



**Android Based
Mobile Application**
to the Presidential Election
for Election Commission of
Sri Lanka
VoteME

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Project Proposal

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Title of the Project

Android based mobile application, for the presidential election to the Election Commission of Sri Lanka, called **VoteME**.

Problem of the Project

The inefficiency, unreliability, costly and affecting for not only the development but also the economy of the Sri Lanka due to the existing voting system.

Objectives

- Increasing the reliability
- Increasing the efficiency and the effectiveness
- Saving the money of the public for paper works to an extent
- Saving the time of the employees work all over the world.
- Empowering the voters to cast their ballots reliably
- Making the results public sooner

Background

The inefficiency and the unreliable has been increased in the Sri Lankan people because of the classical voting system. Many of the people are complained against each other regarding the frauds that taken place during the elections and the public is fed up with the existing system to an extent. As Sri Lanka is a democratic country everyone has the right of selecting their representative in a fair way. And they should have the witnesses that the election was taken place in a fair manner.

People take leaves in the period of election for days because the results get delayed as it is more time consuming. For a presidential election probably, it takes two days and people sometimes take leaves for 3 days as they are tired with seeing the results published on medias. Some who work far away from the home usually cannot go to the work as soon as the election finished because of lack of public and private transport services in this period. Due to these kinds of reasons, they take 3 or 4 days to report again to the work. That affects to the development and the economy of the Sri Lanka.

According to World Bank Source the population of Sri Lanka is 21.8 million (2019). The current population of Sri Lanka is 21,462,744 as of Tuesday, January 19, 2021, based on Worldometer elaboration of the latest United Nations data. It is equivalent to 0.27% of the world population. Out of 21.8 million population; 16, 263,885 people were registered voters as of November 30, 2020. It is about 75.32% of the total. [1], [2]

It is the responsibility of the election commission of Sri Lanka, to hold a fair election in order to achieve the aspirations of the voters. We all know that counting millions of voting using humans is not effective as the error percentage is higher compare to a computer- based system. Therefore, we cannot rely on the results issued by the election commission as those are the exact number of votes that took place.

As we all know the fraudulent voting is not easy nowadays, but there is still remaining some loop wholes. As an example, if someone get a visa from another country and he goes there it is not recorded anywhere of the book which is sent by the district office to 'gramasewaka'. In case someone else can vote instead of the particular person. These are the things which is still happening in Sri Lanka.

The major problem is consuming lots of money for the election. For the administration, for advertising purposes, for the workers and etc. Considering of the cost for the employees engaged in election duties for counting votes and the cost for the paper works is higher.

There are 5 election types that are conducted by the election commission of Sri Lanka. Those are; Presidential election, Parliament General Election, Provincial Council Election, Local Authority Elections, Referendum.

Scope of the Project

Project Name: Android base mobile application to the presidential election for Election Commission of Sri Lanka	
Prepared by: V.D. Siriwardhana (Register Number: EUSL/TC/IS/2016/COM/60)	
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Project Justification	This android-based application reduces the time spend making results in days and days. It shall enable, the voters and the as well as the candidates to do the utmost justification for the votes of them as the integrity and the process of the security is higher. Moreover, the it saves the public money to some extend that taken for the paper printings and also the voter cannot be misled by someone else. That protect all the voting rights of all the people in Sri Lanka.
Project Description	As this is a new approach to Sri Lanka, we cannot change the whole manual existing system at once. Here the all voters have to come to the poll as usual and declare the vote. What's new is instead of the paper-based voting system, they will use an android-based device (mobile device, tab, laptop etc.) to declare the vote using a very secured method. As the people going to the poll have already received an OTP code in advance to their hand as per, they apply for election application according to the existing method through the ' <i>gramasewaka</i> ', the election commission will register them in to the application and send them an OTP code which is created using MD5. When a person came to the poll, he/she is marked as usual of taking part on voting on election and go to the device and type the OTP and select the candidate. After that he/she have to confirm the vote. To avoid to frauds happening while voting, after the vote is confirm the session will move to a waiting session. For each and every poll has a Technical Officer who is specialized and responsible for everything, that is the one, who has the power to handle in the application with the permission and help of the commission.
Project Objective	The main objective of this application is holding a fair election to elect the president of the people. Moreover, we can say that reduces the cost of paper works and saves money and also it saves the time of the people which is affect to the state machinery as the public on leave for days because of the election. We are able to release the all the votes as soon as the election over very accurately. Decrease of violations of election laws, is one of the main objectives as well. Going through all of these things we see; this application is for the all-Sri Lankans welfare to protect their rights to an extent than the existing system.
Project Deliverable	Fully Completed Android Base Application to Presidential Election of Sri Lanka
Constraints	<ol style="list-style-type: none"> 1. Resource availability 2. Time
Assumptions	<ol style="list-style-type: none"> 1. Project Objectives will be attained at close of project 2. Deliverables will be as defined in scope 3. Government made specialized technical officers and give them a train regarding handling issues and all the other technical and non-technical issues can take place during the election and also to the staff of the election commission.

