

Architectural Design

CSCI375

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Document Overview

In this document, we begin by providing an update on the current state of the project and noting the changes made to the project. We then move to the architectural design section of the document, in which we describe our product's preliminary design.

In the architectural design section, we start by giving an overview of the system's design, then go into further detail, by describing each, the network model, the preliminary translation from a logical process model to a physical model, the final chosen platform, languages and tools, all the relevant security and reliability issues, and the preliminary translation from a logical data model to a physical one.

Project Update

Current state of the project:

We are done setting up the database and will be testing all subsystems on Friday.

Data Model Update:

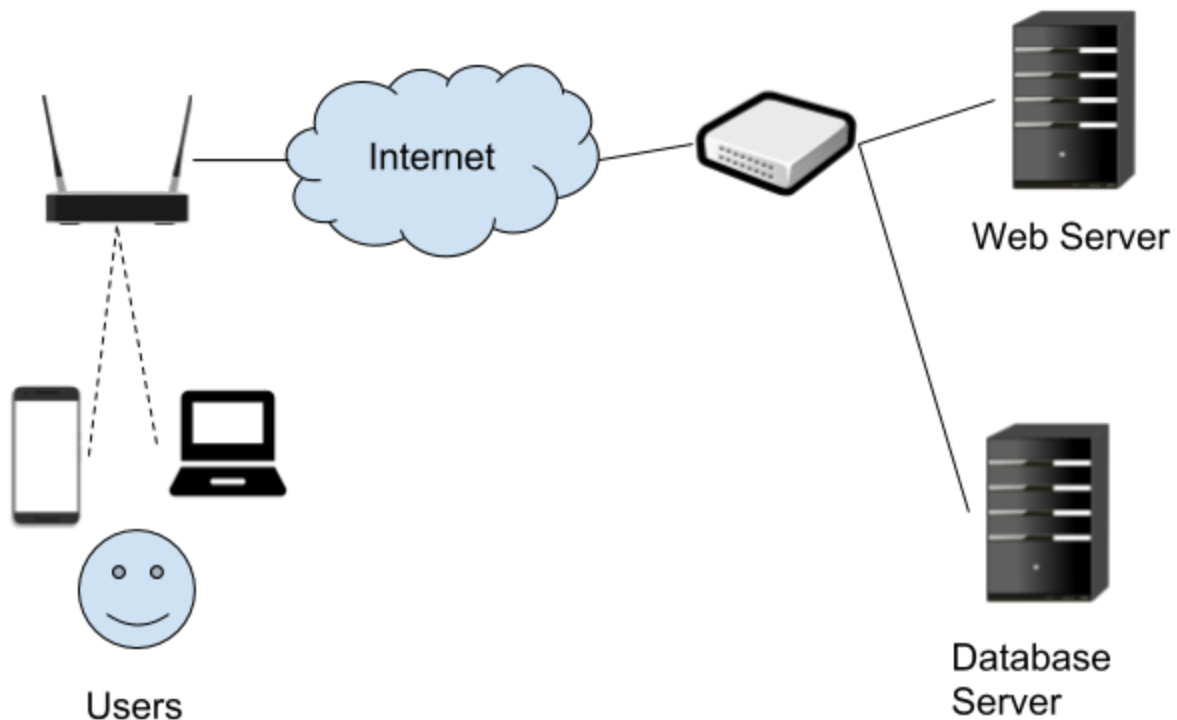
We edited the idea table, to hold only 2000 char setting a limit on the idea's description.

Added the following attributes to idea:

Status: int - This gives the status of the project, 1 for in process, 2 for complete, and 3 for removed.

Picture : varchar(100) - This is a link to a picture.

Network Diagram



- Our application will use a client-server model. The client will access the site through a browser on their computer or mobile device. The server will be VIU's csci and database server.

Preliminary translation from logical process model to physical model:

We have five to six basic subsystems. All work together along with the database to serve the site based on users requests and inputs.

- (1) Create: initiated by user to create an idea.
- (2) View Request: initiated by user to view an idea.
- (3) Edit: initiated by user to edit content of an idea.
- (4) Remove: initiated by user to remove an idea from the system.
- (5) Search: initiated by user to refine a search for an idea.
- (6) Database
 - Because we are working under the VIU CSCI environment, all the hardware, database and servers are setup for us.
 - Hardware: Hosting and Connecting Server to Database are managed by VIU's CSCI department.
 - Software: Everything on our team is concerned with is software based mainly, web development and Database management.

