Industry Partner Database

2nd Semester Work Statement

**Team Lotus**

Sailesh Rajanala, Priyanka Limbu, Shiva Karki, Subash Acharya

**Project Description**

Industry Partner Database is a unified database that stores information about Industry, Community, and Research Partners, which Senior Design Instructors could use to gather Interdisciplinary Senior Design Sponsored Projects every semester. This Database refines and establishes new relationships between the University and the Industry.

**Scope**

This statement of work introduces the planning and implementation for the second phase of the Industry Partner Database, whose prototype was developed previously with limited functionality. The updated database requirements will be outlined and defined in the corresponding tables below.

\*The schedule, planning information, and the implementation requirements depicted in this document are subject to change in the future.

**Work Schedule**

**Week 3 & 4 ( 02/14 - 02/27 )**

The team will reconstruct the web form by using the major deliverable of the ISME team.

The web form will be modified and updated with the new form fields approved by the client.

* The team will work on Form Validation, Cross-Browser Compatibility, UI/UX, and Mobile Responsiveness of the Web Form.
* The team will improve the semantics of the Form.
* The team will program the Web Form with high Cohesion (reusability) and low Coupling (dependence).
* The team will have meetings with project sponsors and stakeholders to discuss changes, improvement and gather valuable feedback.

Individual Work Assignments ( 02/14 - 02/27 )

Sailesh Rajanala ( 02/14 - 02/27 )

* Adds new **HTML** fields to existing form
* Updates Form field’s **CSS** to match their functionality with animations
* Adds **Javascript** functionality to the form to display option-specific form fields
* Works on php form validation regarding bad input detection

(input containing **HTML** / **php** / **MySQL** code that could break the webpage)

Subash Acharya ( 02/14 - 02/27 )

* Works on **php** form sanitization
* Works on getting input from user to **php** to process and to database
* Works on syntax for the html provided so it is properly rendered in the browser.

Priyanka Limbu ( 02/14 - 02/27 )

* Add new **HTML** fields to update the form
* Make **CSS** updates in the form fields
* Provides Research results about test questions for checking the **spam entries**
* **Contact** the **Media Resources Center** for access to the deployment domain.

(Web page to load **web form** and the **database results**)

Shiva Karki ( 02/14 - 02/27 )

* Checks usability of **reCAPTCHA,** adds test questions on the form if needed.
* helps to add new HTML and CSS updates in the form.
* Comment the code.
* **Contact** the **Media Resources Center** for access to the deployment database management system.

(**phpMyAdmin** tool to manage Database)

**All team members will meet the Project sponsor Dr. Cindi Mason to showcase their work.**

The main objective of the meeting with the Project sponsor is to gather a lot of feedback on the current version of the project as well as on any future suggestions or improvements.

**Possible Meeting Date : 02/27**

**Week 5 - 7 ( 02/28 - 03/20 )**

The team will recreate the unified database to meet the requirements of the new and updated web form. The new Database will now be updated with new fields of the updated web form (**ISME Deliverable**).

* The new database should be updated with the new form fields as new columns.
* The updated Database should respect Referential Integrity.
* The Database should also be updated to support form entities from multiple time zones around the world.
* The team will have meetings with project sponsors and stakeholders to discuss changes, improvement of the database functionality and gather valuable feedback.

Individual Work Assignments ( 02/28 - 03/20 )

Sailesh Rajanala ( 02/28 - 03/20 )

* Helps the team in planning an efficient and a reliable way to store/export form fields
* Adds new fields to the Database
* Works on Timezone issue of the Database
* Meets with Project Sponsor Dr. Cindi Mason, to discuss new additions and limitations

Subash Acharya ( 02/28 - 03/20 )

* Helps the team in planning an efficient and a reliable way to store/export form fields
* Adds new fields to the Database
* Meets with Project Sponsor Dr. Cindi Mason, to discuss new additions and limitations
* Works on making sure the user input information doesn't create problems with the existing syntax of html and php

Priyanka Limbu ( 02/28 - 03/20 )

* Helps the team in planning an efficient and a reliable way to store/export form fields
* Adds new fields to the Database
* Works on Timezone issue of the Database
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**Possible Meeting Date : 03/20**

**Week 8 - 10 ( 03/21 - 04/10 )**

The team will reinitialize the web server to meet the needs of the updated database and refine the dynamic webpage to display more data.

* The team will focus on the two main functionalities of the web server.
  + Back-End Strict Form Validation
  + Data Retrieval
* The web server should be able to run multiple database management system queries and retrieve data as per a wide range of filters specified by the user.
* The team will then update and refine the dynamic webpage or the database driven web page to meet the needs of the updated database and to display new metadata or more information of user’s submission.
* The dynamic web page should include the new features requested by the client, like an option to **filter, export, and search** information.
* The team will have meetings with the project sponsor to discuss changes, improvement of the dynamic web page functionality and gather valuable feedback.

Individual Work Assignments ( 03/21 - 04/10 )

Sailesh Rajanala ( 03/21 - 04/10 )

* Helps the team in coding **Security feature** that prevents multiple duplicate submissions
* Helps the team in updating the **Dynamic webpage** that retrieves data from database
* Works with the team in updating the functionality of **Search** & **Export** features to meet the requirements of the new database
* Works with the team in coding (creating) the **Filter** function for the dynamic webpage
* Updates the dynamic web page to handle **large number** of entries

Subash Acharya ( 03/21 - 04/10 )

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* Helps the team in updating the **Dynamic webpage** that retrieves data from database
* Works with the team in updating the functionality of **Search** & **Export** features to meet the requirements of the new database
* Works with the team in coding (creating) the **Filter** function for the dynamic webpage

Priyanka Limbu ( 03/21 - 04/10 )

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**Possible Meeting Date : 04/10**

**Week 11 - 13 ( 04/11 - 05/01 )**

In the last few weeks, the team will focus on the implementation and on the testing of the product.

