Ask a Question Workflow Program
Requirements Specification Document

For the Church of Jesus Christ of Latter-day Saints
Technology Web Site (http://tech.lds.org)

Date	*Author*	*Revision*	*Notes*
04/04/2007	Tom Welch	1.0	Initial draft of the specification document.

Table of Contents

Introduction

Since the launch of the Ask a Question feature of the Technology Web site, we have gotten quite a ew questions. When a question is received, the current process to handle the question is as follows:

1. User fills out a question form on the Web page. That form is stored in a temporary database and a copy of the form is e-mailed to a predefined e-mail address.
2. When the Church employee receives the e-mailed form, he sends an e-mail back to the person asking the question confirming that the question was received and also setting the expectation that not all questions can be answered or it may take a few days to answer the question.
3. The Church employee then does the research on the question, talking to different departments to get an accurate and complete answer to the question.
4. The Church employee then sends the question to the correlation editing department (via e-mail) for editing.
5. After the correlation editing department returns the question (with any modifications), the question is then sent via e-mail to the correlation approval department for authorization to publish the question.
6. Once received back from the correlation approval department, the question is published on the Web site and an e-mail is sent to the user who asked the question letting them know that their question has been answered. The e-mail will have a link to their answer for their convenience.

As you can tell, this process can be very time consuming. The challenge comes in as we try to scale. It is difficult to remember which step a particular question is on. Because most of this is done via e-mail, it is easy to lose questions in the process. What is needed is a new Web based tracking system for questions.

The Solution

To solve this problem, we will create a Web based PHP/MySQL application that will be hosted by the Church and accessed by Church employees. This solution will import the forms from the temporary database or XML file into a new database where the information on each question can be easily tracked. Initially the questions will be imported into this new database via an XML file that the current temporary database provides. Eventually we could directly read the temporary database to bypass this step. However, because the current forms software provides a nice XML export feature and tracks which items have been exported, we will start with the XML importing capability

The solution will be built using PHP (version 4.3) and the data will be stored in MySQL (version 4.0).

XML Import File Schema

The XML file that will be imported will look like the following:

```
<?xml version="1.0" encoding="iso-8859-1" ?>
<FacileFormsExport type="records" version="1.4.7">
      <exportdate>2007-04-04 11:01:28</exportdate>
      <record id="36">
            <submitted>2007-03-27 13:12:22</submitted>
            <form>2</form>
            <title>Ask a Question</title>
            <name>AskQuestion</name>
            <ip>10.100.100.167</ip>
            <browser>Mozilla Firefox 2.0.0.3</browser>
            <opsys>Windows XP</opsys>
            <provider>Unknown</provider>
            <viewed>0</viewed>
            <exported>0</exported>
            <archived>1</archived>
            <subrecord id="215">
                  <element>20</element>
                  <name>name</name>
                  <title>Name</title>
                  <type>Text</type>
                  <value>Larry McMurty</value>
            </subrecord>
            <subrecord id="216">
                  <element>22</element>
                  <name>Email</name>
                  <title>Email</title>
                  <type>Text</type>
                  <value>larrymcmurty@mcmurty.com</value>
            </subrecord>
            <subrecord id="217">
                  <element>24</element>
                  <name>Question</name>
                  <title>Question</title>
                  <type>Textarea</type>
                  <value>How much would could a wood chuck chuck if a
wood chuck could chuck wood?</value>
            </subrecord>
            <subrecord id="218">
                  <element>26</element>
                  <name>seccode</name>
                  <title>SecurityCodeField</title>
                  <type>Text</type>
                  <value>85197</value>
            </subrecord>
      </record>
      <record id="37">
            <submitted>2007-03-27 18:33:19</submitted>
            <form>2</form>
            <title>Ask a Question</title>
            <name>AskQuestion</name>
            <ip>10.100.100.167</ip>
            <browser>MS Internet Explorer 6.0</browser>
            <opsys>Windows XP</opsys>
            <provider>Unknown</provider>
            <viewed>0</viewed>
            <exported>0</exported>
            <archived>1</archived>
            <subrecord id="219">
                  <element>20</element>
                  <name>name</name>
                  <title>Name</title>
                  <type>Text</type>
                  <value>George McFly</value>
            </subrecord>
            <subrecord id="220">
                  <element>22</element>
                  <name>Email</name>
                  <title>Email</title>
                  <type>Text</type>
                  <value>george@mcfly.com</value>
            </subrecord>
            <subrecord id="221">
                  <element>24</element>
                  <name>Question</name>
                  <title>Question</title>
                  <type>Textarea</type>
                  <value>What is the wing velocity of a sparrow?</value>
            </subrecord>
            <subrecord id="222">
                  <element>26</element>
                  <name>seccode</name>
                  <title>SecurityCodeField</title>
                  <type>Text</type>
                  <value>49973</value>
            </subrecord>
      </record>
</FacileFormsExport>
```

Most of the information found within the XML file is of little importance. What is important is the user's name, time stamp of when the question was submitted, e-mail address and the question, all of which I have bolded in the previous sample XML file. The rest of the data can safely be ignored.

Database Schema

Questions table – This table will hold a record for each question submitted on the Web site.

