Proposed Development of an Integrated Search Facility for the CIB Website

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Joint CIB Student Chapter

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Project Description:

This project aims to enhance existing search facilities of the CIB web page that will be of benefit for members of the growing CIB Student Chapter community, and the wider CIB community. The proposal for the search facility is aimed at "re-engineering" the vast amount of information found within the CIB by making it more accessible for both the growing Student Chapters and also the wider CIB community. A critical appraisal of the current search facility of the CIB website has identified that the wealth of accumulated knowledge is under-utilised and it is felt that searching for information is difficult in the present format.

The intention is to develop a search facility which allows for easier access to the existing knowledge developed in recent years and also allows for future events to be made available to more members. The search facility would generate a "template" for those organising CIB-related conferences and workshops to use.

CIB intend for designated users (password) to add future publication information through the use of templates to ease their administrative burden (See Fig 1.0). CIB will provide the template and the intention is for the new information to be added into the data base so that it may be searched. This would make it possible for the organisers of these events to utilise the proposed template to upload conference proceedings and workshop materials in a 'standard' and user-friendly manner.

This search facility will provide a vital gateway for the Web-based collaboration system proposed by the 2003 winning proposal submitted jointly by the CIB Endorsed Student Chapter of the Department of Building and Real Estate, The Hong Kong Polytechnic University in collaboration with the CIB Student Chapter at the Department of Construction Management, Tsinghua University. It will allow the system's search facility to be improved by using a simple link that can be added easily.

Figure 1: Proposed screenshot of the homepage

By simply adding search "buttons" to the existing home page, visitors are directed to relevant information. This will basically involve adding new buttons/ links to existing CIB home page. As shown in modified Figure 1.0 (**_Publication Search_** and **_Uploading paper_**). The Publication Search hyperlink should direct the user to the new "default" search page – Fig 2.0. The Uploading paper Hyperlink will firstly prompt for a "password", afterwards it should link to a predefined template which will allow the designated users to upload information for incorporation into the database. The intention is for this information to be verified by staff at CIB before inclusion into the database and our role is merely to provide a standard way for this information to be collected.

Figure 2: Proposed advance search

Once they have made their choice of search criteria, they could simply enter the relevant information and be able to retrieve a suitable list of information easily.

For more advanced searches, accurate retrieval of the chosen source may be performed. Alternatively, the system will allow for search results that are based on Working Commissions and Task Groups. The Working commission and task group related information already exist. The input by the user could be in alpha-numeric e.g W102 means working commission number 102 which deals with Information and knowledge management. This information will be provided. For easy navigation, "Browse working commission / task group" (shown in Figure 2) has to be incorporated in the separate window. This will just be in the form of a hyperlink.

The search page also provides a hyperlink for an external publication search page (Fig. 3.0). This allows users to search for relevant external databases.
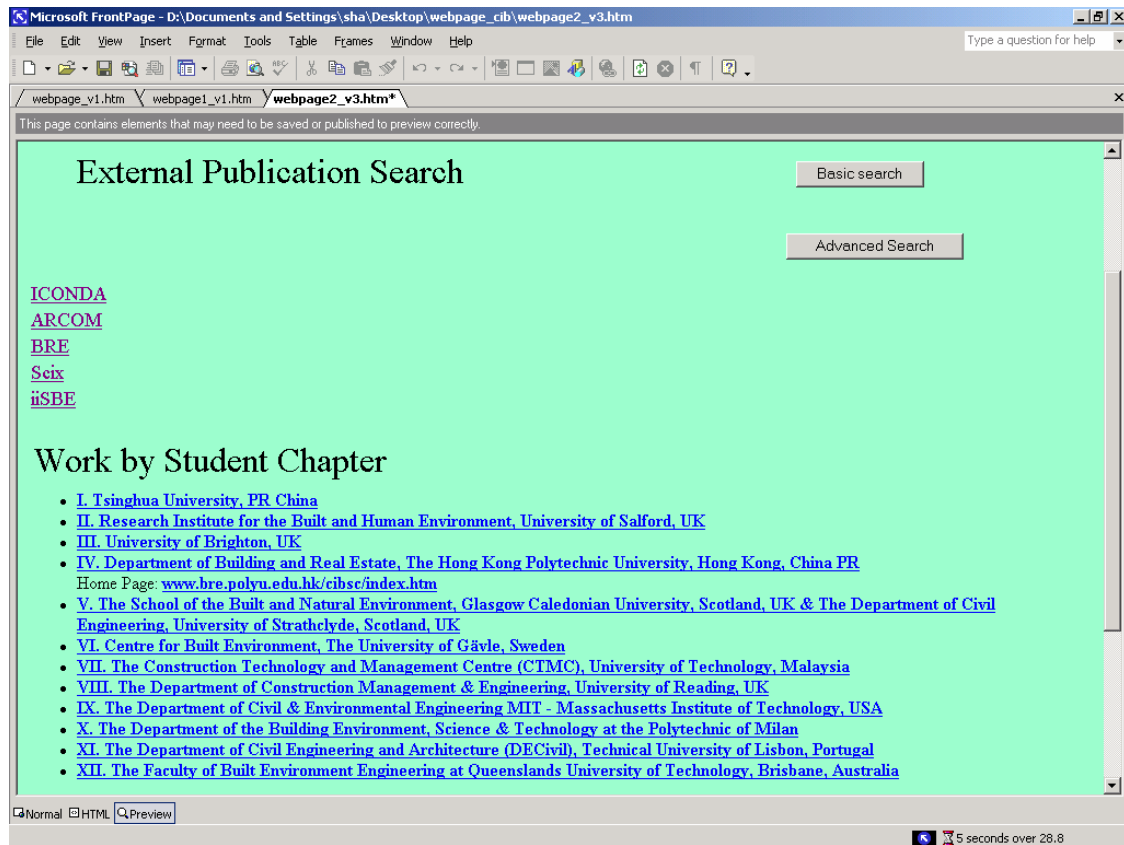
Figure 3: Proposed external Publication links

