

Purpose of the research

The objective of the project is to compile information on existing accelerated bridge systems that target the short to medium span range and present the information in a manner useful to designers.

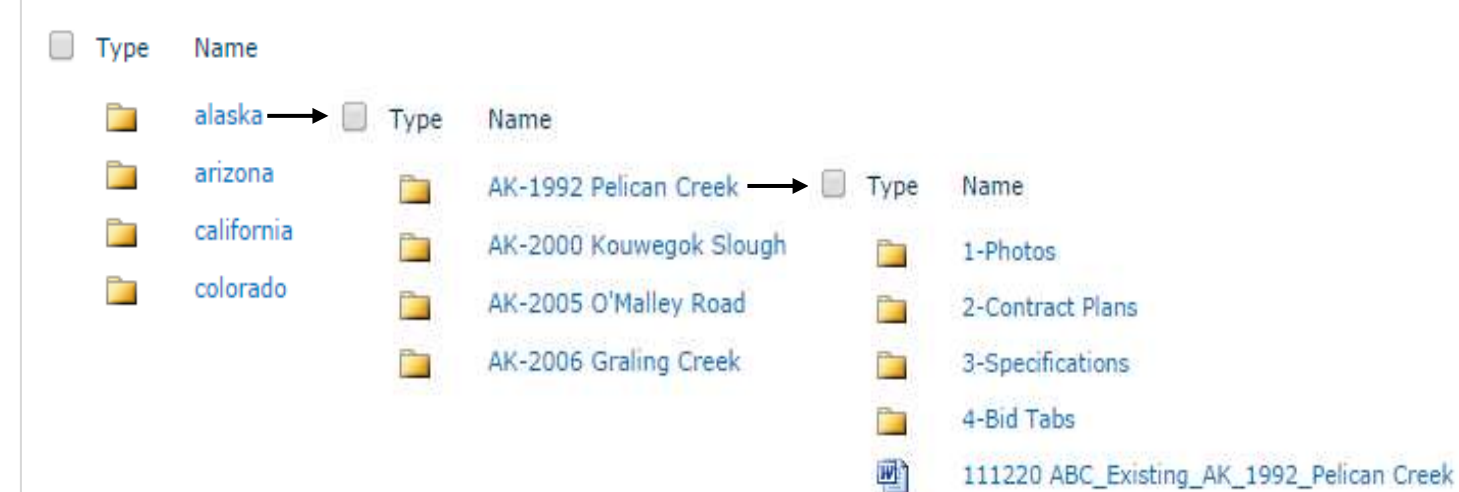
Background and Theory

The Accelerated Bridge Construction (ABC) aimed at reducing the time it takes to deliver bridge projects, enhancing safety, quality and durability, protecting environment, and reducing social costs. Reducing the time to construct a bridge benefits the public by reducing the traffic delay due to lane closures and detours.

In August, 2011 FHWA started National Accelerated Bridge Construction Project Exchange program under Every Day Count Innovation initiative. Project exchange database was developed by collaborative effort of FHWA, American Association of State Highway and Transportation Officials (AASHTO) Subcommittee on Bridges and Structures (SCOBS), and state transportation agencies. State transportation agencies provided main information for the project exchange to FHWA.

Available Information for ABC Projects

The available information for an ABC project includes a brief summary, contract plans, specification, bid tabs, schedule and other information. The projects are organized by state and every state has a directory that contains subdirectories for ABC projects in that state. Each project directory further contains subdirectories for photos, contract plans, specification, bid tabs, schedule and other information. Figure 1 show the data structure of FHWA project exchange for ABC projects.



It is difficult to navigate through the subdirectories to look for the desired information. Therefore, a Microsoft Excel tracking sheet was created to keep track of the ABC project information in the directories.

The tracking sheet enables the users to search for an ABC project or an ABC technology by using the keywords. Each column of the tracking sheet has a filter that allows users to view information of their interest. For example, state column of the tracking sheet has name of the states in which projects were carried. Clicking on a small drop down arrow on the bottom right corner of the state cell shows the filtering options as shown in Figure 2. Checking a particular state, for example Alaska, shows the ABC projects in the state of Alaska. The link column in the tracking sheet has link for each project. Clicking on the link takes the user to the project directory on FHWA's project exchange website.

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Available information identifies the types of information available for a particular project. 'Project Planning' is divided into four further subcategories that are decision making tools, site procurement, procurement, and contracting. Decision making tools shows the tools that were used for the project.

Different tools that are available include FHWA process (2), analytical hierarchy process described in a pooled funded research report (3), and the state process.

