POLLING APPLICATION

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***Abstract* — Now-a-days power of mobile technology is incredible and data and information is a very valuable resource. There are many things in current world where people need to give their opinions and reviews about that particular thing. The reviews and opinions about any product, place, or anything help people to create new and better things. Therefore, we are developing mobile application, which allows the user to participate in going on survey/polling. In addition, user can generate his own survey/polling to share across publically or with desired group of peoples. Using power of mobile technology in today's worlds, this idea can help to create better world around us.**

***Keywords* — data, opinions, mobile, survey.**

I. INTRODUCTION

Since beginning of the human kind people always select particular thing by getting opinion from others. Even the top companies have to maintain customer satisfaction and have to consider customer opinions and reviews to develop new and better products. Public and users thinking towards and place, product or other things matters most in this competitive and always changing world. Knowing that how smartphone's and internet has change the way people communicate to each other, we can take advantage of this technology to develop the new of interaction between people to share their experience and opinions by participating in surveys and polls.

Over a time, how people use to share their experience and opinions about everything is changing. From blogs to vlogs, from comments to reviews but there is no proper way where people can come across to ask, to give, to study surveys or polls about anything. Therefore, to overcome this problem we are developing a mobile application, which allows user to create private or group polling/survey, which helps user to make decide and get opinions from public. It is an intuitive app used for creating and developing better society by users rating and reviews about social or private belongings and consumer products. In addition, our app can provide corporate and organization-based accounts that can be used for specific targeted public.

II. OVERVIEW

Our app will provide a login based on email or phone number. User will land to home page, which will display news feeds and ongoing survey carrying out based on location and interest. Then user will have option for pending survey, these are the surveys in which user is invited by other user to participate, he/she can participate or decline the survey. User will have option to generate survey according to requirement i.e. voting/ rating/ survey/ like or dislike etc. In addition, option for making survey public or privately will provided. Provided by timeline for how long survey will run, user can see live results and can share results across the platform. User can terminate survey at any given time and obtain results. We are also planning to add geo location-based participation and divisions of user. In addition, advance functionality for analytics of data and various forms of data interpretation will be provided for results.

❖ Aim of the project

- User can create polling globally or locally.
- In local polling user has to invite another user to join group to participate.
- User can share his polling results to all or can keep it personal.
- User can also specify timeline for survey/polling.
- User can attach picture or can search on web for comparison.
- User can also have option for rating and comment section in survey.
- Corporates and Organizations accounts also can be provided for mass survey

III. CURRENT SOLUTIONS

In this section, we will discuss about existing scenario, evaluate their performance and look for improvements. Current System like VoteUp and myvote.io do not have proper user interface and larger

mobile platform availability, also they do not have proper login facility and various custom voting features. VoteUp app supports use of app without login, which some time is not great for accurate results. Application also lacks in aesthetic, performance and not user friendly. On the other side myvote.in is only supported through web-browser and do not have dedicated application for mobile. Comparison about all this application is provide in Table. 1.

Table. 1 Overview of Current System

	VoteUp	myvote.io	Polling App
Platform	Mobile	Web	Mobile
Login	No	Yes	Yes
Real-Time Result	No	Yes	Yes
Custom Features	Yes	No	Yes
Users	Everyone	Corporates	Everyone

Here are some screenshots for existing applications, which are familiar to our applications.

Figure 1. Screenshot of myvote.io

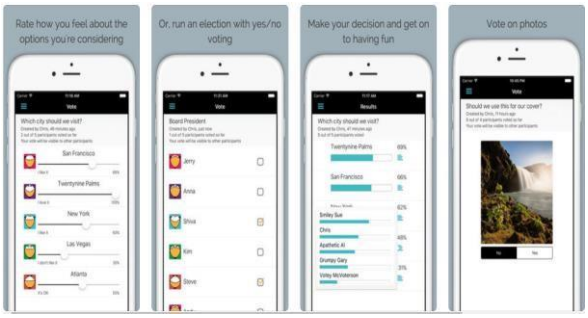


Figure 2. Screenshot of voteUp

IV. PROJECT REQUIREMENTS

A. Creating Dataset
B. UML diagrams
C. Training Dataset
D. Prototype
E. Testing
F. Documentation

[A] Creating Dataset - we gather all the symptoms focusing on certain illness, stored in different tables, which later will be used to match the user symptoms to illnesses and make a prediction.

