

Feasibility Study

Survey builder system

20.03.2016

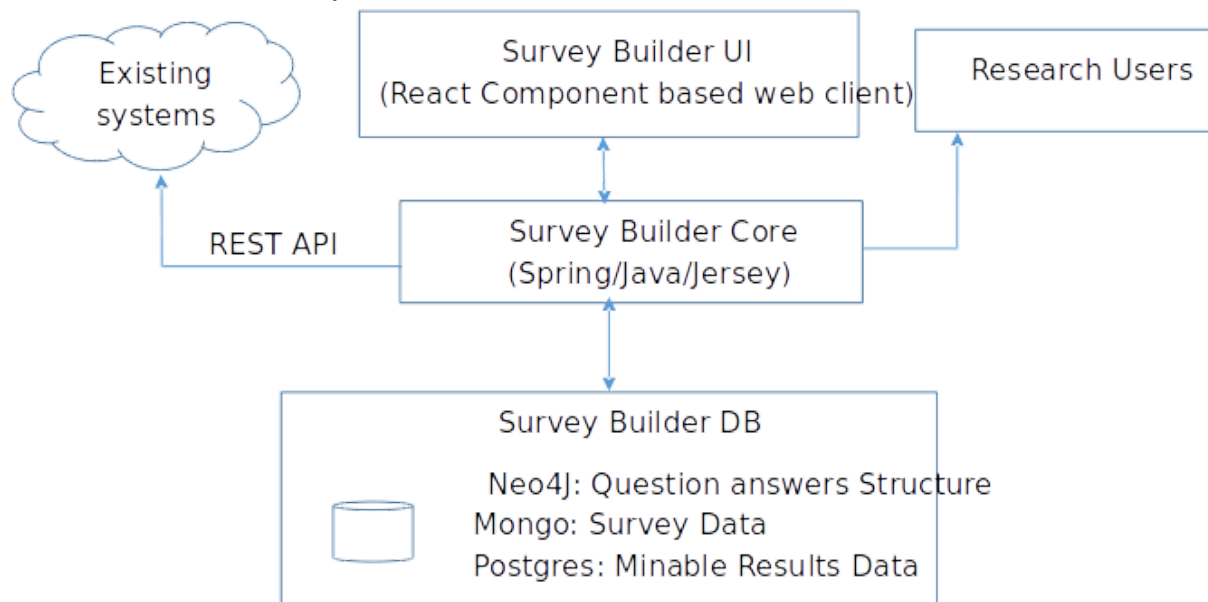
Vinujan.S
130618F

1. [Introduction](#)
 - 1.1. [Overview of the project](#)
 - 1.2. [Objective](#)
 - 1.3. [Need for the project](#)
 - 1.4. [Overview of existing system and technologies](#)
 - 1.5. [Scope of the project](#)
 - 1.6. [Deliverables](#)
2. [Feasibility study](#)
 - 2.1. [Financial feasibility](#)
 - 2.2. [Technical feasibility](#)
 - 2.3. [Resource and Time Feasibility](#)
 - 2.4. [Risk Feasibility](#)
 - 2.5. [Social/Legal Feasibility](#)
3. [Considerations](#)
 - 3.1. [Security](#)
 - 3.2. [Usability](#)
 - 3.3. [Graphical User Interface\(GUI\)](#)
4. [References](#)

1. Introduction

1.1. Overview of the project

One of the way of collecting datas from people is giving questions and answer and storing the answer to analyse according to our requirement. There will be many types of questions. Question provided may have subquestions according to user's answer. Answer may be options, text and image. The question we given for a context may change according to time and users. so questions and answer creation should be dynamic.



As shown in above figure system will have react component based web client user interface where multiple user access the system. Answers from datacollectors users will be saved to the system. Admin user can create questions with question type and sub-questions and answer type specifications including options, text and multimedia features like images. Admin user and Research users will get minable data from system. System can seamlessly integrate dynamic surveys with already existing systems which requires dynamic surveys.

1.2. Objective

- ❖ Design and implementation of user interface for system clients
- ❖ Admin privileged user should be able to create questions with question type and sub-questions and answer type specifications including options, text and multimedia features like images.
- ❖ Data collector/public users to conduct/participate remote survey using created questions and answers stacks
- ❖ Admin user to review and analytics users should be able to get minable data from system.
- ❖ Seamlessly integrate dynamic surveys with already existing systems which requires dynamic surveys.