ABC-UTC PROJECT DATABASE

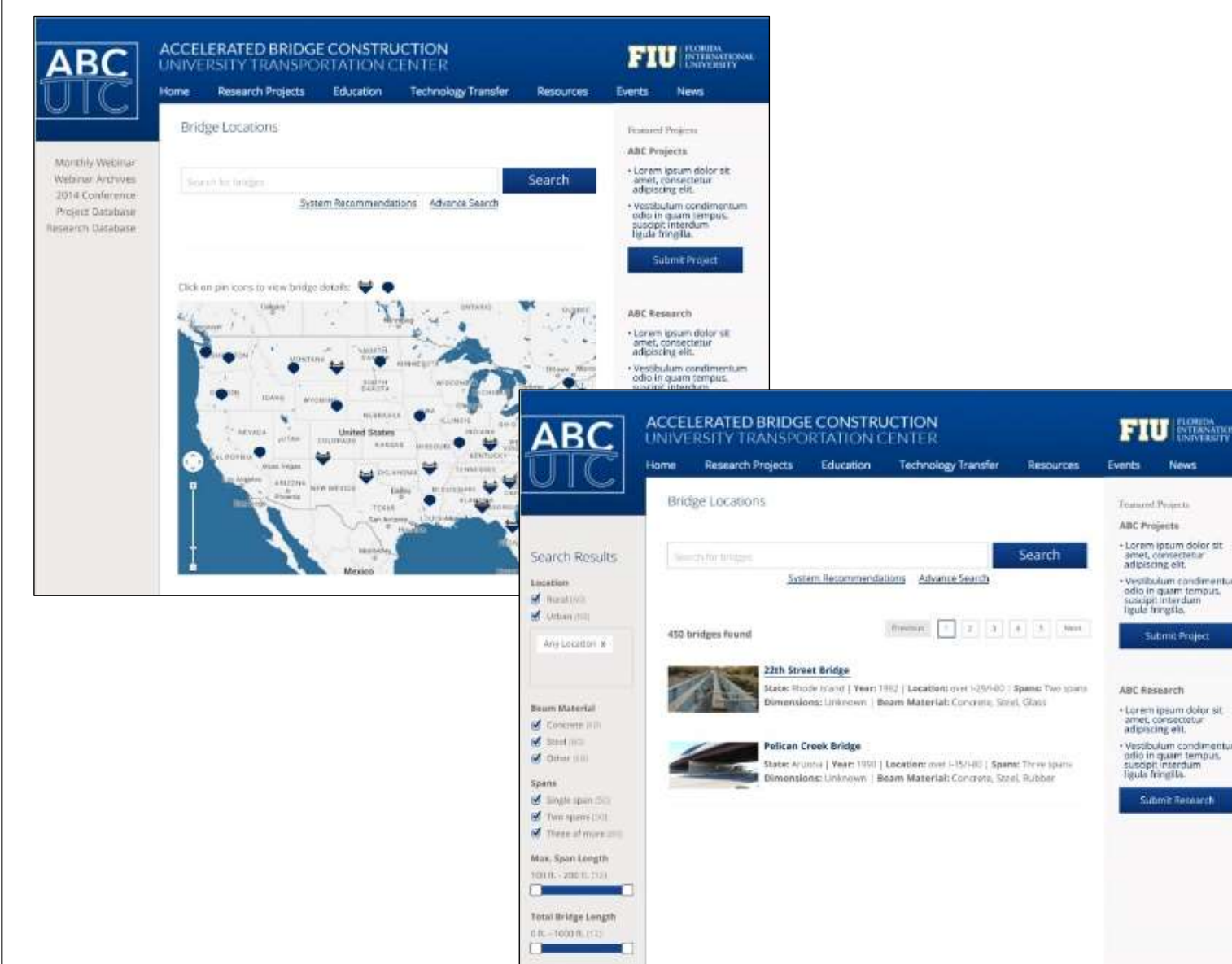
The ABC project database plans to expand on the database developed by FHWA and include more projects, add more filtering and search categories, improve user interface, provide more search options, and develop an algorithm that can make system recommendation based on the preliminary input made by user. ABC-UTC database is proposing a system for easy collection of information on recent ABC projects.

ABC-UTC project database is anticipating having more than 500 ABC projects in the database. These projects will be readily accessible and available and no registration will be required to access the information about these projects.

ABC-UTC projects will also include type, span, and length as categories to narrow down search for ABC projects.

