

Show of Hands - Group 7 - Project Brief

Document Information

Project name:	Show of Hands
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Text Key: New content since last SCRUM meeting

Definition

Background:	With COVID-19 still an issue in much of the world, in-person voting systems will experience lower levels of voter participation due to health concerns. With this in mind, we thought that a web-based election system would allow a user (from individuals to corporations) to hold an online election in order to maximize remote voter participation.
Main Goal:	Our main goal for this project is to provide a platform which enables the user to participate in a vote in one of three ways; by organising, or creating the vote, by running as a candidate of the vote, or casting their vote to determine the outcome of a vore. The platform we aim to deliver should be accessible to all demographics. This accessibility involves responsive design, taking many forms of devices into account, general site accessibility such as colour scheme and screen reader support etc. This platform should also include the main feature which allows the user to create or 'organise' their own vote. By choosing between an 'election' or 'poll' they decide whether the vote will decide a winning candidate (election) or one of the custom options they add.

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Desired Outcomes:

As none of us have extensive experience in creating software as a team, we hope to improve our ability to work efficiently in a team. This includes our ability to communicate effectively and to organize ourselves in a way that allows us to complete tasks to a high standard and in line with the deadlines set by the Product Owner.

Furthermore, we plan to use new frameworks to develop many aspects of the products. We hope to gain knowledge and experience in these frameworks that we can carry forward into our placements.

We also desire to learn any best practices that are in use in industry today. This includes best practices in regards to project organisation as well as software development and software architecture/design.

Constraints and Assumptions:

This project has no flexibility in terms of time or team members, as the number of team members and deadlines are fixed. Due to the current state of affairs, we will not have the opportunity to meet in person to work on the project.

Therefore, all our communication is restricted to online calls or messages.

As of now we don't plan on restricting our compatibility to one specific browser although this may be subject to change.

We have not, as of yet, encountered or discovered any major restrictions with these systems, however, we are not intending to use any other frameworks so any restrictions inherited from these systems will affect this project and will appear here as their effects are discovered during the development process.

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Framework:

We will be working with the React framework for the development of the frontend aspect of the web application, and Firebase for the respective backend.

React allows us to create a seamless, seemingly one page, app which is interactive and dynamic. React router, React dom, and many other libraries associated with the framework also enables us to create a working prototype very easily, then convert to a fully fledged product later in the development process without requiring major architectural or structural changes

The profile system, user authentication, voting system, profile databases etc will all be managed with Firebase. Firebase provides some excellent utility to implement these features. This makes it very easy for us to integrate the frontend and backend together, interacting with Firebase from the React code.

Project Approach:

We don't plan to use or build upon an existing project so our software will be developed in-house. We plan to use the Scrum framework to develop the product and conduct a daily stand up so that we are all on the same page and can ensure we're on track to meet deadlines and goals.

Project Product Description:

A web application that serves as a platform for election organizers to hold an election. We will offer organizers a high level of customization in terms of type of voting system (ranked choice or popular vote mechanism) as well as the decision whether to have anonymous voting or not.

We will allow candidates in an election to have a profile where they can include a manifesto or credentials which would allow voters to make a more informed decision on what candidate to vote for.

We also want to offer election organizers the opportunity to choose who participates in their election, from an open or

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public election to an election where only a defined group of users can vote in.

Outline Business Case

The main goal of the project is to develop a web-based application which provides a flexible platform for users to participate in user created votes in one of three ways; organisation/creation, candidacy, voting. The platform should be able to aid in the decision making process of small groups and teams, such as the local tennis club electing a new women's team captain. The platform should also be usable by large corporations for large scale votes and elections, providing statistical analysis of the vote or election's results and automating the management of said vote, for example, opening and closing the vote on certain dates and times respectively. The biggest benefit of this platform to the user is that they will have full customisability when organising a vote, having access to many options that affect the voting process such as who can vote in the vote, what are the options, how many options can a voter select etc.

This platform has the potential to be even more successful in the current climate. Many groups and teams are now working together remotely. This means that an in person vote or decision making panel is not possible in most cases. Our platform solves this issue, giving the user the opportunity to simulate these voting procedures online while maintaining social distancing and preserving the luxury of wearing pyjama bottoms to work everyday, because nobody can see them anyway right?

