



UNIVERSITY  
OF LONDON

# Ideaz Pro: A collaboration web application

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## Links

<https://github.com/t-eszter/ideazPRO>

<https://ideaz-pro-025620ea91b7.herokuapp.com>

<http://www.ideaz.pro>

# 1. Introduction

522 words

## 1.1 Project Concept

The evolution of traditional idea boxes, which have been utilised by companies for several decades to gather feedback and suggestions from their workforce, has led to the inception of the 'Digital Ideabox'. This concept represents a modernization of the conventional methods, leveraging digital platforms for enhanced efficiency and accessibility. My extensive research in this domain revealed the existence of several digital counterparts to the traditional idea box. However, a significant proportion of these digital solutions appeared archaic and were observed to be deficient in various critical features.

I recognized a niche in the market for a contemporary, user-centric digital suggestion system that could also incorporate advanced AI technology.

## 1.2 Motivation for the Project

### 1.2.1 Personal Motivation

The initiation of this project was driven by my personal ambition to turn a conceptual idea into a tangible outcome. This was motivated by an innate desire to delve into the world of digital idea-sharing platforms and make a meaningful contribution to this evolving field. Furthermore, the project served as an opportunity to acquire essential skills in developing real-world applications, with the aim of not only conceptualising ideas but also bringing them to life, thus bridging the gap between theory and practice.

### 1.2.2 Professional Motivation

Professionally, the project was driven by a dual objective. Firstly, it was an opportunity to deepen my expertise in Django and web development. Django, being a high-level Python web framework, promotes rapid development and pragmatic design – a perfect fit for this project. Additionally, this project served as a platform to integrate and apply the diverse skills I acquired through the modules taught in this program, encompassing advanced web development with Django, natural language processing, databases, front-end development and agile project management. This holistic approach enabled me to create a more robust and comprehensive web application, leveraging the full spectrum of my learned capabilities.

### 1.3 Project Framework and Template

'CM3035 Advanced Web Development' template: Project Idea Title 2: A Collaboration Web Application

The 'Digital Ideabox' concept fits into the 'Collaboration Web Application' topic. This application aims to facilitate a seamless interactive experience for users, enabling them to not only submit ideas but also to evaluate these ideas in a digital workspace. The application would cater to the needs of modern workplaces, where collaboration and collective brainstorming are pivotal for innovation and problem-solving. The envisioned collaboration web application would incorporate features that allow real-time ideation and instant rating mechanisms. This platform would not only serve as a repository for ideas but also as a breeding ground for innovation, where ideas can be nurtured, expanded, and brought closer to implementation.

In conclusion, the project concept of a 'Digital Ideabox', the development of a collaboration web application, presents a unique opportunity to revolutionise the way companies engage with their employees in the ideation process. The personal and professional motivations behind these projects align with the broader goal of leveraging technology to enhance organisational efficiency and creativity. By adopting advanced web development practices and frameworks, the project aims to deliver a robust, user-friendly and innovative digital solution that can transform the landscape of corporate idea management.

## 2. Literature review

1774 words

### 2.1 Key determinants of success for recommendation systems

A literature review by Lasrado et al. (2016) [1] has been instrumental in shaping the functional and non-functional requirements of this platform.

This particular study provided a comprehensive synthesis of the primary findings from 107 journal articles, all related to suggestion schemes. The study identifies and outlines the crucial factors that contribute to the success of these schemes:

### **Technical Requirements:**

**Ease of Use and Accessibility:** The system must be user-friendly and easily accessible to all employees. This encourages participation and ensures a wide range of ideas.

**Mobile Accessibility:** Providing mobile access to the system can significantly increase participation, as it allows employees to submit suggestions anytime and anywhere.

**Reliable and Scalable Technology:** The system should be built on robust and scalable technology to handle a potentially large number of suggestions and users without performance issues.

**Security and Data Privacy:** Ensuring the security of the system and the privacy of submitted ideas is crucial, especially in organisations where sensitive or proprietary information might be shared.

**Integration with Other Systems:** The ability to integrate the suggestion system with other organisational systems (like HR or project management tools) for a seamless experience and better data analysis.

**Real-time Analytics and Reporting Tools:** Offering real-time analytics and reporting capabilities can help in tracking the progress of suggestions and measuring the impact of the system.

**Regular Updates and Maintenance:** Continuous updates and maintenance of the system ensure that it remains efficient, secure, and aligned with evolving organisational needs.

### **Organisational Requirements:**

**Effective Communication and Feedback:** Establish clear communication channels for submitting suggestions and providing feedback. This keeps participants informed and engaged.

**Transparency and Trust:** Ensure the process is transparent and builds trust. This includes how suggestions are evaluated and implemented.

**Recognition and Incentives:** Implement a system of recognition and incentives to motivate employees to contribute valuable suggestions.

**Management Support and Resources:** Secure strong support from management and allocate adequate resources for the implementation and maintenance of the system. This demonstrates the organisation's commitment to the scheme.

In their literature review, Plessis, A.D. et al. [2] cites Sweetman [3] to highlight the significance of leveraging software for effective management of organisational suggestion systems. It underscores that a proficiently designed software platform is key in simplifying the submission, monitoring, and assessment of ideas within organizations. This observation further substantiates my hypothesis regarding the existence of a market demand for the product.

Additionally, the paper underscores the significance of providing feedback and recognition to employees who contribute ideas. This vital aspect enhances staff motivation to engage actively in the suggestion system, fostering an environment characterised by innovation, collaboration, and openness. It motivated my decision to add a feedback mechanism to the platform, allowing administrators to publicly comment on finalised ideas. This approach ensures both feedback and transparency throughout the process.

The research suggests that delayed feedback and recognition tend to reduce the number of suggestions made. In contrast, immediate responses have a more positive impact. The study by Nel in 2008 [4] points out two significant issues in suggestion systems: the extensive time required to evaluate suggestions and delays in acknowledging contributions, often worsened by poor communication methods.

This inspired the implementation of a feature in the app where ideas reaching a specific threshold of upvotes are given an expiration date and a deadline for the administrator to provide an update.

Yang, Z. et al's study [5] reveals that idea quality is influenced by the kind of feedback received. Experienced contributors benefit more from positive feedback from peers, while negative feedback becomes less effective as experience grows. For newer contributors, both positive and negative feedback are impactful. The key takeaway is that feedback should be customised based on the contributor's experience level to enhance idea quality in crowdsourcing settings.