Final chosen platform / languages / tools:

Platform:

- Web based service

Languages:

- HTML
- CSS
- SQL
- PHP
- Javascript

Tools:

- Xcode
- Vim
- Bracket

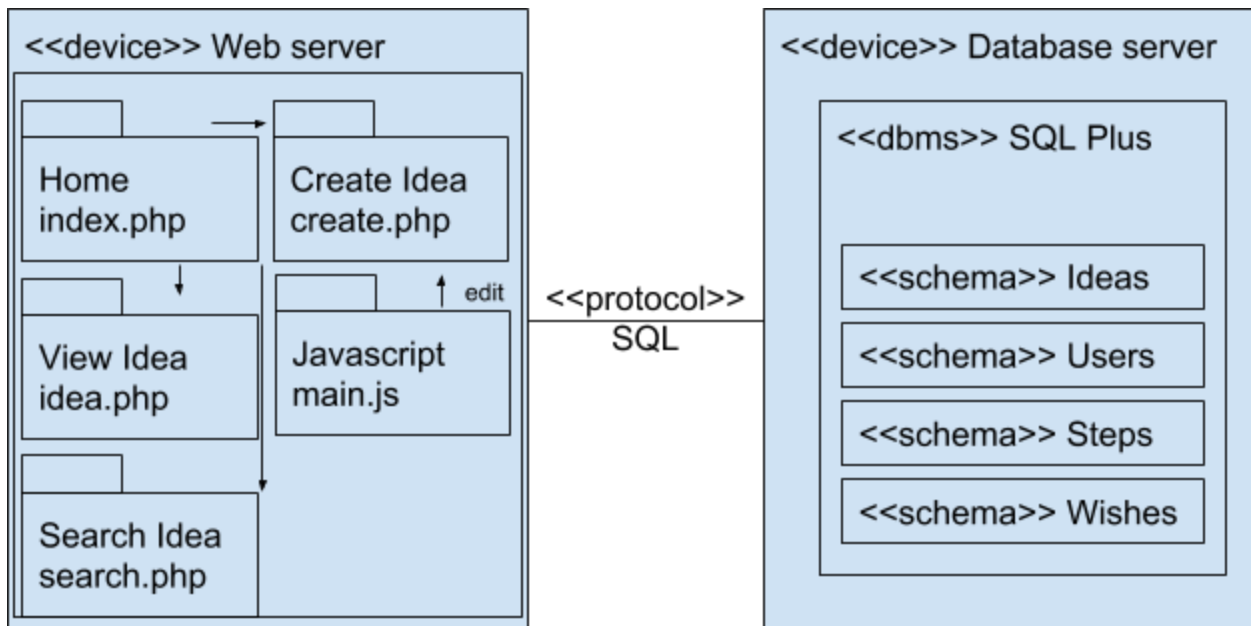
Possible Security and Reliability Issues:

- Our system will not be 100% secure, and therefore risk destruction of data and leak of confidential data.
- Because this is a basic project, we do not have the appropriate backup and recovery that might be required.
- We cannot validate all data completely, especially when taking the description of the idea. There is a fine line between what is valid input and what isn't.
- Because of our limited background in designing security controls, our system will probably not have solid data encryption, digital signature, certificates, secure socket layers and HTTPS.
- The bandwidth of web server is an unknown, therefore we might not have a stable system all the time.

Preliminary translation from logical data model to physical model:**Storage forms:**

- The data will be stored into multiple tables in a relational database managed by oracle's (SQL Plus) database management system provided to us on VIU's CSCI server.
- The web server is hosted through VIU's CSCI Server.

Deployment Diagram / Site Structure :



Data constraints:

1. Only a link to a picture is stored in the database, this is limiting because it requires the user to provide a working link and the user might like to upload the picture instead.
2. Many attribute have character constraints, as seen in the table below. This limits the user, but puts us on the safe side and helps us manage the database.
3. In the search text box, the user will search based on the name of the idea, which is limiting when users do not know the name of the project they're looking for.

Attribute	Type	Extra Info
Ideas.ideaID	INTEGER AUTO_INCREMENT	NOT NULL PRIMARY KEY
Ideas.name	VARCHAR(20)	NOT NULL
Ideas.description	VARCHAR(2000)	
Ideas.password	VARCHAR(10)	NOT NULL
Ideas.note	VARCHAR(200)	
Ideas.picture	VARCHAR(100)	
Ideas.status	INTEGER	NOT NULL

Ideas.userID	INTEGER	REFERENCES Users NOT NULL
Users.userID	INTEGER AUTO_INCREMENT	NOT NULL PRIMARY KEY
Users.name	VARCHAR(20)	NOT NULL
Users.location	VARCHAR(50)	
Users.email	VARCHAR(20)	NOT NULL
Steps.idealID	INTEGER	NOT NULL
Steps.number	INTEGER	NOT NULL
Steps.description	VARCHAR(500)	NOT NULL
Steps.status	BIT	
		PRIMARY KEY (idealID, number)
Wishes.idealID	INTEGER	NOT NULL
Wishes.number	INTEGER	NOT NULL
Wishes.description	VARCHAR(500)	NOT NULL
Wishes.status	BIT	
		PRIMARY KEY (idealID, number)