – (minus) e.g. query term –ppt will exclude PowerPoint presentations
- thesaurus expansion: ~(tilde) preceding query term will invoke searches for similar meaning words, e.g. query for ~resistance will also find terms such as drag, interference, and hold.

Proximity

Proximity controls the location where query terms must be located within the document. This search will look for the query terms anywhere in the document. Reduce the number of hits by restricting all query terms to be within the same paragraph, sentence, or line. Note: connecting two terms with a hyphen forces word order and one word proximity.

Word Forms

The default setting will find documents with the plural and possessive form of your query terms, e.g. the query term ship will return documents containing ships and ship's. Selecting "Exact match" will limit search results to documents containing your query term as spelled. When "Any word forms" is selected, the search includes all forms of the root query term, e.g. when the term program is entered, the search results will include

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documents containing any of the following forms: programming, programmatic, programmed, programmer, and programmable.

Ranking Factors

The ranking factors determine the overall relevance ranking of each search result. The default setting considers how close together the query terms are more important than the order in which they appear. Similarly, the more often the terms appear is given a higher importance than whether the terms appear at the beginning or end of the document.

Search Results Screen

Document Title (extracted from file metadata, i.e. title field in properties)

Query Terms Relevance Ranking

Search for this: Submit Advanced Logout

☐ Search these answers

1 through 25 of 150 matching documents, best matches first. [sort by date](#)

Page: 1 2 3 4 5 6 [next>>](#)

- 1. Concept of Operations for Forty Knot Expeditionary Maneuver Warfare** Size: 2.7M Depth: 8 Rank: 70%
DRAFT 40 KNOT EXPEDITIONARY MANEUVER WARFARE (FKEMW) **CONCEPT OF OPERATIONS** (CONOP) 21 May 2004
Concept of Operations for 40 Knot Expeditionary Maneuver Warfare Table of Contents Section Page 1 Introduction 1 1.1 Guidance
And Approach 1 1.1.1 Commander's Guidance 1 1.1.2 Mission Statement 1 1.1.3 Approach 2 1.1.4 Assumptions 2 2 Force Posture 3
2.1 Current Posture 3 2.2 Future Posture...
file://cisd11f/...40%20Knot%20EXW%20Study/0405021%20CONOP.doc
[\[Find Similar\]](#) [\[Match Info\]](#) [\[Show Parents\]](#)
- 2. MSeExcel Document (4552k)** Size: 4.4M Depth: 4 Rank: 70%
"52,426,712 KB free" Duplicates by: " Name" Size" Name ","Size KB","Created","Accessed","Modified" D:\5-
OPERATIONS\Presentations\Technical\SSG Materials\Seaplane Unloading on ITS with LCAC
moving.avi",405913,"application/vnd.ms-excel","application/vnd.ms-excel","application/vnd.ms-excel" D:\2-
CONCEPTS\Projects\Seaplanes\Seaplane Unloading on ITS with LCAC moving.avi",405913,"application/vnd.ms-exc...
file://cisd11f/...20%26%20Projector/Duplicate%20D%20Drive.xls
[\[Find Similar\]](#) [\[Match Info\]](#) [\[Show Parents\]](#)
- 3. OPNAVINST 3500.38A/USCG COMDT INST 3500.01A** Size: 3.3M Depth: 6 Rank: 69%
The UNTL does not address "how "a task is to be performed (found in Joint or Service doctrine or tactics, technique, and procedures),
or "who" is to perform the task (found in the Commander's **concept of operations**). The tasks listed in Section 3 are derived from
Service and Joint Doctrine and Tactics, Techniques, and Procedures (TTP). Doctrinal references have been cross-referenced...
file://cisd11f/...2006/SDM%20Manual%20References/3500.38A.pdf
[\[Find Similar\]](#) [\[Match Info\]](#) [\[Show Parents\]](#)
- 4. Joint Seabasing -- A Concept of Operations and Analytical Framework** Size: 255K D
1 Title: Joint Seabasing-A **Concept of Operations** and Analytical Framework Author: R. Robinson Harris Abstract: Seabasing as a
concept has achieved powerful resonance in the **operational** community. On a national level, industry, acquisition and development
communities have expressed their interest and the Congress is watching. The implications for our industrial base are far reaching

[\[Match Info\]](#) – this is a link to page containing query term matches and key tombstone info about the document (see below)

Match Info – Example

The [Match Info] link below each search result on the search screen displays the document in an unformatted fashion. To view the document in its native format, use the link on the Document Title on the search results screen (previous page).