Customising idea feedback based on the contributor's experience level can be achieved by:

**For New Contributors:** Providing more structured, directive feedback from the organisation to guide them. This can include both positive reinforcement for good ideas and constructive criticism to help them improve.

**For Experienced Contributors:** Focusing on peer feedback, especially positive reinforcement, as they are more likely to be motivated by recognition from their peers. Negative feedback should be minimised as it tends to be less effective for them. A popularity or reputation indicator can provide additional motivation.

**Adapting Feedback Style:** Using a more collaborative and suggestive approach for experienced contributors, while being more instructional and specific with new contributors.

**Monitoring Progress:** Regularly assessing the contributor's growth and adjusting the feedback style accordingly as they gain more experience.

These insights have led to a greater focus on the app's gamification features. By incorporating elements such as a popularity or reputation indicator, we can further motivate users. This approach ensures that feedback is tailored to each user's development stage and personality type, significantly improving the quality of ideas generated within the app.

## 2.2 Combining AI and human creativity: Does AI help enhance human idea generation?

Key findings from a Bell, J. et al study [6] from 2023 highlight the effectiveness of a straightforward AI model in screening ideas, comparable to the proficiency of human experts. An "Idea Screening Efficiency Curve" developed in the study helps balance the trade-off between screening out bad

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ideas and retaining good ones. Additionally, the introduction of "word atypicality" as a predictor in AI models proves effective in screening out less typical ideas while retaining inclusive and rich ones.

Kim, J & Maher, M. L's paper [7] from 2023 examines the influence of AI-generated inspirations on human creative design processes. It highlights an experiment where participants engaged in design tasks under two conditions: one with random inspirations and another with AI-generated inspirations conceptually similar to the design task. Key findings include:

1. The AI model significantly impacted the novelty, variety, and quantity of ideas generated.
2. AI-based conceptually similar inspirations led to more novel and diverse ideas compared to random inspirations.

The findings indicate that AI is a valuable tool for enhancing creativity in design tasks, offering specific and relevant inspiration. This highlights the potential for integrating AI into creative applications like the Ideaz App, warranting further exploration into how this technology can be effectively utilised.

## 2.3 Competitor Analysis

In addition to reviewing academic literature, I conducted a competitive analysis by examining 13 online applications with similar functionalities. My focus was on identifying which of the 15 specified features were incorporated across these 13 platforms.

**Table 1:** Analysed applications

Name	Link
<a href="https://www.faceup.com/en/whistleblowing/online-suggestion-box">FaceUp</a>	<a href="https://www.faceup.com/en/whistleblowing/online-suggestion-box">https://www.faceup.com/en/whistleblowing/online-suggestion-box</a>
<a href="https://freesuggestionbox.com/">Free Suggestion Box</a>	<a href="https://freesuggestionbox.com/">https://freesuggestionbox.com/</a>
<a href="https://eu.jotform.com/suggestion-box/">Jotform</a>	<a href="https://eu.jotform.com/suggestion-box/">https://eu.jotform.com/suggestion-box/</a>
<a href="https://www.braineet.com/software/crowdsourcing">Braineet</a>	<a href="https://www.braineet.com/software/crowdsourcing">https://www.braineet.com/software/crowdsourcing</a>
<a href="https://www.brightidea.com/product/ideabox/">Brightidea</a>	<a href="https://www.brightidea.com/product/ideabox/">https://www.brightidea.com/product/ideabox/</a>
<a href="https://get.agorize.com/en/agorize-idea-box-management-software/">Agorize</a>	<a href="https://get.agorize.com/en/agorize-idea-box-management-software/">https://get.agorize.com/en/agorize-idea-box-management-software/</a>
<a href="https://github.com/cfpb/idea-box">IdeaBox</a>	<a href="https://github.com/cfpb/idea-box">https://github.com/cfpb/idea-box</a>
<a href="https://www.steegle.com/intranets/faq/benefits-of-a-suggestion-box-in-the-workplace">Steegle.One</a>	<a href="https://www.steegle.com/intranets/faq/benefits-of-a-suggestion-box-in-the-workplace">https://www.steegle.com/intranets/faq/benefits-of-a-suggestion-box-in-the-workplace</a>
<a href="https://www.directsuggest.com/index.php">DirectSuggest</a>	<a href="https://www.directsuggest.com/index.php">https://www.directsuggest.com/index.php</a>
<a href="https://app.wrenly.ai/get-started">Wrenly</a>	<a href="https://app.wrenly.ai/get-started">https://app.wrenly.ai/get-started</a>
<a href="https://www.getvetter.com">Vetter</a>	<a href="https://www.getvetter.com">https://www.getvetter.com</a>

<a href="https://www.kainexus.com">KaiNexus</a>	<a href="https://www.kainexus.com">https://www.kainexus.com</a>
<a href="https://web.ideaglow.com/how-it-works/#/">IdeaGlow</a>	<a href="https://web.ideaglow.com/how-it-works/#/">https://web.ideaglow.com/how-it-works/#/</a>

The following table shows the adaptation of these 14 features amongst the 13 apps:

	FaceUp	Free Suggestion Box	Jotform	braineet	Brightidea	agorize	IdeaBox	Steegle. One	DirectSuggest	Wrenly	Vetter	KaiNexus	IdeaGlow
Transparency/Public Suggestions	x	✓	x	✓	✓	✓	✓	x	✓	✓	✓	✓	✓
Anonymous posting	✓	x	✓	?	x	x	?	✓	✓	✓	✓	?	?
Idea rating	x	x	x	✓	✓	✓	✓	x	✓	✓	✓	✓	✓
Idea commenting	x	x	x	✓	✓	✓	✓	x	✓	✓	✓	?	✓
Idea themes/folder	✓	x	✓	✓	✓	✓	✓	x	✓	✓	✓	?	✓
Idea follow-up/status	✓	x	x	✓	✓	✓	x	x	✓	✓	✓	?	✓
Suggestion delegation	✓	x	x	✓	x	✓	x	x	✓	x	?	✓	x
Analytics	✓	x	x	✓	x	✓	x	x	✓	x	✓	✓	?
Mobile version	✓	x	✓	✓	x	✓	x	✓	✓	✓	✓	✓	?
Profanity detection	x	x	x	x	x	x	x	x	x	x	✓	x	x
Sentiment analysis	x	x	x	x	x	x	x	x	x	x	x	x	x
Similarity analysis	x	x	x	x	x	x	x	x	x	x	x	x	x
Automatic categorization, tagging	x	x	x	x	x	x	x	x	x	x	✓	x	x
Gamification Point System or Badges	x	x	x	x	✓	x	x	x	x	x	✓	✓	✓

Fig. 1. Competitor analysis

### 2.3.1 Key findings

#### 1. Transparency/Public Suggestions:

Most apps support this, with only FaceUp, Jotform, Steegle.One, and DirectSuggest lacking this feature.

