Proposal for Development of Cyber Resilience Survey Web Application

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# About ITH Solutions

ITH solutions is a scrupulous IT Consulting Firm offering best in class services specially designed various operational and functional requirements of SMEs (Small & Medium Enterprises) and corporate. Being an IT Consulting Firm, we are responsible to making business strategies and processes with best of human resource and technology to channelize and grow the business with a remarkable scalability. We provide our customers with focused offerings and practices in those core areas where we carry a unique advantage to bring strategic solutions to business problems. We work in close association with companies to provide innovative solutions through different ways using technology and its best deployment.

We are a team of experienced and skilled professionals working together to offer scrupulous business solutions with in-depth business expertise. Our team works professionally to execute the right solutions in the earliest possible manner using least resources and money, offering maximum returns. We provide best solutions identifying the problems, analyzing the improvement opportunities, capturing business requirements and then working on designing a solution model to append value to the existing business model and execute the changes effectively for better results.

Services offered by ITH

* Mobile Development – Android, IOS, Windows
* Product Development – End to end software product development
* Maintenance of products – Enhancements to your existing software products
* Technical support – End to end (L1 to L3) technical support
* Web development – Open source, E-commerce, custom development and Framework
* Database solutions– Data base design to Data Migration
* Enterprise Solutions – B2B and B2C solutions
* UX – User interface designing
* Corporate and Online trainings – Trainings on all the latest and Legacy technologies

# Project Assessment

**High level requirements provided by Customer**

Survey application with different categories for employees of particular organization with below structure and generating the reports/dashboards

Resourcefulness (R1)

* Physical
  + Multiple categories
    - Q&A
* Technical
  + Multiple categories
    - Q&A
* Organizational
  + Multiple categories
    - Q&A

Same follows for R2, R3 and R4 (Robustness, Redundancy and Rapidity)

## Our Understanding

The end-user/customer will be provided a survey URL and he/she will login to the Survey link using his credentials (Email & Password) and post successful authentication the user will get the Survey Q&A and complete the survey

## Application features

The application involves the following features:

1. Admin UI
   1. Employee data upload
   2. Q&A data upload
   3. Survey release
2. Survey UI
   1. User Validation
   2. User registration
   3. Survey Q&A section
   4. Survey results
3. Visualization
   1. Role/Department wise reports
   2. Single user and multiple user reports
   3. Different reports – Tabular, Bar, Spider and radar

Proposed Solution

## Survey screen –Draft

## 

The UI cane be made as per the customer requirements

|  |  |
| --- | --- |
| **Cyber Resilience Survey** | |
| * Robustness   + Physical   + Organizational   + Technical | 1. Depends on the category user selects the questioners will be displayed and user will be mandated to complete all the questions 2. User will be provided with Save and submit buttons 3. Each question will be provided with 4 options 4. Successful notification will be sent to user post completion of Survey 5. Calculations will be done based on business rules   Ex – Robustness – Physical section will list all the questions of Physical category |
| * Redundancy   + Physical   + Organizational   + Technical |
| * Resourcefulness   + Physical   + Organizational   + Technical |
| * Rapidity   + Physical   + Organizational   + Technical |
| * Sign-out |
|  |

## Data Loading

* Employees data and Q&A data will be provided in csv or excel files and that will be uploaded into database.
* UI Utility will be provided for data loading

## Visualization

Below reports

* Tabular
* Charts -Pie, bar, polar, spider and radar

Application flow: Key Highlights and Complexity

1. **Employees Data upload**

**Functionality:**

* + From Admin UI, Employees data of a particular company(s) will be upload by the Admin user
  + The employee’s data will get stored into the database, the employee data will consist of the below fields– **Email, Role, Department and Company Name**

**Assumptions:**

* + The data will be provided in excel format using comma separated delimiters

**Complexity:**

* + **Medium**

1. **Release Survey:**

**Functionality:**

* + From Admin UI, Admin will be select the available companies from drop down and will release the Survey.
  + The selected users from particular company/dept. will receive the survey URL

**Assumptions:**

* + Survey will be released to all the members in the selected company and not to a particular individual or group of individuals.
  + We can enhance the product (In Phase 2) with the above said features
  + All the users will get same URL

**Complexity:**

* + **Medium**

1. **Survey Questionnaire data upload:**

**Functionality:**

* + From Admin UI, Q&A data will be uploaded by the admin user.