Search: operation concept - Microsoft Internet Explorer

Address: <http://130.46.170.14/texts/search/context.html?query=operation+concept&pr=cisd&prox=paragraph&order=500&rprox=750&rdfreq=500&rlead=250&rdepth=0&sufrs:>

Search for this: operation concept

Match Context and Document information

URL: <file://cisd11/cisd%20share/2-CONCEPTS/Projects/FY07%20Projects/05D%20Ship%20Design%20Knowledge%20System/Ship%20Concept%20Studies/SEA%2005D1%20-%20Ship%20Concepts/NWDC%2040%20Knot%20EXW%20Study/0405021%20CONOP.doc>

Depth: 8 links away from Home

Size: 2,814,976 bytes

Modified: 2004-05-21 16:49:50

Categories: -None-

Title: **Concept of Operations** for Forty Knot Expeditionary Maneuver Warfare

Description: -None-

Keywords: -None-

Meta data: C. A. La Varre
Normal.dot
8
2004-05-13 10:59:00
2004-05-21 13:25:00
2004-05-21 15:32:00
103
33248
189519
Microsoft Word 10.0
1579
444
application/msword
translating

Body: DRAFT

40 KNOT EXPEDITIONARY MANEUVER WARFARE (EKEMW)

Note: Document title, which is extracted from document metadata (properties), is not the same as the filename (part of document's URL)

Scroll down to view the rest of the document and other instances of the query terms

The search appliance indexes the metadata associated with each document. Therefore, documents should have complete relevant info in the title, subject (description) and keywords fields in the document properties. In addition, a descriptive filename can improve the search results, since the URL is also indexed.

In the example above, only the title field has been completed (Concept of Operations for Forty Knot Maneuver Warfare). The document filename is 0405021 CONOP.doc

Refine Search

Add the query term “seabase” and repeat the search

The screenshot shows a search results page in Microsoft Internet Explorer. The search query is "operation concept seabase". The results are sorted by date, showing 1 through 25 of 113 matching documents. The top four results are:

- 1. MSExcel Document (4552k)** Size: 4.4M Depth: 4 Rank: 70%. Description: Unloading on ITS with LCAC moving.avi, 405913, "application/vnd.ms-excel", "application/vnd.ms-excel", "application/vnd.ms-excel" D:\2-CONCEPTS\Projects\FY03 Projects\Seabase Concept (Overall)\SMI Presentation\SMI Seabasing (indeo).avi, 172592, "application/vnd.ms-excel", "application/vnd.ms-excel", "application/vnd.ms-excel" D:\2-CONCEPTS\Projects\FY04 Projects\Intermediate Transfer Station... file://cisid11f...20%26%20Projector/Duplicate%20D%20Drive.xls [Find Similar] [Match Info] [Show Parents]
- 2. Microsoft Word - Seabasing final doc** Size: 6.9M Depth: 6 Rank: 68%. Description: GEOPOLITICAL AND MILITARY ENVIRONMENT 3 A SEA BASING CONCEPT FOR THE FUTURE. 11 THE VALUE OF AN OPERATIONAL SEABASE 27 ENABLING SEA BASING CAPABILITIES .33 CONCLUSIONS AND RECOMMENDATIONS.87 APPENDIX A: TERMS OF REFERENCE.99 APPENDIX B: TASK FORCE MEMBERSHIP.103 APPENDIX C: PRESENTATION TO THE TASK FORCE.107 APPENDIX D: THOUGHTS ON SEA BASING IN THE TWENTY-FIRST CENTURY.111 APPENDIX... file://cisid11f...0and%20Studies/DSB%20Seabasing%20report.pdf [Find Similar] [Match Info] [Show Parents]
- 3. zip Document (8549k)** Size: 8.3M Depth: 7 Rank: 68%. Description: within a Seabase Environment J Odedra & G Hope Naval Surface Warfare Center, Carderock, NAVSEA December 9th 2003 Project Overview Background Characterisation of Seaplanes Parametric Study Rough Water Operations Seaplane / Seabase Integration Seaplane Concept Summary Outline Sponsors/Mentors - External Rear Admiral Jay Cohen...CNR Rear Admiral Paul Sullivan... NAVSEA Ms Sharon Beermann-Curtin... file://cisid11f...ation/Seaplanes%20%28SNAME-09Dec2003%29.zip [Find Similar] [Match Info] [Show Parents]
- 4. SEABASING INNOVATION CELL** Size: 37.7M Depth: 6 Rank: 68%. Description: 40 8.3 Stability during crane operations 43 8.4 Seakeeping 44 8.5 Issues 50 8.6 Military E Seabase Hub 54 9.1 Why Seabase Hub? 54 9.2 Concept and Modes of Operation 55 9.3 Initial Sizing 56 9.4 General Arrangement...