#### 2. Anonymous Posting:

Common among apps, but unavailable in Free Suggestion Box, 'braineet', Brightidea, and agorize. Some apps have unclear policies.

#### 3. Idea Rating and Commenting:

Mostly available, especially in 'braineet', Brightidea, agorize, IdeaBox, and others.

#### 4. Idea Themes/Folders and Follow-up/Status:

Widely supported.

#### 5. Suggestion Delegation and Analytics:

More limited availability.

## 6. Mobile Version:

Commonly available, absent in a few.

## 7. Profanity Detection, Sentiment Analysis, Similarity Analysis, and Automatic Categorization:

Rarely or not offered.

## 8. Gamification:

Available in some apps like Brightidea, Vetter, KaiNexus, and IdeaGlow.

**Table 2:** Adoption rate

Feature	# of apps have	Adoption Rate
Transparency/Public Suggestions	10/13	High
Idea themes/groups	10/12 (13)	High
Anonymous posting	6/9 (13)	Medium
Idea rating	9/13	Medium
Idea commenting	8/12 (13)	Medium
Idea follow-up/status	8/12 (13)	Medium
Suggestion delegation (Assign action item to admin user)	5/12 (13)	Medium
Analytics	6/12 (13)	Medium
Mobile version	9/12 (13)	Medium
Profanity detection	1/13	Low
Sentiment analysis	0/13	Low
Similarity analysis	0/13	Low
Automatic categorization, tagging	1/13	Low
Gamification: Point System, Badges, Rewards	4/13	Low

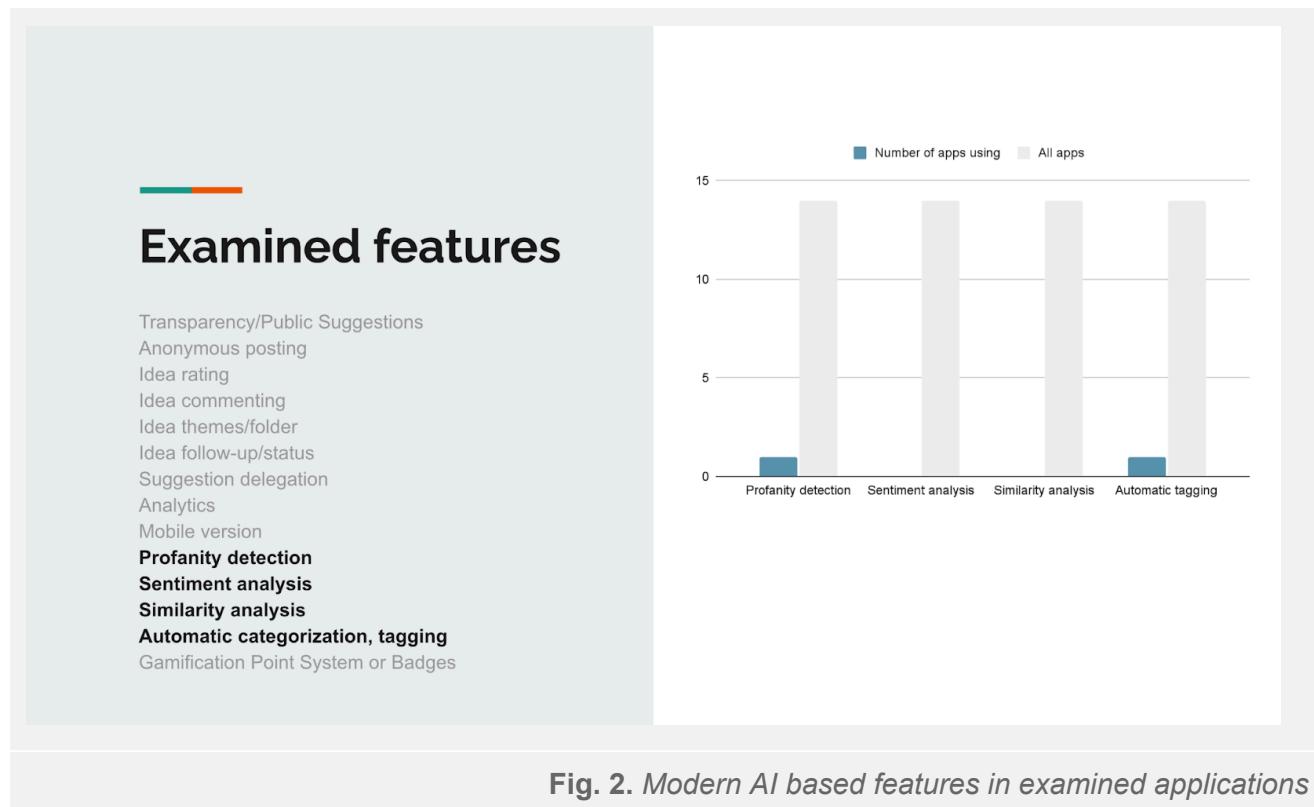
### Adoption Rate rate:

Low: 0-4

Medium: 5-8

High: 9-13

Only 2 out of the 14 examined apps utilised any ML capabilities, such as profanity detection, sentiment analysis, similarity analysis or automatic categorization and tagging.



**Fig. 2. Modern AI based features in examined applications**

The comprehensive analysis of 13 online suggestion system applications reveals several critical insights and potential areas for differentiation in the market.

### 2.3.1.1 Market Trends

The analysis shows a strong market inclination towards features like public transparency in suggestions, idea rating and commenting, and organisational tools like themes/folders and status updates. These features are widely adopted, indicating their importance for user engagement and overall user experience.