**Assumptions:**

* + The data will be provided in excel format using comma separated delimiters
  + The Q&A are static and common for all the Surveys

**Complexity:**

* + **High** - Q& A Validations for data import and Database design with multiple tree structure

1. **User Authentication:**

**Functionality:**

* + Post receiving of the Survey URL, user will login and a validation screen will be provided with Email and company Name fields.
  + Upon successful validation, the user will be directed to Sing in screen where user need to provide additional details to register himself – Name, Pwd, Gender, location, etc
  + Post successful registration user will be directed to Survey screen

**Assumptions:**

* + Department, company Name and Role will be prepopulated
  + There is no OTP or email activation based authentication
  + There is no LDAP/AD used for authentication

**Complexity:**

* + **Medium**

1. **Survey Form:**

**Functionality:**

* + Post receiving of the Survey URL, user will login and a validation screen will be provided with Email and company Name fields
  + Upon successful validation, the user will be directed to Sing in screen where user need to provide additional details to register himself – Name, Pwd, Gender, location, etc
  + Post successful registration user will be directed to Survey screen
  + Survey screen will have all the Questions (ex : R1 🡪 Physical 🡪Category1 🡪 Q1)
  + User can save the Survey at any point of time
  + User can login and will get the Survey from last point

**Assumptions:**

* + Q&A are static for all the users
  + No time limit for any question in the Survey

**Complexity:**

* + **Critical** – Session management, Survey saving /submit, Complex business logic

1. **Survey Results:**

**Functionality:**

* + Post successful completion of the Survey user will get his individual survey results in tabular and other requested graphs format

**Assumptions:**

* + User can save and print the results

**Complexity:**

* + **High** – Data retrieval, Calculations, reports

1. **Visualization:**

**Functionality:**

* + For Admin User: Company wise Reports of survey will be available for the admin
  + Admin will be provided a drop-down to select the company name which he wants to view the reports and after submitting the company he will get the view of all the users or selected users reports in all the formats
  + Available formats – Tabular, Bar, spider, Pie and Radar charts
  + One user view – Admin can select a particular user from patricianly company
  + All users – Admin can select all users option to get the reports of all the users

**Assumptions:**

* + User can save and print the results

**Complexity:**

* + **Critical** – Session management, Survey saving /submit, Complex business logic

1. **Automation reports:**

**Functionality:**

* + Admin user/From backend we can schedule a job to send the reports to define set-of people – daily, weekly and monthly
  + The report will be auto generated and distributed to the configured emails

**Assumptions:**

* + Report will be sent through mail

**Complexity:**

* + **High** – Scheduler logic, company specific data need to be incorporated in the reports

1. **Pdf report generation:**

**Functionality:**

* + Admin user can submit a request to generate Client specific pdf report

**Assumptions:**

* + Client specific static data will be provided to us
  + The Charts will be inserted in the defined section
  + Report will be generated upon request

**Complexity:**

* + **High** – Report formation, report data validations

Efforts & Budget

|  |  |  |
| --- | --- | --- |
| **Feature** | **task** | **Man Days** |
| Architectural Setup | Understand the requirements   * Prepare the project plan based on the requirements | **4** |
| Prepare architecture diagram   * Physical and technical flow diagrams |
| Technologies finalization |
| Database design | Designing of Data model   * Creation of tables * Table relations * Sample data loading | **2** |
| UI | UI modules   * User sign-in and Sign-up * Survey UI * Navigations * Survey results UI * Admin UI   Data load  Q&A load  Survey release   * Reports UI(For Admins)   One user view  All users view | **15** |
| Services | Authentication service   * User validation * User authentication * Signup * Role based login * Automation of reports | **20** |
| Database services |
| Business logic services and Calculations |
| Others |
| Visualization | Dashboard -Tabular | **22** |
| Charts – All charts as per the requirements |
| Data loading | Data loading from flat files to Database  Users data load and Q&A loading | **4** |
| Integration | Code integration | **2** |
| Testing and Deployment | UAT testing and AWS hosting | **3** |
| Documentation | User guide | **2** |
| **Total days** |  | **74** |

The solution was prepared based on the understanding of the requirements **discussed on 30th Nov’18**

**Project Methodology:**

* We recommend to execute the project in Agile methodology.
* Sprint plan will be shared before start of the project

Technology stack

* Html, CSS, Angular, Node
* PostgreSQL DB /Mongo/SQL Server
* Node/Python
* Reports – Python libraries