[B] Creating UML and DFD diagrams helps us visualize the model of our system and the interaction between objects using sequence and data flow of the system.

[C] Training dataset is an essential part in machine learning, where the system is rigorously trained resulting in accurate prediction.

[D] Prototype is a preliminary model of the system, which provides insight into the working of the system.

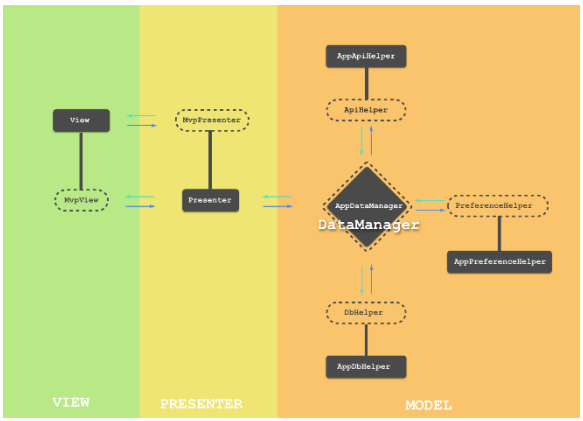
[E] Testing stage is necessary to improve the performance and efficiency of the system.

[F] Documentation records all the official information of the system, like working, data flow, source code and much more.

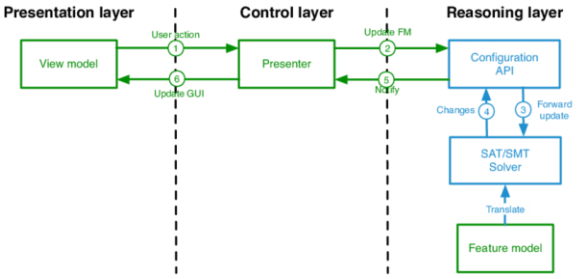
V. ARCHITECTURE

Our application will be developed using MVP architecture. MVP stands for Model-View-Presenter. MVP is a way to separate background tasks from bactivities, views, fragment to make them independent

of the lifecycle-related event. It allows application to becomes simpler, overall application reliability increases up to 10 times, application code becomes shorter and maintainable



View: It is responsible for presenting data in way decided by the presenter. It can be implemented by Activities, Fragments, Widget or anything that can-do operation like showing a Progress Bar, updating text and so on. The View works with the Presenter to display the data and it notifies the Presenter about the user's actions. In MVP Activities, Fragments and custom Android views can be Views. Our choice was to use Fragments.



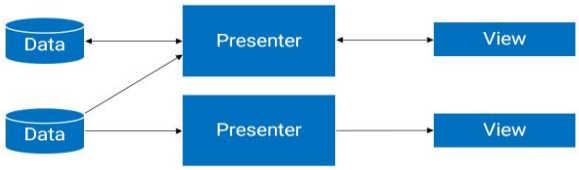
Presenter: It is middle layer, which sits between model and view. All presentation logic belongs to it. It is responsible for querying the model and updating the view, reacting to user interaction updating the model. The Presenter and its corresponding View are created by the Activity. References to the View and to the Task Repository - the Model - are given to the constructor of the Presenter. In the implementation of the constructor, the Presenter will call the setPresenter method of the View. This can be simplified when using a dependency injection framework that allows the injection of the Presenters in the corresponding views, reducing the coupling of the classes.

Model: It is an interface responsible for managing data. Such as APIs, managing database, caching data and many more. It can also be an interface that communicates with other modules. The Model works with the remote and local data sources to get and save the data. This is where the business logic is handled. For example, when requesting the list of Tasks, the Model would try to retrieve them from the local data source. If it is empty, it will query the network, save the response in the local data source and then return the list.