### 2.3.1.2 Room for Improvement and Innovation

Several areas lack widespread adoption, such as suggestion delegation, advanced analytics, and most notably, modern AI-based features like profanity detection, sentiment analysis, similarity analysis, and automatic categorization. The limited use of these sophisticated AI functionalities suggests a significant opportunity for innovation in this sector.

### 2.3.1.3 Market Gap in AI and ML Utilisation

The fact that only 2 out of the 13 applications leverage machine learning capabilities highlights a significant gap in the market. Incorporating these AI features could lead to more efficient, intelligent, and user-friendly platforms, setting a new standard in the suggestion system application space.

#### 2.3.1.4 Opportunity for a Niche Player

There's a clear opportunity for a new entrant or an existing player to differentiate by focusing on these underutilised AI and ML features. By offering advanced analytics, sentiment analysis, and other AI-driven functionalities, a platform could offer a more nuanced and valuable user experience, appealing to clients seeking cutting-edge technological solutions.

#### 2.3.1.5 Balancing Anonymity with Engagement

The varied implementation of anonymous posting suggests a divided approach to user privacy and engagement. A potential niche could be to find a balance that respects user anonymity while fostering community engagement, perhaps through innovative use of AI.

### 2.3.2 Conclusion of Competitor Analysis

In conclusion, while the market for online suggestion systems is competitive with many common features, there remains considerable room for differentiation, particularly in the realm of AI and ML capabilities. Focusing on these areas could provide a competitive edge and meet the evolving needs of users seeking more advanced, intelligent, and user-centric platforms.

## 3. Project Design

2036 words

### 3.1 User research

#### 3.1.1 Target Domain and Users of the Project

The project primarily targets corporate entities and organisations seeking to streamline feedback and idea collection from their employees. It is designed for small and medium sized businesses, where employee input is valued for innovation and continuous improvement.

Additionally, the platform can also be advantageous for smaller collectives, such as school classes or club members, when they are looking to gather ideas.

The domain falls under corporate innovation and employee engagement. More specifically, it is in the realm of digital workplace solutions, focusing on feedback management, idea generation, and employee participation.

#### 3.1.2 Potential User Pain Points

**Inefficient Feedback Mechanisms:** Many organisations still rely on outdated or inefficient methods for collecting employee feedback, leading to low participation rates and missed opportunities for innovation.

**Lack of Employee Engagement:** Businesses, especially SMEs, often struggle with engaging their workforce in meaningful ways. There is a need for tools that make employees feel heard and valued.

**Difficulty in Idea Management:** Organisations find it challenging to effectively manage, track, and implement ideas collected from employees or members, leading to frustration and a decrease in innovative suggestions.

**Fragmented Communication Tools:** Schools, clubs, and non-profits often use multiple, disconnected tools for communication, making it difficult to centralise and act upon feedback.

### 3.1.3 Defined User Classes and Characteristics:

**Admin:** Manages topics, user accounts, and overall system configuration.

**Registered User:** Submits ideas, views and interacts with others' ideas.

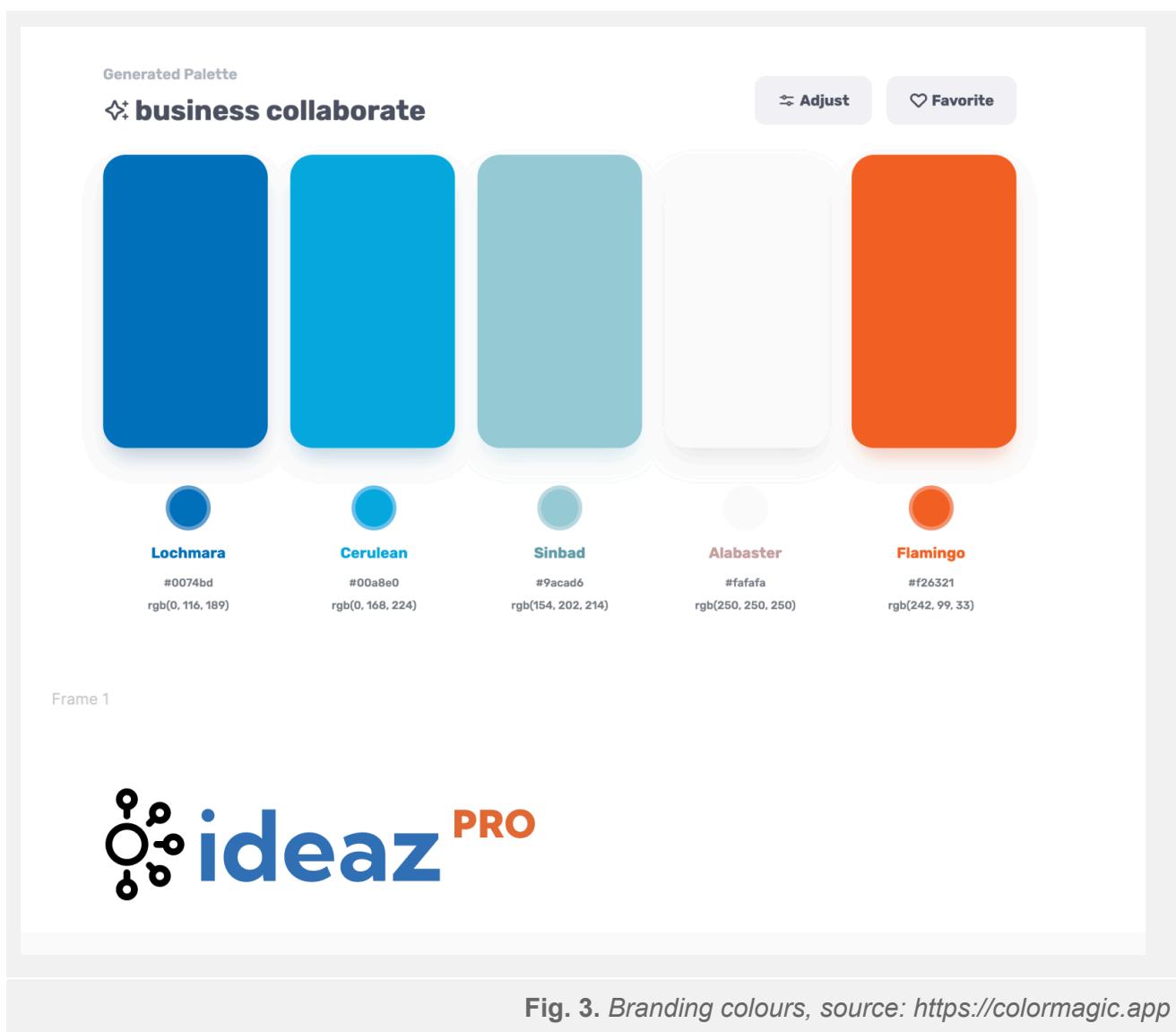
**Guest User:** Can create an idea board and share it through a generated link.