1.3. Need for the project

This system will be integrated with project soul which is a patient management system. They expect to survey like below in system

07. Particulars of Animals/ Birds :

Animals/Birds	Dog	Cat	Cow	Goat	Pig	Hen	Others
Number							

7.1 Dog registered by Pradeshiya Sabha?

Yes 1
No 2

7.2 If yes, mark the registration number:

7.3 Anti Rabies Vaccination (ARV) was given / not (within one year): Yes 1
No 2

08. Protection form Mosquito Bite : (Can circle more than one choice)

8.1 Method use:

Mosquito net 1
Mosquito coil 2
Oils/ Chemicals 3
Not use anyone 4
Others (Specify):

8.2 If using the mosquito net, how did you get?

Own (purchased) 1
Given by Government 2
Given by NGO 3
Others (Specify):

09. Health Officer meet within last 3 months

No. of times

Private Doctor 1
Government Doctor 2
Medical Officer of Health 3
Public Health Inspector 4
Family Health Officer 5

1.4. Overview of existing system and technologies

There are many survey builder system available currently. some of them are survey monkey, typeform, google forms, client heartbeat, zoho survey, surveygizmo and survey planet

- Survey monkey - It is a well known survey tool. In the free version of this application user will get 15 types of questions.
- Typeform - Free version of this application has many features. It has varieties of question types and answer types
- google form - Google Forms is also a popular survey builder platform. In this application user can create question and embed questions that was created anywhere. And also it will give plenty of analytics after users responses for the questions.

1.5. Scope of the project

- Admin - create questions with question type and sub-questions and answer type specifications including options, text and multimedia features like images. Review minable data
- Normal User - Answer to questionnaire
- Analytic User - Can extract minable data

1.6. Deliverables

An interactive Web Application with intuitive and attractive user interface. Data handled in system is sensitive so application will be secure in order to face current security vulnerabilities. This system can be easily integrable with other system.

2. Feasibility study

2.1. Financial feasibility

The financial feasibility study evaluate the cost of the software development against the ultimate income or benefits gets from the proposed system. There must be scopes for profit after the success completion of project.

The financial issue usually raised during the feasibility stage of the investigation include the following:

- Does the project make financial sense?
- The cost of doing full system study
- Is the project possible, given the resource constraints?

The system is economically feasible. It does not require any additional hardware or software. Since the interface for this system is developed using the existing resources and technologies available as free as open source, there is nominal expenditure and economic feasibility for certain.

2.2. Technical feasibility

A large part of determining resources has to do with assessing technical feasibility. It considers the technical requirements of the proposed project. The essential questions that should take into consideration in testing the operational feasibility of a system include the following:

- Are the current technical resources sufficient for the proposed system?
- Does the technology exist at all?
- Software and hardware
- Are there technical guarantees of accuracy, reliability, ease of access and data security?
- Will the proposed system provide almost accurate position of the vehicle?

React component web client is used for creation User interface. It will give attractive user interface when implementing with bootstrap and its own ui components. It is a component based web client so we can use reuse components.

Combination of technologies spring, java and jersey will be used to create core application. By using spring application can gain inversion control. Javas is a high level language implementations of functionalities are easy. Jersey is a restful api framework so by using this combination application can gain reliability, security and accuracy.

Database languages used in application are neo4j, mongodb and postgres. Neo4j is used to track the subquestions and their parent. Mongodb is used for saving questions and answers. Postgres is a sql based language and it is used for analyzing answers. By using these database technologies application can gain reliability and accuracy

2.3. Resource and Time Feasibility

All the frameworks used for this applications are open source so resource for application development is feasible.

Main theme of this application is to give a interactive, usable and responsive application so designing user interface that is intuitive for application users is crucial and time taking portion.

Proper project planning will be maintained during the project. Therefore, it provides the guarantee of finishing the project within given deadline.

2.4. Risk Feasibility

It is common to have risks in a software development project. These risks can also lead a project to failure and disaster. Therefore Risk Feasibility is very important to reduce the risks and lead the project. Risks that affect the project cycle are following:

- Software and hardware incompatible
- Architecture complexity
- Quality trade-offs
- Data maintenance

These risks can be reduced by reviewing existing similar system. Well designed architecture is to be used. Tried and tested software components are to be used for proposed system such as Reactjs, java, spring, jersey, mongodb, neo4j and postgresql. It carry lower risk.

2.5. Social/Legal Feasibility

All the resources used are open source. So that copyrights or patents won't have an effect on this proposed project. All legal and ethical implications to be consider during this project.

3. Considerations

3.1. Security

The Survey builder system provides various mechanisms which will ensure only authorized access to the application and database in order to ensure the privacy of the data. System assigns unique IDs' for different user levels who are given different privileges to use the system.

To manage these user levels it initially provides a separate username and password. Each password is assigned by Administrator.

Only authorized person can access to the database for modifications. Unauthorized accesses are restricted.

We have four different level users in our system. They are,

- Admin - create questions with question type and sub-questions and answer type specifications including options, text and multimedia features like images. Review minable data
- Normal User - Answer to questionnaire
- Analytic User - Can extract minable data

Application will be accessed through https protocol. All data will be encrypted before transmission.

3.2. Usability

3.2.1. Graphical User Interface(GUI)

User interface should be attractive and intuitive. So that users will be able to use this application with a specific interest. Clickable buttons must be show clearly. Use contrasting colour to attract the user.

4. References

- [1] Keyes, Jessica, Software engineering handbook, Auerbach Publications, 2002.
- [2] www.wordstream.com, '7 Best Survey Tools: Create Awesome Surveys For Free!' 2014 . [Online].Available:
<http://www.wordstream.com/blog/ws/2014/11/10/best-online-survey-tools>. [Accessed 03 13 2016].