Key Stakeholders

Major Stakeholder	Notes
Jason	Product owner
Diarmuid, Finbarr, Con, Jack, Luke	Software Development team members

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Project Objectives

	Target	Tolerance
Scope	<ul style="list-style-type: none">• User profile system• Profile authentication system• Web Application (UI) deployed on Firebase• Candidate Profile System• Voting System allowing users vote on user organised and customised votes• Profile / Vote search system (search bar for finding user profiles and votes)	<p>These systems listed are part of the base functionality of the web app. Because of this, unless we encounter major roadblocks during the development process, there should be as little deviation as possible and the goal is to implement all of these systems thoroughly.</p>
Quality	<ul style="list-style-type: none">• Email verification on sign up• Recaptcha on sign up to prevent bot accounts• Web App responsive design to facilitate users on mobile and other devices• Vote organisers can generate an invite link to send which invites the users contact to participate in the vote• A role can be specified on the invite to allow the user to participate as only this role• Search feature includes filter options and categorised results to make it easier to find more accurate results	<p>Each quality feature is subject to change based on progress throughout the development process. New features may be added and existing ones can be removed, altered or implemented only partially depending on needs later in the project lifecycle.</p> <p>These features are additions to the base systems listed in the project scope above.</p>
Time	7 weeks	No flexibility, we must use the full 7 weeks and no more.
Cost	N/A	N/A
Risks	<p>Using new frameworks or languages forces us to include learning time into our schedule which will hinder the quality of the project.</p> <p>Scheduling is strict and if a team member cannot complete their assigned duties, the project will suffer.</p>	<p>Factoring in time to learn new skills allows us to be realistic in our vision of the result. We can also develop features in order of priority so that</p>

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important features can be implemented and functional, increasing the flexibility of the schedule.

The members of the team are flexible and can adapt to new workloads along the way allowing development to continue in the event of an absent team member.

Benefits Learning new skills will benefit each member of the team.

The user can use the platform to reduce the workload involved in organizing or participating in remote elections and votes.

MoSCoW

Must have:

- ✓ **Sign Up / Register** - The user can register an email and password with the app
- ✓ **Login** - The user can log into an existing account using an email and password
- ✓ **Third party login** - The user can log in via a third party portal, e.g. Google or Twitter APIs, instead of registering with a new email and password
- ✓ **Verify account** - The user will get a verification email from the server allowing them to click the provided link to prove ownership of the email account
- ✓ **Organise a vote** - A registered AND verified user can create a new vote which other users can vote on
- **Vote** - The user can participate in votes created by other users
- **Candidacy** - The user can participate as a candidate for the vote
- ✓ **Profile page** - There should be a profile page in which the user can view their profile settings, such as email verification, password change, username or biography options
- ✓ **Bio** - In the profile page there should be a section allowing the user to include a bio for their account
- ✓ **Elections information** - The profile page should give the user access to information about votes they've participated in; currently running votes, votes they've previously voted in or created, votes they have been a candidate in

Should have:

- **Candidate Profile** - It should be possible for a candidate to create a profile page specific to a single vote which contains custom media that informs voters on their position etc

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- **Invites** - Within the profile page there should be a section allowing the user to view any incoming invites from other users
- **Anonymous Voting** - Allow users to vote in unrestricted votes without logging in

Could have:

- **Vote creation options** - When creating a vote the organiser should have access to toggle and mode selection options which allow them to modify the restrictions and type of vote that will be created; e.g. anonymous voting enabled/disabled, single or multiple votes per person
- **Vote ranking metric** - Ranking / featured / top rated systems for candidates/profiles/votes
- **Search filtering / result categories** - Search filters / categories

Will not have:

- **Paid Privileges** - The app won't include any opportunities for users to pay for extra privileges or features
- **VR Voting** - Voting will take place in 2D on the voting page, there won't be any other representation of the voting process

Project Team

Role	Appointee	Duties
Team Lead	Luke	Organizing the group's Daily Scrum meetings Directing team members being sensitive to the team's needs
React	Luke	Implementing each page and view of the app using the React framework as designed and sketched with Figma Implement and maintain functionality of the front end app
CSS	Finbarr	Add CSS to the React to conform with Jack's design Style each implemented page and view using CSS and javascript Responsible for icons, colours, animations and responsive design of the app

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Firebase	Diarmuid, Con	Implement and maintain: <ul style="list-style-type: none">● Integration with the Firebase system● Functionality of the profile and authentication system (log in, sign up)● The voting system by storing, caching and logging relevant user interactions with the voting system (i.e. Vote creations, candidate profiles, vote results)
UI/UX Design	Jack	<ul style="list-style-type: none">● Design the UI/UX of each page and view for the web app● Sketch designed UI/UX pages and view elements with Figma

App Structure (Architecture):

The App Structure section is intended to give an outline of all of the main pages of the app. Each page heading will detail what content should be on that page, as well as any functions, features or links to other pages that the page will include.