Name	*Type*	*Null*	*Comments*
SerialNumber	int autoincrement	N	Primary key for the table
DateSubmitted	DateTime	N	Date when the question was submitted by the user
Name	varchar(50)	N	Name of the user submitting the question
Email	varchar(50)	N	E-mail address of the user submitting the question
OrgQuestion	longvarchar	N	The original question as asked by the user
Question	longvarchar	Y	Questions we get have to be re-worded. A Church

			employee will type in the “reworded” question here. This is what will get published.
Answer	longvarchar	Y	The answer to the question.
Status	tinyint	N	The current status of the question. The following are the valid status values. 0 – New item freshly imported into the database. 1 – Initial confirmation e-mail sent to the user. 2 – Research done. Sent to correlation editing dept. 3 – Editing done. Sent to correlation approval dept. 4 – Published to Web site and confirmation e-mail sent.
Table Indexes			
Index #	***Type***	***Fields***	
1	Primary key	SerialNumber	
2	non-unique	Name, DateSubmitted	
3	non-unique	Status, DateSubmitted	

QuestionHistory Table – This table keeps a history of the work flow for each question. Each time that a question enters a new stage of the work flow, a new record will be appended to this table.

Name	***Type***	***Null***	***Comments***
SerialNumber	int autoincrement	N	Primary Key and identifier for the table.
QuestionID	int	N	References the Questions table
DateEntered	Date	N	Date that the Question entered into this work flow state.
Status	tinyint	N	The status of the question. See “Status” in Questions table for possible values.
Table Indexes			
Index #	***Type***	***Fields***	
1	Primary Key	SerialNumber	
2	non-unique	QuestionID, Status	
3	non-unique	Status, DateEntered, QuestionID	

Work Flow

The work flow of this application falls in line with the status field of the Questions table. When the application is started, a screen in concept like the following will be the first thing the user sees:

Sort By: ▼ Status: ▼ Filter:

Date	***Name***	***Status***	***Question***	

03/15/2007	George McFly	N	How much wood could a wood chuck chuck if a wood chuck could chuck wood?	Edit	Delete
03/17/2007	Ned Jones	C	Why do we purchase computes from Dell?	Edit	Delete
03/19/2007	Larry Finney	E	How many names are available on FamilySearch.org?	Edit	Delete
03/20/2007	Wanda Lemmon	A	Why PHP for tech.lds.org?	Edit	Delete
03/24/2007	Harry Baker	P	When will the scriptures be online for Japanese?	Edit	Delete

N – New Records, C – Confirmation Sent, E – Sent to Editing, A – Sent for Approval, P – Published

The user can display a list of questions based upon the criteria selected in the form at the top of the listing. The form fields are:

Sort By

The Sort by combo box will give the user the following options:

- Date (sorted by DateSubmitted, Status)
- Name (sorted by Name, Status)
- Status (sorted by Status, DateSubmitted) (default)

Status

The Status combo box will give the user the following options:

- N – New records freshly imported but not no confirmation sent yet. This is equivalent to the status of 0.
- C – Confirmation e-mail sent to the user that his question has been received and reviewed. This is equivalent to the status of 1.
- E – Sent to the editing department for editing. This is equivalent to the status of 2. This is after the question has been researched and the answer crafted.
- A – Sent to the correlation approval department for approval. This is equivalent to the status of 3.
- P – Published. After the approval process happens, the item is published and an e-mail is sent to the original user telling him he can check out his answer.

Filter

Any text entered in this field will be added to the query to filter on the question. The query string should do a substring search within the OrgQuestion field.

From this screen the user can sort and filter the questions. Pressing the “Edit” Hyperlink next to an item would bring up a Question Details Screen where the user can edit the question, move it to another work flow stage, etc. Pressing the “Delete” Hyperlink next to an item would ask if the user if he wants to delete the question. If so, the question (and all associated data for that question) is deleted permanently from the database.

Other Home Page Features

On the main home page of the site, there should be a few other features. They are:

Import

When this option is selected, the user will be able to upload and import an XML file (like previously specified) into the database. Once the data is imported, the list on the home page should be refreshed.

Preferences

When this option is selected, the user will be brought to a screen that allow the user to set up some preferences. The preferences we need saved would be:

Confirmation E-mail Subject:

Confirmation E-mail Body:

Published E-mail Subject:

Published E-mail Body:

E-mail Sent From:

SMTP Server:

The 1st two fields allow the user to set up the e-mail subject and body for e-mails sent to a user when moving the question to status 1 – Confirmed. The 2nd two fieldsd allow the user to set up the e-mail subject and body for e-mails to be sent to a user when moving the question to status 4 – Published. The E-mail Sent From field is an e-mail address that shows the “sent from” when the user receives the e-mail. The SMTP server is where the user can configure where their SMTP server address is. We can assume the default port for SMTP connections should be fine.

Question Detail Screen

The Question Detail Screen will show all of the details of the question, as well as a history of the question from the QuestionsHistory table sorted by Status, EntryDate. From this screen the user can edit any of the fields (except for SerialNumber) in the Questions table as well as hit a button to move the question to the next stage of the work flow.