* For implementation, we will get help from the Media Resources Center of the University to implement the web pages (web form, dynamic webpage) on the university’s web server.
* The team will also work on the marketing video of the product. The team will have meetings with the project sponsor to brainstorm ideas of implementation and the method of delivery.
* For the testing, the team will focus on Cross-Browser Compatibility and Mobile Responsiveness.
* The team performs the product testing by programming a query algorithm that can generate random queries to test the database with random queries of insertion, modification, and deletion of entries.
* The team will also create a **User manual** and a **Training Manual** (for maintenance).
* The team will have meetings with the project sponsor to discuss changes, improvement of the product reliability and gather valuable feedback.

Individual Work Assignments ( 04/11 - 05/01 )

Sailesh Rajanala ( 04/11 - 05/01 )

* Tests **Multiple Time Zone Support** for the Database
* Helps the team in creating the **User manual** and a **Training Manual** (for maintenance)
* Helps the team with the **Marketing Video.**

Subash Acharya ( 04/11 - 05/01 )

* Tests **PhP validation and sanitization** to make sure the information entered by the user is correctly processed.
* Helps the team in creating the **User manual** and a **Training Manual** (for maintenance)
* Helps the team with the **Marketing Video.**

Priyanka Limbu ( 04/11 - 05/01 )

* Tests **Mobile Responsiveness.**
* Helps the team in creating the **User manual** and a **Training Manual** (for maintenance)
* Helps the team with the **Marketing Video.**

Shiva Karki ( 04/11 - 05/01 )

* Tests **Cross-Browser Compatibility.**
* Helps the team in creating the **User manual** and a **Training Manual** (for maintenance)
* Helps the team with the **Marketing Video.**

\* Information regarding **Multiple Time Zone Support, Cross-Browser Compatibility, Strict Form Validation and Sanitization, and Mobile Responsiveness** is found in the **Testing Requirements** **below** \*

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**Possible Meeting Date : 05/01**

**Task and Deliverables**

1. Project Planning Requirements

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| --- | --- |
| **Project Planning Requirements** | **Descriptions** |
| Accessibility | The database must be accessible by students, industry partners, professors, and the wider campus community and all of them should be able to submit forms without restriction. |
| Technical feasibility/Design Constraints | The technical aspects and components needed to complete the database should provide a good user interface to submit forms without errors and the components in line with the project scope should meet the point of the desired end product. |
| Regulatory Compliance | The database should be compliant with regulations for example: FERPA and ITS regulation. |

1. Software Requirements

|  |  |
| --- | --- |
| **Software Requirements** | **Descriptions** |
| User Interface and User Experience | The User Interface should be more intuitive, natural, and simple to use.  The product should be descriptive rather than completely analytical. (Containing not only icons but also stamps or descriptions)  The functionality of the product should be familiar or be in the vicinity of the user so to be easy for the user to understand the software functionality even without the help of specific training. |
| Data Retrieval | The user should be allowed to utilize a wide range of server functions like searching, filtering and even exporting data from the database in multiple formats. |

1. Implementation Requirements

|  |  |
| --- | --- |
| **Implementation Requirements** | **Descriptions** |
| Security Requirements | The software must be implemented in the university’s web server. The product should have access restrictions and should be only accessible to senior design instructors and other important stakeholders rather than being accessible to everyone.  We do this by getting help from the Media Resources Center to embed a secure login feature that only makes the end product available to specific users. |
| Training Material | The team should also develop training material that includes user manuals, training videos and other useful training resources to help users get familiar with the product. |

1. Testing Requirements

|  |  |
| --- | --- |
| **Testing Requirements** | **Descriptions** |
| **Front End Testing**  Assigned to **Shiva Karki**  Assigned to **Priyanka Limbu** | The team tests the Front End aspect of the product to ensure that it meets the following requirements.  **Cross-Browser Compatibility.**  The product contains web pages. Therefore it is very important to ensure that all the webpages are compatible and work on various major web browsers like Apple Safari and Google Chrome.  The team should ensure that all the features of the software product work across major operating systems (macOS and Windows).  **Mobile Responsiveness.**  The webpages of the product should compatible across a wide range of devices including mobile phones (small screens) and large screens (desktop) |
| **Back End Testing**  Assigned to **Subash Acharya**  Assigned to **Sailesh Rajanala** | The team will utilize the Back-End aspect of the webpage to test the following features.  **Strict Form Validation and Sanitization.**  The web form should be reliable in detecting invalid information. The web form should utilize strict form fields validation to ensure that the user submits viable and valid information to the database.  For example, the web form should not accept alphanumeric entries for the user's first or last name.  We test this feature by creating an algorithm that populates the form with random information and check if the form is submitted or not.  **Multiple Timezone Support for Database.**  The database should be able to store all the entries in a unified timezone. Therefore to achieve this, the database should be able to convert timezones.  We test this feature by creating a query algorithm that populates the database with random entries from random time zones and checks if the timezone alignment is preserved. |

**Acceptance Criteria**

The Acceptance Criteria for the final product will be to ensure that the product meets the following requirements.

* Product UI/UX is reliable, simple, and easy to use.
* The web form should utilize Strict Form Validation.
* The product should be able to perform the requested functions like **Filtering, Searching, and Exporting** Data.
* The Product should meet the Regulatory Standards like FERPA and ITS regulations .

Moreover, the final product needs to be approved by the Project Sponsor and other major stakeholders of the project and should also be accepted by the university.

**I have read the entire report and it meets my personal quality standards.**

Priyanka Limbu

Sailesh Rajanala

Shiva Karki

Subash Acharya