Searching Through the Database

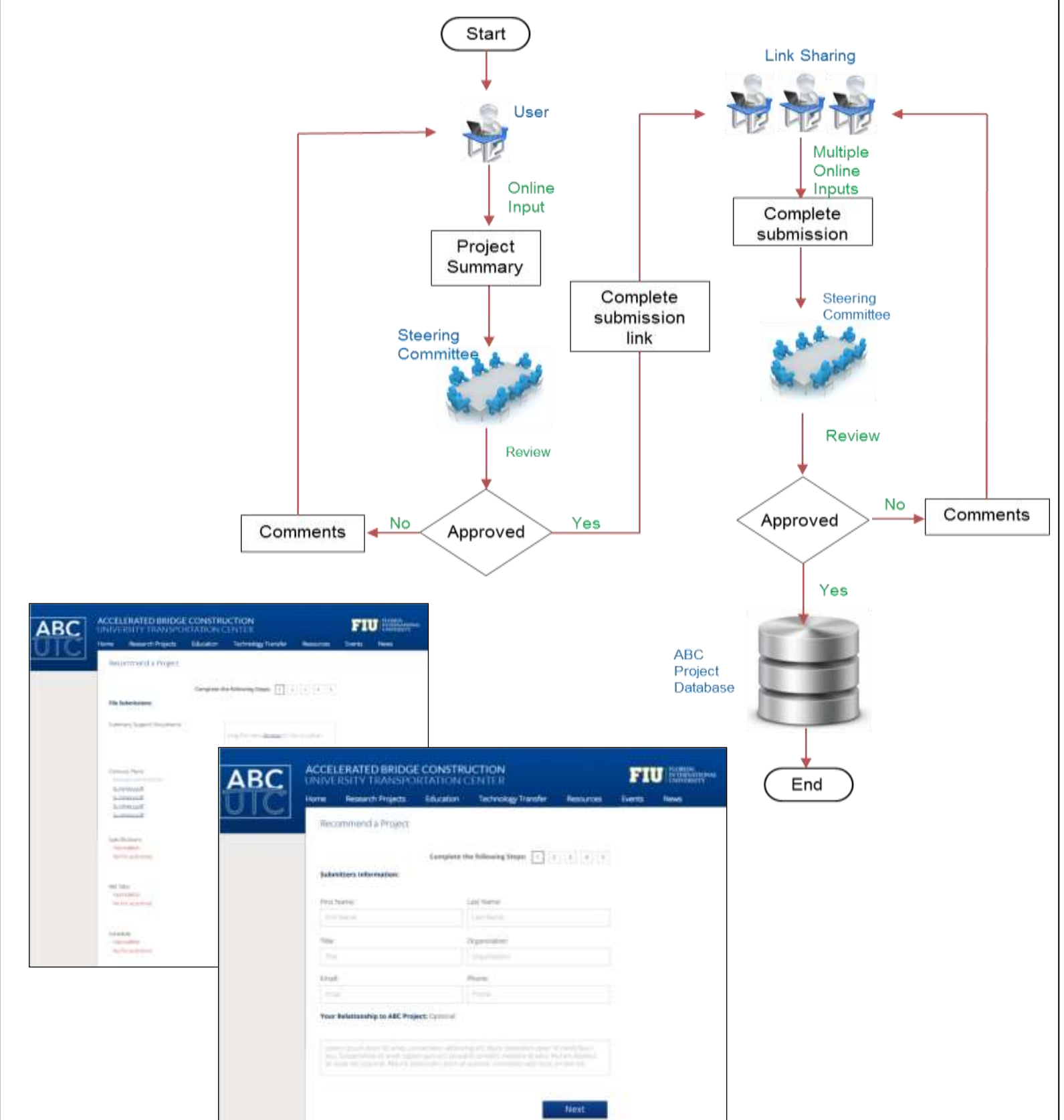
ABC-UTC project database is expected to have different type of search options to allow easy navigation through the database. The search layout is similar to the one used by popular online shopping sites. For any product there are categories placed on a side ribbon and product are displayed on the right side of the page. User can filter or narrow down their search by selecting the categories displayed on the side ribbon.



Adding a New Project to the Database

It requires significant amount of time to compile information about an ABC project. It is difficult for states to spend their resources and compile information for ABC projects database. In order to maintain consistency in the

database it important to control and oversee the new information or new project added to the database. ABC projects steering committee is formulated to oversee the new information added to the database and maintain consistency in the database.



Current Progress

ABC-UTC research team has worked closely with a website designer, programmer, and database developer to make several strides towards a functioning site. These strides include: (1) creation of clean mock-ups to begin actual website development, (2) obtaining and configuring a server to host the database, (3) creating the data tables and their interaction in order to store the data, (4) working on the front end presentation of the data, and (5) working on the search functionality of the database. The researchers are working with the developers to eliminate bugs and create a fully functional, interactive database.

The next step will be to finish ironing out the details of the database presentation and searchability and begin working on the new project input method. These tasks will be completed in the upcoming months.