Key:

Here I use this notation ">" to depict a clickable button or redirect link that takes the user to the given page

>Page	> : redirect link / button Page : user is redirected to this page
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Common Page Components:

These "common page components" are components within the app that are present on every page. The content of each of these components are listed below as well as any components that appear based on certain conditions, e.g. the login and sign up page links in the header are replaced with the profile link when the user has successfully logged in.

Header:

- Not logged in:
 - >Log In
 - >Sign Up
- Logged in:
 - >Profile
 - >Voting
- Both cases:

Footer:

- Quick link menu
 - All useful pages (Use same case logic as header)
 -
- Copyright statement

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- >About Us
- >Search

Pages:

Log In:

- Sign in form
- Third party login options
- >Sign Up
- >Forgot Password

Sign Up:

- “Create Account” >Sign Up
- >Log in
- Sign up form
- On input error, give warning

Landing Page:

- Main content:
 - Site / product introduction
 - Useful links
 - Feature information etc.

Forgot Password:

- Email text input field
- Send request button >RequestSent
- >Log in

RequestSent:

- Back to log in button
- Email sent notification
- Resend Link
- Email Sent AGAIN notification

Change Password:

- New password input form
- New password guidelines
- Change Password button

Search:

- Search Bar
- Unique vote / profile code system
- Results of search text votes/profiles
- Organise a vote button >Organiser panel
- Extra features:
 - Featured / top rated votes/profiles
 - Rating system for votes
 - Categories
 - Filters
 - Restriction/Public/Private

Profile

- Profile Avatar
- Info:
 - Occupation
 - Location
 - Name
- Socials links
- Tabs:
 - Bio
 - Elections/Votes/Polls
 - On going
 - Closed/Finished
 - History
 - Show role
- Profile Settings

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- Verification

About Us:

- Team lineup
- Text headings
- Socials Links
- How to get in touch

FAQ:

- To be decided

User functions / interactions:

This section details the features available to the user on the app. Each feature is listed in its intended completed state and may not be fully implemented in the current version of the product.

To organise/edit a vote:

- Vote information input form
- Options / Filters / Settings (time limit, max voters/votes)
- Generate invite link
- Invite button to invite other profiles (allow specific roles)

Candidate Profile Set up:

- Media upload
- Text input fields (motto, methods/reasoning)
 - Could have full editor
 - Short feature bio

Voting Page Views (Based on user state / role):

Voter - Before vote:

- Options
- Vote button

Voter - view Candidate profile:

- View text / images as set up by the candidate

Viewing a vote as the organiser:

- Edit button
- Close vote button
- Kick candidate / voter
- Revoke vote

Viewing a vote as a Candidate:

- Highlight their votes/show different stats

Voter - After vote:

- View stats / candidates / no edit or interaction buttons

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Functions / Features available to user types:

Anonymous User:

- Register
 - Email verification
- Log in
 - Forgot Info
- View Unrestricted / Public votes / profiles
- No access to vote organisation

Logged In (Unverified):

- Same restrictions as anonymous user
- Access profile tab
 - Verify - Have option to resend verification email

Logged In (Verified):

- Full access to vote organisation / voting / candidacy
- Access to profile tab

Use Cases:

This section will show the exact flow path a user takes to use each function of the app. Sometimes the user must have a specific state before being able to use a feature, for example, to vote in a restricted vote, a user must be logged in and have a verified email address. Required states are notated by surrounding the state in brackets and appear beside the functions title, e.g. (LoggedIn, Verified)

Key:

Pages:

LP: landing page, **SU:** Sign up page, **LI:** Log in, **PP:** profile page, **VP:** Voting page, **SP:** Search page

User States:

Registered: User must have an account, **LoggedIn:** User must be signed in to their account,

Verified: User must have verified their email address

SignUp:

LP > SU

SignIn: (Registered)

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LP > LI

Find a Vote:

LP > VP

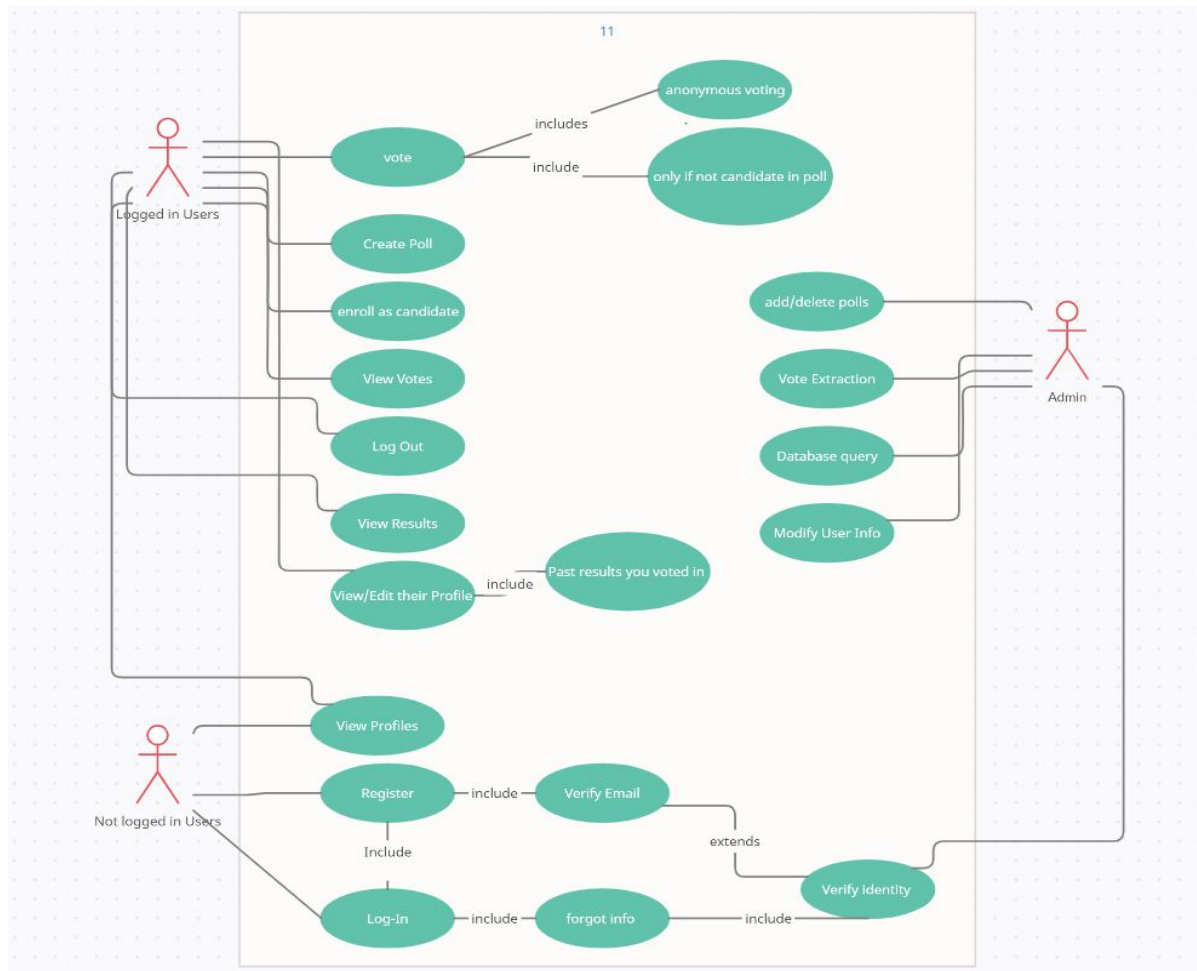
- Unverified users can only find unrestricted votes/profiles, verified users can see all types

Create a Vote: (Verified)

LP > VP > "Create a Vote"

View User's Elections (Current/past etc.)

LP > SU > Verify > LI > PP > elections tab (elections lists)



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Weekly Progress

Week 2:

- We pushed our first basic structure of the initial layout as well as working on the CSS for it.
- We have designed the pages we have decided on, for our web app, and have started to implement the design in react with the appropriate CSS.
- Progress has been made with the interaction between the web app and the Firebase storage. We can now create collections of each type of user using our Web app.
- We decided on the majority of the Views, which the Project will incorporate. Of course, more can be added or removed if need be.
- Finalized the Scrum Rota for the coming weeks.
- Created a Use Case Diagram to help us picture the overall functioning of the App.