Data Manager: The App Data Manager implements an interface. It contains methods, exposed for all the data handling operations.

App Data Manager: It is point of contact for any data related in the application.

Advantages: It maximizes the amount of code that can tested with automation.
It separates business logic from the view logic to make the code easier to understand and test.



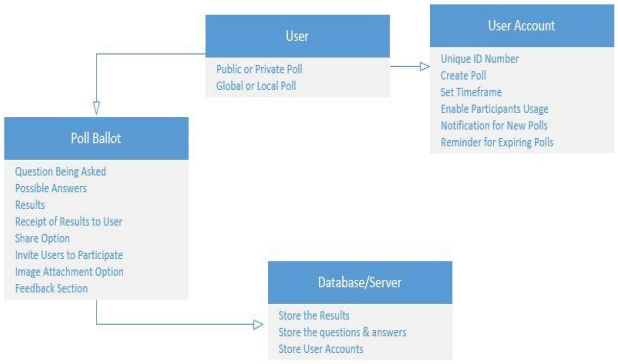
Complex tasks are split into simpler tasks and are easier to solve. Smaller tasks, less bugs easier to debug.

Development Environment
Android Studio is the official integrated development environment for android platform development. Android SDK is used to develop android apps. It is a set of tools and libraries to interact with the android devices. Polling app will be developed in Android Studio with compatibility for android API level 16 to 26 i.e. Jelly Bean - 4.1 to Oreo - 8.0

Database
The Firebase real-time Database is a cloud-hosted database. Data is stored as JSON and synchronized in real-time to every connected client. When you build cross-platform apps with our iOS, Android, and JavaScript SDKs, all of your clients share one Real-

time Database instance and automatically receive updates with the newest data.

UML Diagram



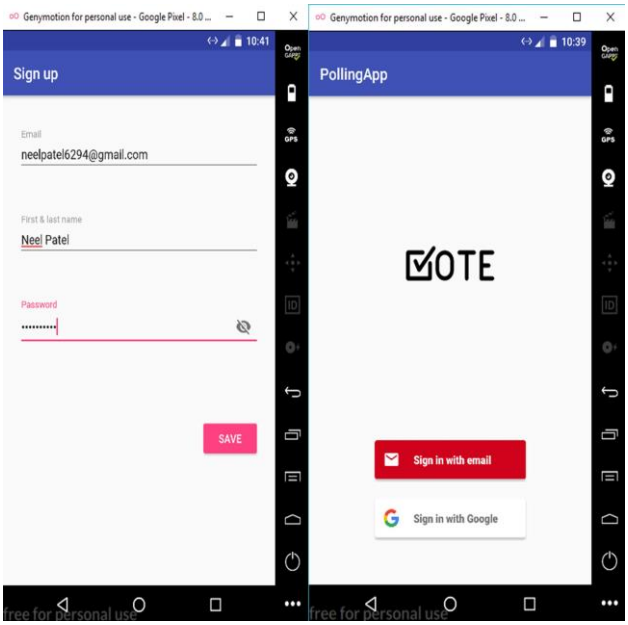
User: They have their accounts and can participate in on going polls

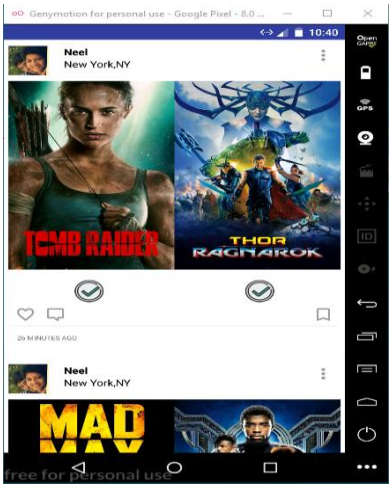
User Account: It has all information about user like UID, Polls, Timelines, and Participation etc.

Poll Ballot: It has all the provided information about created poll by user. Like Results, Answers, Questions, Sharing Option, Images etc.

Database: It store the results, and every other information's about user and Application.