A callout box on the right side of the screenshot contains the text: "None of the top results deal with Seabasing concept of operations".

Modify the query term to “seabas” (use search appliance engine to find all word forms)

The screenshot shows a search results page in Microsoft Internet Explorer. The search query is "operation concept seabas". The results are sorted by date, showing 1 through 25 of 130 matching documents. The top four results are:

- 1. MSExcel Document (4552k)** Size: 4.4M Depth: 4 Rank: 70%. Description: Mtg 160904 Presentations\SMI Seabasing (indeo).avi, 172592, "application/vnd.ms-excel", "application/vnd.ms-excel", "application/vnd.ms-excel" D:\2-CONCEPTS\Ship Designs\FAU 160804 - DWSC\SMI Seabasing (indeo).avi, 172592, "application/vnd.ms-excel", "application/vnd.ms-excel", "application/vnd.ms-excel" D:\5-OPERATIONS\Presentations\Technical\ASNE Sea Basing 2006\Presentations & Papers\Session... file://cisid11f...20%26%20Projector/Duplicate%20D%20Drive.xls [Find Similar] [Match Info] [Show Parents]
- 2. Joint Seabasing -- A Concept of Operations and Analytical Framework** Size: 255K Depth: 7 Rank: 69%. Description: 1 Title: Joint Seabasing-A Concept of Operations and Analytical Framework Author: R. Robinson Harris Abstract: Seabasing as a concept has achieved powerful resonance in the operational community. On a national level, industry, acquisition and development communities have expressed their interest and the Congress is watching. The implications for our industrial base are far reaching.... file://cisid11f...ence%202005/cdr_pdfs/indexed/group1/055.pdf [Find Similar] [Match Info] [Show Parents]
- 3. Seabasing** Size: 5.9M Depth: 6 Rank: 69%. Description: President with a wider range of military options Seabasing: A National capability and component of Maritime Strategy providing Speed, Access, Presence, Persistence, and Maneuver Seabasing Joint Integrating Concept (JIC) Seabasing Joint Integrating Concept Joint Capability Area Linkages for Seabasing Precepts The global commons are the loiter space Maritime forces and land forces... file://cisid11f...ntegrating%20Concept%20-%20CDR%20Becker.ppt [Find Similar] [Match Info] [Show Parents]
- 4. Seabasing Logistics Concept of Operations** Size: 1.7M Depth: 7 Rank: 69%. Description: Capt. James T. Stewart, USN, Lcdr. Frank W. Fitcher, USN, and Mr. Will Macht ABSTRACT The Navy is pursuing a seabasing concept, which calls for the ability to conduct indefinite sustainment of down forces... effect and selected force ashore. The future seabasing will include Carrier Strike Groups (CSGs), Expeditionary Strike Groups...

A callout box on the right side of the screenshot contains the text: "All word forms with root seabas are now included in the search results".

Appendix 3: Initial Phase Work Completion Summary

Overview

The following tables show the completion status of the action items for the goals established in each of the five work areas.

Search Capability

Work Item	Completion Status (%)
Threshold	
Improve document search methodology	100
Prototype dedicated search capability (UNCLAS)	100
Investigate alternate file structure and naming convention	100
Objective	
Implement functional search capability	100
Provide search reporting capability (e.g. top queries, no-hit queries)	100
Provide user training (initial cadre/new personnel)	100
Improve document indexes and metadata usage	50

Quality Review

Work Item	Completion Status (%)
Threshold	
Deliver users a mechanism for providing online feedback & comments on text documents	100
Objective	
Provide user training	0
Include automated feedback rating scale	0
Enable report preparation showing documents most frequently reviewed, never reviewed, reviews older than a specific date	0
Expand quality review functionality to all document types	100

Certification Process

Work Item	Completion Status (%)
Threshold	
Establish agreed levels of "certification" (i.e. info confidence levels)	100
Recommend process for adding documents to Virtual Technical Library	75
Objective	
Provide training and implement process	0

Naval Surface Warfare Center Carderock Division
Center for Innovation in Ship Design
NAVSEA 05D Ship Design and Certification Network Knowledge Management Project

Design Database Configuration

Work Item	Completion Status (%)
Threshold	
Investigate techniques for maintaining links between all related documents	100
Develop methodologies for ensuring ship and system design files remain	100
Objective	
Implement initial ship design database configuration management system	0
Provide user training (initial cadre/new personnel)	0

Follow-on Phase Plan

Work Item	Completion Status (%)
Threshold	
Develop plan for implementing remaining features desired for the SDCN KM system including objectives unrealized from this phase	100
Objective	
Incorporate lessons learned from initial project phase	50