Week 3:

- Currently all main pages have been designed and subsequently created and styled in React with CSS.
- Responsive CSS implemented for all pages
- User login through various providers, anonymous session functionality, user registration and email verification for newly registered users implemented.
- Password reset functionality implemented.
- Added reCaptcha to login.
- Merge of front-end pages with back end functionality.
- Successful merge to main git branch and first beta version
- Updated README for Firebase deployment.

Week 4:

- Achieved a detailed description of the app in terms of pages, components, features and users
- Beginning of cleaning up the git branches, deleted firebaseWork and initialLayout branches, intending to start more descriptive, specific and organised branches, using long term and short term branches
- Added beginning of a MOSCOW section, this will be updated throughout the development process as new features are suggested and implemented.

Week 5:

- Brief Version 1: Updated the brief with more specific MoSCoW features, the App Structure section, which gives us a better understanding of the app's control flow, a Gantt chart for the coming week

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- Accelerate progress towards implementing all base systems with beta release as a priority goal within the next week

Week 6:

- This week was a hectic one. While getting ready for the BETA release of the product, organisation and teamwork slipped a little in the wake of assignments and other responsibilities from the other module
- Despite this we pull through and finished implementing the large majority of the profile system and have begun work on the voting system
- The profile system now works as follows. Sign up, login and forgotten password works in standard cases but has not been properly bug tested as of yet.
- Email verification is an upcoming feature and should be finished this week
- Users can now organise a vote and add custom options, however, candidate elections are not yet implemented and users are limited to creating options with custom captions

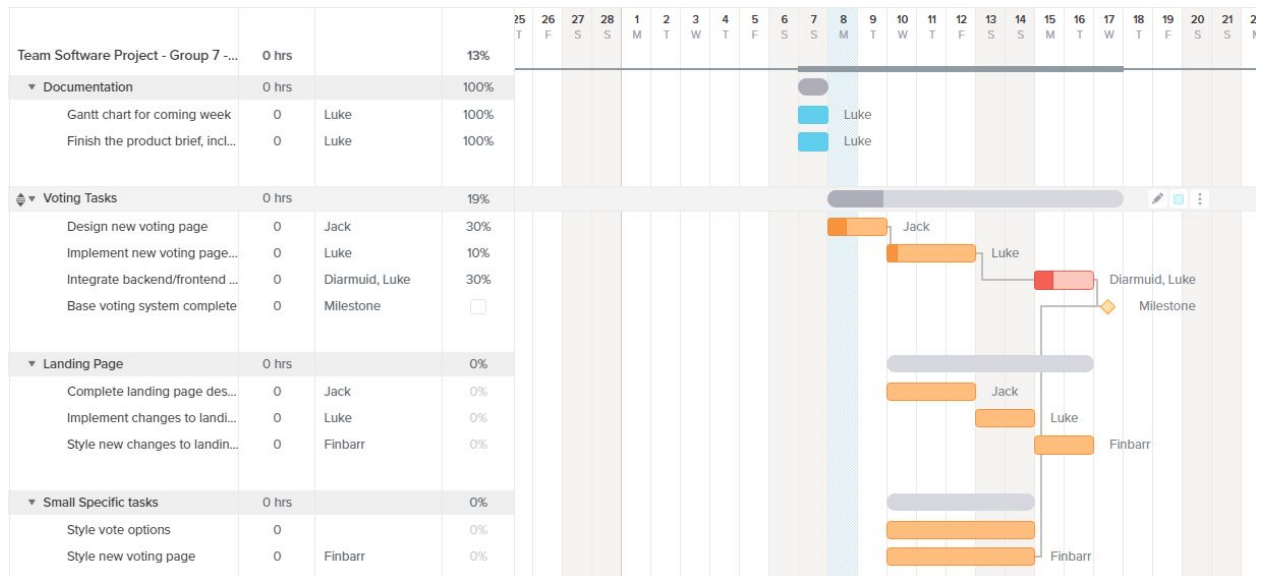
Week 7:

- This week will be used to finish the base voting system and to polish some aspects of the profile system
- A new landing page is also on the agenda. The landing page will most likely be redesigned by adding a hero section and useful links and information to enable the user to navigate using the buttons and instructions on the landing page instead of through the header navigation area
- Below is a gantt chart of the tasks outlined for the coming week:

Key:

- Orange tasks are considered 'front end' tasks
- Blue tasks are documentation tasks
- The red tasks are a mixture of back end and front end, typically consisting of integration between the two

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