## 3.2 Justification of Design Choices

### 3.2.1 Branding and colour choices

The colour palette is thoughtfully chosen to balance professionalism with approachability. The various blues project a trustworthy, professional image, essential for a business tool. The orange is intended not just to stand out, but to evoke warmth and foster collaboration, making the platform more inviting and stimulating participation.

Together, these colours create a harmonious blend of reliability and friendliness, encouraging users to engage with the platform actively.



**Fig. 3.** Branding colours, source: <https://colormagic.app>

The logo uses a simple, modern typeface with a graphic element that suggests connectivity and networking, aligning with the product's purpose of fostering collaborative idea generation.

### 3.2.2 User Interface

The design emulates a traditional office pin board, offering a straightforward and intuitive user experience. This familiar format facilitates effortless sharing of ideas within a corporate setting, including the option for anonymous submissions.

The design choices focus on simplicity and user engagement. The layout is clean and intuitive, with a clear separation between different categories which correspond to different areas of focus for idea submission. Ideas are presented as cards with an option to upvote, a community-driven approach to rate suggestions. The call-to-action button for posting new ideas is encouraging user participation. The interface is designed to encourage active involvement from all team members by making the submission and review of ideas a straightforward and collaborative process.

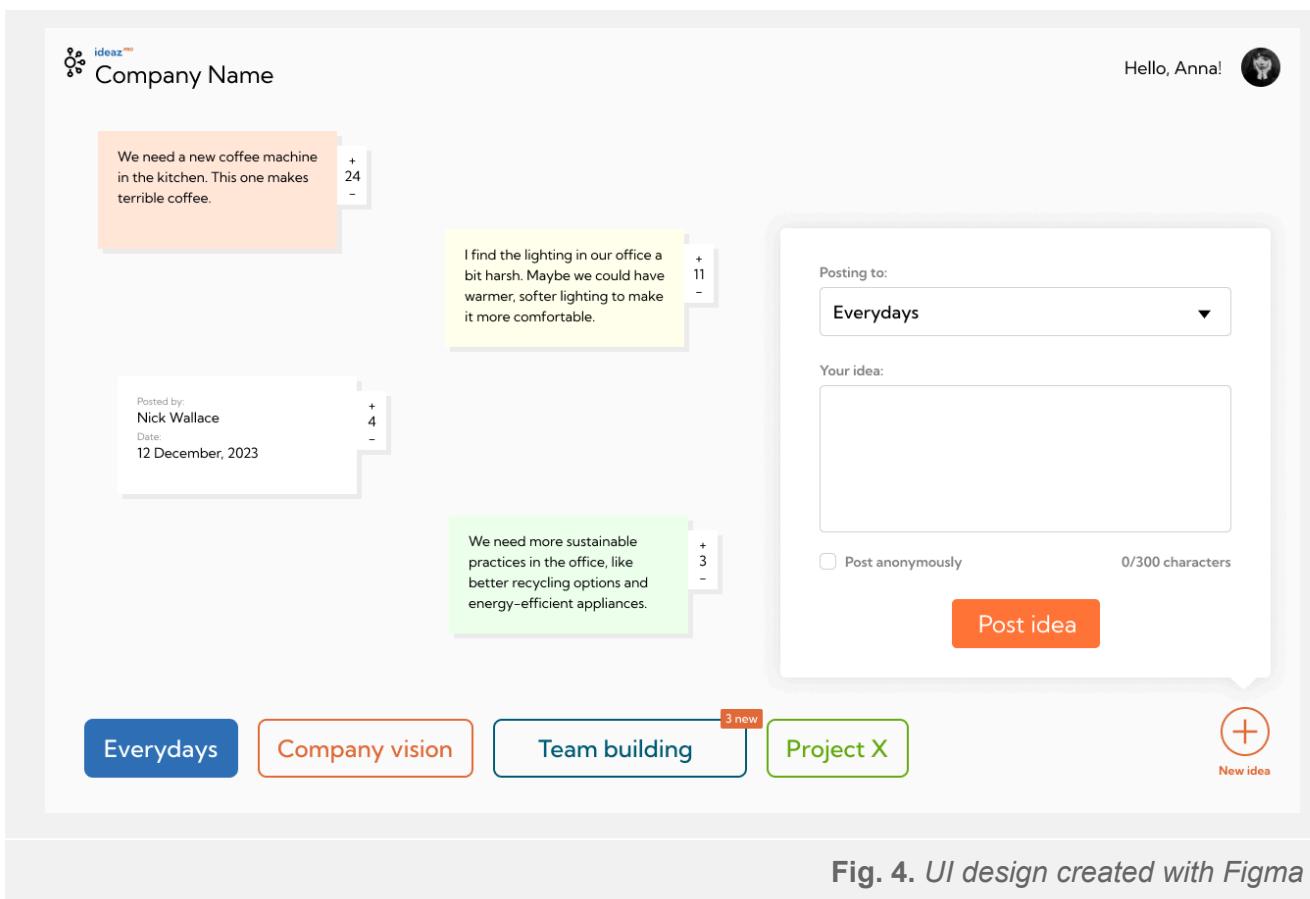


Fig. 4. UI design created with Figma

See '[Appendix \[2\]](#)' for the UI screen designs.

**Secure and Anonymous Submission Options:** To encourage honest and open feedback, the platform will ensure data security and provide options for anonymous submissions.

The anonymous posting feature caters to diverse personality types within the organisation. It enables individuals who prefer not to be in the spotlight to contribute ideas without drawing attention to themselves. This design decision is supported by findings from a literature review, which suggests that initial negative feedback can deter newcomers from participating. Therefore, allowing anonymous contributions can encourage a wider range of ideas by mitigating the fear of early criticism.

