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SAAD1001: Final Project

PollSys United

Systems Analysis & Design

### Introduction

This document serves as an analysis on the software that’s been created as part of PROG2007 final project: a polling system aptly called *PollSys United.* This software was created for use in smaller companies where a small number of candidates and voters are required. Though it is scalable and could accommodate a larger base, for now its purpose is to stick small.

#### SWOT Analysis

Strengths

* Accuracy: All votes are counted electronically which eliminates the possibility for human error when recording and counting votes.
* Convenience: Little effort required for casting and counting votes. User simply logs in with valid credentials and casts a vote that automatically gets counted.
* Speed: The use of an electronic voting system means votes get counted and cast faster than traditional paper ballots.

Weaknesses

* Tech issues: Any and all software is prone to system crashes or data corruption and PollSys United is no different. While small in scope and nature, anything can go wrong and safe keeping of data and a crash-free program is not guaranteed.
* Limited flexibility: There isn’t a whole lot of wiggle room for improvements within the software as it was originally designed for small use cases.
* Code not optimized: Code for this software was written by a first-year programming student which casts uncertainty

Opportunities

* Customization: code can be customized to allow for different needs of different organizations.
* New features: Software could be updated to incorporate newer technology as it becomes available such as AI tech to ease of use and flexibility.
* Integration: Software can be easily integrated with its sister software, the database. Linking these two together creates a failsafe for data backup.

Threats

* Competition: Other polling system software available in the market could pose a threat to PollSys United market share.
* Tech changes: Advancements in technology could lead to a decline in demand for the polling software, causing the software to become obsolete.
* Security & Data breaches: PollSys is no different than any other software on the market that is susceptible to data breaches. This possibility could inevitably lead to loss of trust among users.

#### Project Planning

1. Define Project Scope: At this stage, the team will define all the goals and objectives of the software by identifying features and functionalities that will exist within the program.

2. Create project schedule: This stage is what will allow team members to allocate their time over the coming months and execute completion within the allotted project time frame.

3. Define a communication plan: This will be critical over the coming months as every team member will need to be in constant contact to determine the progress of the software. Each team member will also need to communicate where they are at in the process so as not to fall behind.

4. Establish quality control: Establish a benchmark for how the software should run and ensure that it meets the quality standards of the development team.

5. Obtain approvals: The team obtains approvals from stakeholders at key milestones throughout the project to ensure that the project is progressing as planned.

#### Software Development Life Cycle (SDLC)

1. Planning: This stage entails the project team defining the goals and objectives of PollSys United as well as the scope of the project.

2. Analysis: Project team will analyze the requirements, constraints and risks associated with the written software. This will help to create thorough documentation which will outline the features and functionality of the program.

3. Development: Once the project has been planned and analyzed, it’s time for the actual development. The team will build the software according to the technical and design specs.

4. Testing: Team will test the software for bugs, usability, functionality and performance to make sure that it meets the requirements for public release.

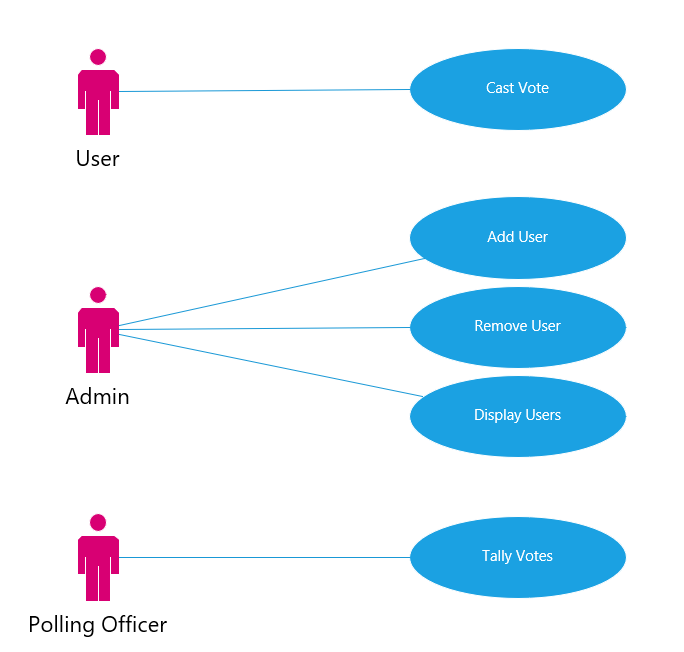
5. Deployment: Software is deployed to the public and users can begin using it.

6. Maintenance: Team will provide ongoing support and maintenance to the software, adding new features ensure it can keep up with the changing market while taking care of lingering bugs post-production.

#### Test Case Scenarios

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test Case ID | Description | Steps | Data | Expected Results | Actual Results | Pass/Fail |
| PSU1 | Test user login | Log in with credentials to user panel | UserID = s-hudson USERpass = pretzelday | Valid login | As expected | Pass |
| PSU2 | Test admin login | Log in with credentials to admin panel | AdminID = ADMIN pass = gravy9001 | Valid login | As expected | Pass |
| PSU3 | Test polling officer login | Log in with credentials to officer panel | ID = POLLSYS-T1 pass = dummypass | Valid login | As expected | Pass |
| PSU4 | Remove user from voter list | Log into admin panel, select 2 for remove user from registered voters database | Remove user ‘j-halpert’ | Remove user | User removed, another user duplicated | Fail |
| PSU5 | Add user to registered voter list | Log into admin panel, select 1 to add user to registered voters database | Add ‘mdeyarmond’ | User added | User added but another user removed | Fail |
| PSU6 | User cast vote | Log into user panel and cast vote | User creds, candidate ID | Vote cast and tallied | As expected | Pass |
| PSU7 | Officer tally votes | Log into officer panel with correct creds and counts automatically done | Officer creds | Votes to be tallied | As expected | Pass |

#### Use Case Diagram



#### UML Class Diagram