Literature Review

In Sri Lanka, there is no particular method for any election to vote using the technology such as; mobile application or a web system. Not only for the Sri Lanka, it is still new experience for the whole world yet. As involving the computation methods, my opinion is this will be a great android application to give more accurate details to the public with more confidence. The existing electronics service system give some details about registered voters, political parties' details and some few information [4].

In the world history we can see Estonia is the first country that held a nation-wide election using internet in 2005. It was not related to any electronic voting systems used everywhere, which involves costly and problematic machinery [5]. The very recent experience in the world has is; the national elections in South Korea which was held within the pandemic situation [6]. It was successfully held by South Korean government on April, 2020. Those are some examples that uses electronic and Internet voting systems for their national elections in the world.

The Election Commission of Sri Lanka has full ownership of 'VoteME' android application. Therefore, the security and the reliability are increased and the public come to the poll without hesitate to cast votes.

Moreover, we can understand the significance of a voting system like 'VoteME' to Sri Lanka considering the problems occurs due to the existing system.

Significance

Save the time/ More efficient

When releasing the results, it takes nearly 2 days for the total results with the election date. As the people are on leave for days at the presidential election periods. Using the 'VoteME' android application, it takes lesser time to release the results and it saves the time of all of the people and no need of waiting for finalizing results as It is calculated and updated as soon as the election ended.

Save money

The government spend more for the documentations and paper works, as the classical method for voting get costly. 'VoteMe' reduces the cost for the paper works to some extent, and also people do not have to count the votes restlessly and without having sleep, so that the cost for them is reduced as well.

More accuracy and reliability

As all the calculations are done using as soon as the election ends, the accuracy and the reliability of the output data is higher than the old method because there is very less time of doing frauds. We all know that counting the votes manually is not a reliable and efficient.

Easy to maintenance and less costly

It is easy to maintain and less cost effective. Only the government has one-time cost for implementing the system and providing the resources to the polls. Compare to the cost that is taken for the election once every six 6 years it is comparatively lesser as we can use the devices that we have already purchased for the previous elections. Because of the reusability it saves money of the public in every election.

Expected Outcome

An Android based mobile application that

- Improves the reliability of both voters and candidates
- Improves the effectiveness and efficiency
- Update the results as soon as the end of the election

Proposed Methodology**Initiation**

- Collecting data from resource persons
- Search applicable technology

Analysis

- Analyzing the gathered data and technologies

Planning

- Planning the solution with suitable technologies
- Wireframing user interfaces

Design

- Design user interface design
- Design backend
- Design database

Implantation

- Implement user interface
- Implement backend
- Implement database

Tools, Platforms, Techniques and language used

- Android Studio IDE 4.2.1
- Java
- PHP
- cPanel
- Json
- Firebase

Time Plan

[illegible]

References

[1]"Population, total - Sri Lanka | Data", Data.worldbank.org, 2021. [Online]. Available: https://data.worldbank.org/indicator/SP.POP.TOTL?locations=LK&most_recent_year_desc=false. [Accessed: 18- May- 2021].

[2]"Sri Lanka Population (2021) - Worldometer", Worldometers.info, 2021. [Online]. Available: <https://www.worldometers.info/world-population/sri-lanka-population/#:~:text=The%20current%20population%20of%20Sri%20Lanka%20is%201%2C429%2C704,the%20list%20of%20countries%20%28and%20dependencies%29%20by%20>. [Accessed: 18- May- 2021].

[3]"IFES Election Guide | Country Profile: Sri Lanka", Electionguide.org, 2021. [Online]. Available: <https://www.electionguide.org/countries/id/201/>. [Accessed: 18- May- 2021].

[4]"Elections eServices", Eservices.elections.gov.lk, 2021. [Online]. Available: <https://eservices.elections.gov.lk/>. [Accessed: 26- May- 2021].

[5]"IFES Election Guide | Country Profile: Sri Lanka", Electionguide.org, 2021. [Online]. Available: <https://www.electionguide.org/countries/id/201/>. [Accessed: 18- May- 2021].