The ideabox design incorporates a two-sided card feature. The primary side showcases only the idea itself, coupled with options for voting, to maintain focus on the content rather than the contributor. By flipping the card, users can view the author's details, provided they haven't opted for anonymity. This design strategy aims to ensure that the ideabox does not devolve into a popularity contest, with votes cast based on personal regard rather than the merit of the ideas presented. The intent is to establish a platform where even the more introverted individuals have an equal opportunity to have their voices heard without bias.

**Customizable Feedback Categories:** To cater to different organisational needs, the platform will allow customization in terms of feedback categories.

**Mobile design:** Providing mobile access to the system can significantly increase participation, as it allows employees to read and submit suggestions from their phone.

### 3.3 Overall Structure of the Project

#### 3.1 Architecture

The project's architecture is a hybrid of client-server and microservices paradigms.

In this configuration, React acts as the client interface, while Django serves as the backend server.

The deployment on Heroku, coupled with the use of PostgreSQL, introduces elements of a microservices architecture.

This approach enhances the system's ability to independently scale and manage diverse services, such as database and application hosting.

Keeping modularity and scalability in mind, the design is realised by separately developing frontend and backend components, which are further enhanced by strategies involving cloud-based deployment and database management.

### 3.4 Important Technologies and Methods

#### 3.4.1 Backend: Django (High-level Python Web Framework)

**Django:** In selecting Django for my project, my decision was influenced by the valuable experience and appreciation I gained for it during the Advanced Web Development module. My personal projects further solidified this choice. Additionally, Django's foundation in Python aligns perfectly with my future aspirations in the field of Artificial Intelligence and Machine Learning. This synergy is particularly advantageous as I intend to integrate natural language processing capabilities into my application at a later stage.

#### 3.4.2 Frontend: React, Tailwind, Daisy UI

**React:** The selection of React as the front-end framework for my project was driven by its widespread popularity and prevalence in contemporary web development. Recognizing the value of aligning my skills with current industry standards, I aimed to deepen my expertise with React to enhance my preparedness for the professional job market.

**Tailwind:** The decision to utilise Tailwind for front-end development stemmed from my prior experience with Bootstrap and an understanding of how such frameworks can streamline the development process. Recognizing Bootstrap's diminishing relevance in the modern tech landscape, I opted for Tailwind, which has gained significant popularity. This choice reflects my commitment to staying abreast of current trends and practices in front-end development.

**Daisy UI:** This plugin adds additional components and themes to Tailwind, providing a more enriched and aesthetically pleasing interface with minimal effort.

### 3.4.3 Deployment: Heroku

**Heroku** is selected for its simplicity in deployment and management. It's a platform as a service (PaaS) that enables developers to build, run, and operate applications entirely in the cloud. This choice ensures the application is easily scalable, maintainable, and accessible without worrying about infrastructure.

### 3.4.4 Database: PostgreSQL for Heroku

**PostgreSQL**: a powerful open-source object-relational database system, offers reliability, robustness, and performance. Using it in conjunction with Heroku ensures seamless integration, data integrity, and efficient data management.

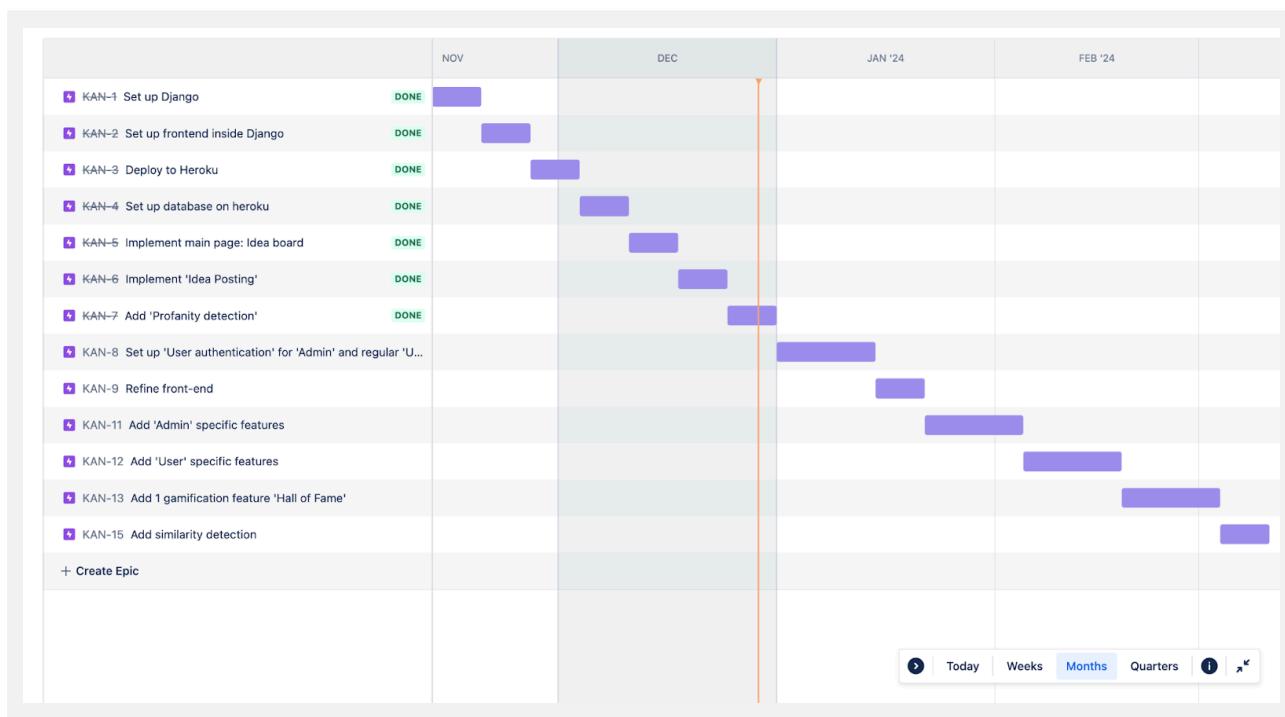
### 3.4.5 Version Control: GitHub

**GitHub**: platform for version control. Enables automatic deployment to Heroku.

This combination of technologies provides a robust, scalable, and efficient framework for building a modern web application. Django's backend stability, React's dynamic frontend capabilities, and the seamless deployment and database management with Heroku and PostgreSQL, all managed under version control of GitHub, make for a powerful and cohesive development environment.