Understanding of the Project

1. All data is in FileMaker Pro 6.0. There is some amount of data in other formats – HTML, PDF and MS Word. But all this data has been uploaded into FileMaker Pro.

2. Currently, CIB has a search engine which is not meeting the requirements. So CIB needs a new search facility developed for publications.

3. The scope of the project is limited to searching for data and is no way concerned with the generation of data. All relevant data is being captured by existing applications.

4. Users will have two search options – Basic and Advanced.

5. Basic Search
   5.1. User can specify if the search has to consider Abstract and / Or Full Publications of articles

   5.2. User can also specify a date range (This quarter, This year, All dates)

   5.3. User specifies a keyword and searches.

5.4. System searches for the keyword as per the parameters and displays the result page.

5.5. Results are also sorted as per the weightage of the results. This weightage will be based on the position and the count of occurrences of the keyword

6. Advanced Search
   6.1. User can specify one or more of the following
      6.1.1. Working Commission / Task Group
      6.1.2. Publication Title
      6.1.3. Author
      6.1.4. Areas to search (Citation, abstract, content, references etc.)
      6.1.5. Type of the article
      6.1.6. Type of the publication
      6.1.7. Sort order

   6.2. Lookups using popup windows, will have to be provided for
      6.2.1. Working Commission / Task Group
      6.2.2. Publication Title
      6.2.3. Author
      6.2.4. Areas to search (Citation, abstract, content, references etc.)

   6.3. The system searches for the data and the results are displayed.

7. From the displayed results, the user should be able to get to the appropriate article and view all its details.

Assumptions

1. All data will be in the FileMaker database.

2. The FileMaker database will contain only PDFs and MS Word documents.

3. The different types of files that may be uploaded will include: HTML, MS word, MS Excel, MS power point, PDF and audio /video files

4. A sample database of FileMaker will be provided for development purposes.

5. The technology / platform on which this application will be built in will be the MAC operating system.

Requirements from CIB

In order for the project to be initiated, the following items will need to be provided from CIB:

➢ All information from the database which is to be used for the search facility – this will include all papers (in PDFs or MS Word) that may be downloaded if required.

➢ The provision of a standard "template" listing required fields for designated individuals to upload future information.

Project Program

Although the duration of the project is dependent on the receipt of the above items from the CIB, the planned execution phase will be around 16 weeks.

Proposed Programme for the Development of the CIB Search Facility

CIB Headquarters Meeting
(Clarification of the existing setup and ascertaining client "expecttations")
August 2004

Production of a Preliminary Design Document
(Incorporating capabilities, existing frameworks and client expectations)
September 2004

Project Execution
High/Low level design
Coding and debugging
Unit testing
System integration and Testing
November 2004 (Estimated) - February 2005

Estimated Project Completion
March 2005