Assumptions and Risks

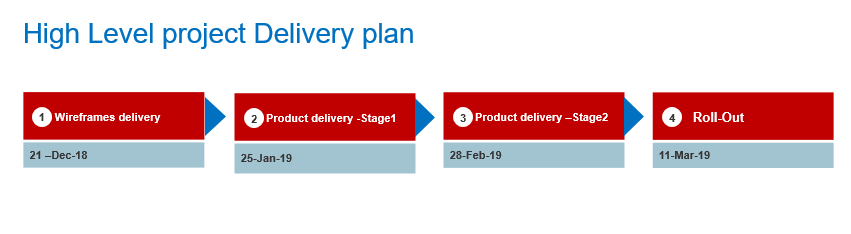
* The estimates prepared based on the understanding of the requirement document and the initial meeting held on 30th Nov
* Any changes in the requirement document will have impact on estimations
* Software cost (if any licenses) and Hardware costs are not included in the estimations
* The working s/w will be delivered to client
* Hosting cost is not included
* The Maintenance cost not included
* ITH recommend to execute the project in Agile
* Cost and other points will be discussed during the contract signature
* ITH will provide 3 months of support after delivering the product

Payment Terms

The following payment terms shall be applicable

* **Project Sign-off**: 10% of the Project Cost
* **Milestone 1 (refer below table)**: 20% of the Project Cost
* **Milestone 2 (refer below table)**: 40% of the Project Cost
* **Project Completion**: 30% of the Project Cost

Timelines and Delivery Plan



|  |  |  |  |
| --- | --- | --- | --- |
| **Phase** | **Delivery** | **Date** | **Remarks** |
| Milestone 1 | **Wireframes delivery**   * All the Screens – All the screens with test/hardcoded data * UI Navigations – UI navigations with test/hardcoded data * Data upload functionality with sample data * Physical and technical flow diagrams | 21-Dec-18 | If project starts from 5th Dec  Demo will be shown on 21st |
| Milestone 2 | **Product delivery -Stage1**   * UI navigations – UI navigations with end-end flow * Data and Q&A upload functionally * Working Survey functionality * Sample reports –Few reports | 25-Jan-19 |  |
| Milestone 3 | **Product delivery –Stage2**   * Bug fixes – All the identified fixes from stage 1 phase * UI navigations – UI navigations with end-end flow * Data and Q&A upload functionally complete flow * Working Survey functionality complete flow * Visualization –Complete flow * Automated reports – Complete flow | 28-Feb-19 |  |
| Milestone 4 | **Product delivery –Final product delivery** | 11-Mar-19 |  |

* We recommend to have weekly calls after Milestone 1

Out of Scope (Phase 2)

* Company set-up through UI
* Authentication based on OTP or email activation
* Dept. wised reports

Terms and Conditions

TBD

# Addendum/comments to above.

Please consider the following updates and provide me updates on how it can be accomplished.

1. Under 4. User Authentication for enhanced user security, can you enable google authentication TOTP?

Or some kind of SAML? I don’t think it is that difficult adding couple of lines.

Gender field needs to be removed. Instead add "Have you taken calibration training? Yes/No"

2.Under 5. Survey Form: it is important to have autosave feature, otherwise the users will lose interest if the data is lost and we will be bombarded with calls?

3. Under 6. Survey Results: it is noted as "Post successful completion of the Survey user will get his individual survey results in tabular and other requested graphs format".

Actually, the results need to be displayed not get the results. If the users wants to generate a report and save he/she should be able to allow. Remember a normal user in the company should be able to view only his/her responses not for others. A particular assigned or provisioned user only can view combined results of all users of that particular company and can download. If you can by default build some security in to the report such as a password as the company name or email that is appreciated. Segregation of data or shielding of data from one user to another and one company to another is a must feature to be built.

4. Under 7. Visualization: I did not specifically note Dashboard, this is the key part like shown in the excel. When the user completes a survey by default, he should be able to see his results in the dashboard and the admin/privileged user of that company should be able to view combined results and comparative benchmarking results.

It is important to have a combined results dashboard and benchmarking capability with the ability to drill-down in to specific graphs or charts. We even discussed about a comparative charts of particular industry type such as Energy/Water/Pharma/Manufacturing etc.

**<Please note these are necessary features to be built in to the application not as enhancements>**