Current Development





VI. SYSTEM REQUIREMENTS

User-Interface: The system shall provide an easy-to-use user-interface.
Transparency: Voters should be able to possess a general knowledge and understanding of the voting Process.
Flexibility: The system shall be flexible in that it allows a variety of ballot question formats including Open-ended questions
Accuracy: The system shall record and count all the votes and shall do so correctly.
Eligibility: Only authorized voters, who are registered, should be able to vote.
Uniqueness: No voter should be able to vote more than once.
Voter Confirmation: The voter shall be able to confirm clearly how his vote is being cast, and shall be given a chance to modify his vote before he commits it.
No Over-voting: The voter shall be prevented from choosing more than one candidate / answer.
Cost-effectiveness: polling systems should be affordable and efficient.
Voter Authenticity: Ensure that the voter must identify himself (with respect to the registration database) to be entitled to vote.
System Integrity: Ensure that the system cannot be re-configured during operation.
Secrecy / Privacy: No one should be able to determine how any individual voted.
Reliability: polling systems should work robustly, without loss of any votes, even in the face of numerous failures, including failures of voting machines and total loss of network communication.
Simplicity: The system shall be designed to be extremely simple, as complexity is the enemy of security.
System Accountability: Ensure that system operations are logged and audited.

Database: Database will store information of members of the system, all information of defined pools, answers of the members and the result of each poll. It must have a good performance with a well designed structure to avoid redundancy. Accessing the database will be possible from data access layer and proper stored procedures will be written for getting data from it.

User Requirements: Security requirements allow members to vote and discuss about important business decisions in a secure manner.

The system is a web-based application. User and administrator can have access to the system from anywhere in the world using the web browsers.

A user or administrator has at any given stage while using the system. We should make the system web page front-end simple and easy to understand and to Interact with.

User need access to internet and mobile or web-application.

VII. USER STORIES

1) When a user want to take any decision based on other user opinions and reviews. By the use of over application user can create the poll and ask user to give vote.

2) When user want to decide which is better restaurant to go for dinner, or which movie to choose, or which credit card, or which car etc. User can create poll by adding different images and other information and ask other users to give review.

3) When in and city government want to ask their city people did you like new changes in city or what you're thinking regarding this topic going on in city, they can create location based poll for particular city.

4) When in School, University, Companies want to get mass survey regarding any ongoing event or anything in their institute/Company, they can generate mass poll, which will automatically add all the participants' i.e. Student of that university/school or employees of particular department/company. Also giving them live result of ongoing poll.

VIII. ADVANTAGE

Optimize your research:

Paper-based market research studies are an expensive and time-consuming way to conduct research. Every single survey response needs to be interpreted and entered into Excel or some other statistical program for reporting. The labor cost for this data entry itself can consume any research budget. To make it worse, making any change to the survey means reprinting and redistributing which can be a logistical nightmare.

Collecting market research survey responses on a tablet completely eliminates data input costs while making the management of changes and distribution effortless. Your device also becomes a tool for sharing instructions and research information through digital brochures, websites, and videos. Smartphones are attractive, interactive, and can be used to promote incentives for your study.

Get real-time insight and analytics:

Connected phones can send survey responses in real-time while offline tablets store data and transmit responses when reconnected to the Internet via Wi-Fi or 3G. There is absolutely no faster way to aggregate data, perform analytics and report results just minutes if not seconds after collecting the data.

Report accurate results:

Paper-based research has a number of manual steps that are always prone to human error, which makes it nearly impossible to guarantee accurate results.

Surveys conducted with smartphones are structured and include validation, which results in clean and accurate data. Using tablets for market research leaves little to no room for human error.

IX. CONCLUSION

In Today's world polling and surveys has become necessary for companies, public to ensure and have prefect solution for particular thing. The polling application will be developed on Android using Android Studio. This application allows users to create polling for specific group of people or for public. Our application will overcome most of current system problems and by doing so it will have vast future scope. We think that this application will change the way people communicate towards problems and suggestions to develop better world and great environment around us.

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