## 3.5 Plan of Work

### 3.5.1 Development plan



**Fig. 5.** Gantt chart created with Jira

### 3.5.2 Epics

**Table 3:** Epics

#	Title
1	Set up Django
2	Set up React frontend inside Django
3	Set up automatic deployment from Github through Heroku
4	Set up database on Heroku
5	Implement main page: Idea board
6	Implement 'Idea posting'
7	Add 'Profanity detection'
8	Set up 'User authentication' for 'Admin' and regular 'User'
9	Refine front-end
10	Add 'Admin' specific features
11	Add 'User' specific features
12	Add 1 gamification feature 'Hall of Fame'
13	Add automatic tagging

### 3.5.3 Functional requirements

#### 1.1 User Registration and Authentication

- FR 1.1.1: Users can register for an account.
- FR 1.1.2: Users can log in using their credentials.
- FR 1.1.3: Password reset functionality.

#### 1.2 Guest Users activity

- FR 1.2.1: Guest users can create 1 Idea Group
- FR 1.2.2: Guest users can generate a link to share their Idea Group

FR 1.2.3: Guest users can add ideas through the link

FR 1.2.3: Guest users can register a new account and join an organisation

## 2.1 Idea Submission

FR 2.1.1: Users can submit ideas.

FR 2.1.2: Users can view ideas in idea groups.

FR 2.1.3: Users have 1 up or downvote on other's ideas.

FR 2.1.4: Users can read and write comments on ideas.

FR 2.1.5: Users can see a list of top contributors of their organization

## 3.1 Topic Management

FR 3.1.1: Admin can manage (add, edit) Idea Groups.

FR 3.1.2: Admin can change the status of ideas: active, closed, archived.

FR 3.1.3: Admin can close and comment on ideas.

FR 3.1.3: Admin can change roles of other organisation members.

## 3.5.4 Non-functional requirements

### 4.1 Performance

NFR 4.1: The system should handle a minimum of 100 concurrent users.

NFR 4.2: Response time for actions should be within 2 seconds.

### 4.2 Security

NFR 4.2.1: User data must be encrypted during transmission.

NFR 4.2.2: Passwords must be securely hashed and stored.

### 4.3 Usability

NFR 4.3.1: The user interface should be intuitive and user-friendly.

NFR 4.3.3: Accessibility features should be implemented.

### 4.4 Compatibility

NFR 4.4.1: The application should be compatible with major web browsers (Chrome, Firefox, Safari).

NFR 4.4.2: The application should be responsive on different devices.

### 4.5 Reliability

NFR 4.5.1: The system should have a 99% uptime.

NFR 4.5.2: Regular backups of the database should be performed.

## 3.6 Testing and Evaluation Plan

### 3.6.1 Functional testing

Functional testing is a critical step to ensure that an application operates according to its specifications. A comprehensive series of functional tests will be executed, targeting each feature of the application to verify its correct behaviour.

This process is essential for confirming that every function of the application performs as intended under various conditions.

This phase focuses on the technical aspects of the application, contrasting with user testing, which focuses on the user experience.

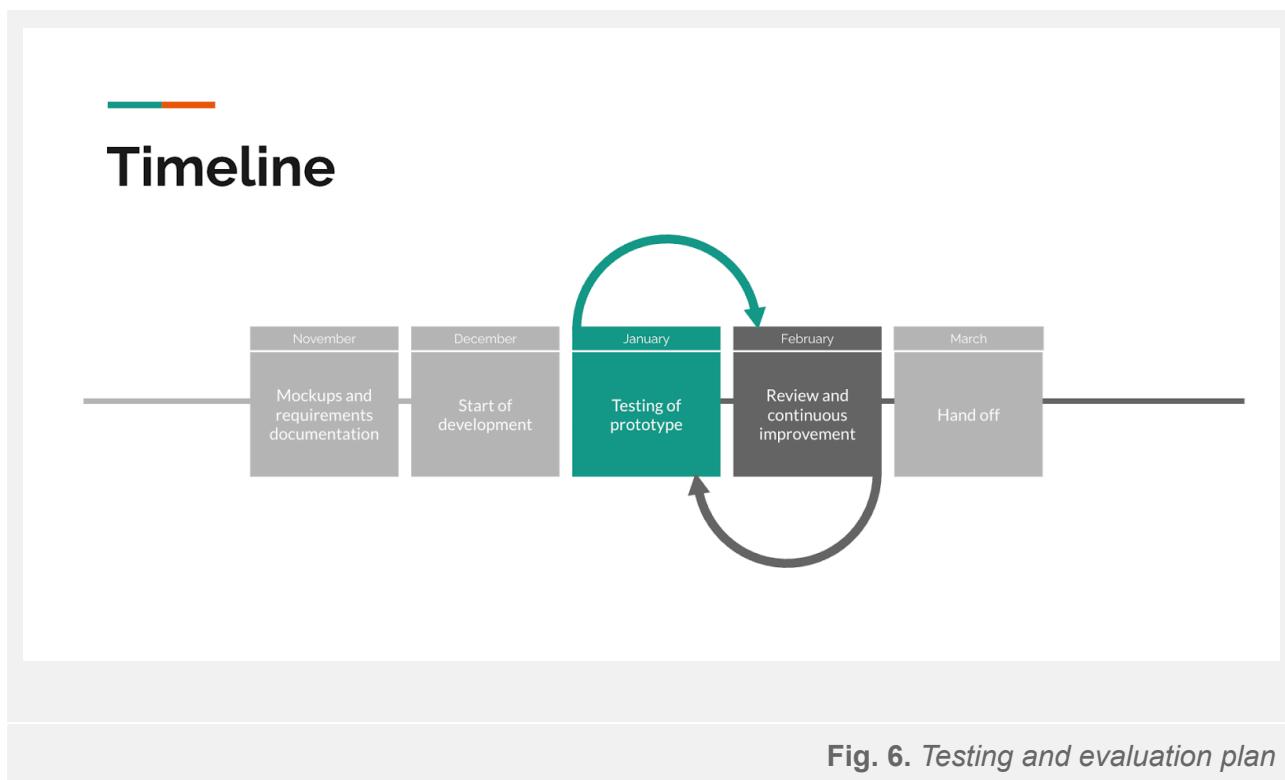
The insights gained from functional testing are crucial for rectifying errors, enhancing functionality, and ensuring the software meets all defined requirements. Through this rigorous examination on the local environment, I will ensure the application's quality before it reaches the end-users, minimising the risk of issues in a live environment.

### 3.6.2 User Testing

User testing is crucial to understand how real users interact with the application. By the end of January, a beta version of the app will be released to a select group of users. Their feedback will be invaluable for identifying usability issues, understanding user needs and preferences, and discovering unforeseen bugs. This stage is about observing and listening to the users, and it might involve surveys, interviews or usage analytics.

### 3.6.3 Continuous Improvement

Based on the feedback received from user testing and ongoing development insights, the application will undergo regular updates and improvements. This iterative process ensures that the app stays relevant, efficient, and user-centric. It's also a great opportunity to implement new technologies and methodologies that may have emerged since the initial development phase.



### 3.6.4 Performance Metrics

The success of the application will be measured through specific performance metrics. These could include user engagement (how frequently and for how long users interact with the app), the number of ideas or contributions submitted by users, and overall user satisfaction. These metrics will provide quantitative data to assess the effectiveness of the app and guide future improvements. Setting up proper analytic tools and defining clear, measurable goals will be essential for this stage.

## 4. Implementation

1985 words

### 4.1 Virtual environment

The developmental journey of this project began with the foundational step of setting up a dedicated virtual environment tailored for Django's Python framework. This initial phase was crucial as it laid the groundwork for the entire project, ensuring a clean and isolated workspace that would prevent potential conflicts with other Python projects.

## 4.2 Django

Following this, Django, a high-level Python web framework renowned for its versatility and efficiency, was installed within this newly established environment. This step marked the start of the actual development process. Django's robustness made it an ideal choice, particularly for its capability to handle complex data-driven applications. The creation of a new project within Django, followed by a new 'frontend' application within that project, was a systematic approach that ensured clarity and organisation right from the onset.

### Django settings:

- **Environment variables:** SECRET\_KEY(django key) and DB\_SECRET (database password) are loaded from environment variables using decouple.config, enhancing security by not hardcoding sensitive information in the settings:
- **Cross-origin requests:** CORS\_ALLOW\_HEADERS and CORS\_ALLOW\_CREDENTIALS settings enable specific cross-origin requests, which are essential for a web app that interacts with different domains or ports, a list of CORS\_ALLOWED\_ORIGINS specifies which domains are permitted to make cross-origin requests.
- **Installed apps** include WhiteNoise for static file handling, Django REST Framework for API development, and CORS Headers for managing Cross-Origin Resource Sharing.
- **Middleware** incorporates whitenoise.middleware.WhiteNoiseMiddleware for serving static files efficiently and corsheaders.middleware.CorsMiddleware for handling CORS.
- **Database Configuration:** PostgreSQL as the database backend, with connection details (host, port, name, user, and password) set for a PostgreSQL instance.

The current solution with Heroku PostgreSQL is not optimal due to the frequent rotation of credentials for security purposes. Consequently, I plan to explore automation methods to update these credentials, thereby eliminating the need for manual adjustments in the settings.

- **Static and Media Files:** Configures paths and URL patterns for serving static and media files. Uses WhiteNoise's CompressedManifestStaticFilesStorage for static file storage. WhiteNoise is a critical component in Django applications, especially when deployed on platforms like Heroku. It simplifies the management of static files, ensuring they are efficiently delivered to the end-users.

## 4.3 React frontend

One of the significant challenges encountered in the early stages was the integration of a React application within the Django framework. The conventional approach in Django involves using standard HTML templates. However, to harness the full potential of modern web applications, I

sought to incorporate React, a popular JavaScript library known for its efficiency in building interactive user interfaces. This integration was not straightforward and required extensive research and experimentation. I delved into various methods and tutorials in search of a viable solution. The breakthrough came in the form of a YouTube tutorial from Tim Ruscica [8] that provided the insights and guidance needed to successfully integrate React into the Django framework using Webpack and Babel.

In my project, I incorporated React into the Django framework by first creating a source directory, named 'frontend', within the Django application folder. This 'frontend' folder was designated for storing the React components. For the compilation of these components, I utilised Webpack in conjunction with Babel, which facilitated the transformation of React code into a browser-compatible format. The final step in the process involved configuring Webpack to output the compiled React build into a specific directory, 'static/frontend', located within the Django app:

This approach streamlined the Django views, as only this single index.html file needed to be referenced.

Rest of the routing goes through the React App.js.

This setup enabled the seamless integration of React's dynamic frontend with Django's robust backend infrastructure in my project.

The successful implementation of this approach marked a significant milestone in the project, bridging the gap between backend robustness and frontend dynamism.

To further enhance the front-end development process, I opted to use Tailwind and DaisyUI. These powerful UI libraries offer a rich set of predefined styles and components that can be easily implemented in HTML. The advantage of using Tailwind and DaisyUI lies in their ability to provide extensive styling capabilities without the need for in-depth CSS knowledge. This greatly expedited the front-end development process, allowing for the creation of visually appealing and responsive designs with minimal effort.

## 4.4 Deployment on Heroku

Upon the successful completion of the initial setup, my focus shifted towards deploying the application. I chose Heroku as the deployment platform and GitHub for version control and continuous integration. Heroku was selected for its simplicity and effectiveness in handling web application deployment. It offers a seamless platform-as-a-service (PaaS) environment that is particularly beneficial for projects like this. My decision to initiate deployment at an early stage of the project was informed by previous experiences. I had learned that deployment challenges on Heroku can become increasingly complex as the project progresses. Therefore, starting early allowed for the identification and resolution of potential issues in a more manageable manner.

Automatic deployments are set up via GitHub, where each new push to the repository initiates a deployment.

Additionally, the project's updates can be previewed locally using the 'heroku local web' command. This feature is particularly beneficial, as it allows for immediate local testing and review, bypassing the time-consuming deployment process which can take several minutes.

## 4.5 Django Models

Initially, my design included just three models: Person, Idea, and Idea Group. Yet, as the development advanced, it became apparent that adding Organization entities to the model was essential. Further along, I recognized the importance of distinguishing the built-in Django user from my Person model. Additionally, I introduced models to accommodate Comments and Votes.

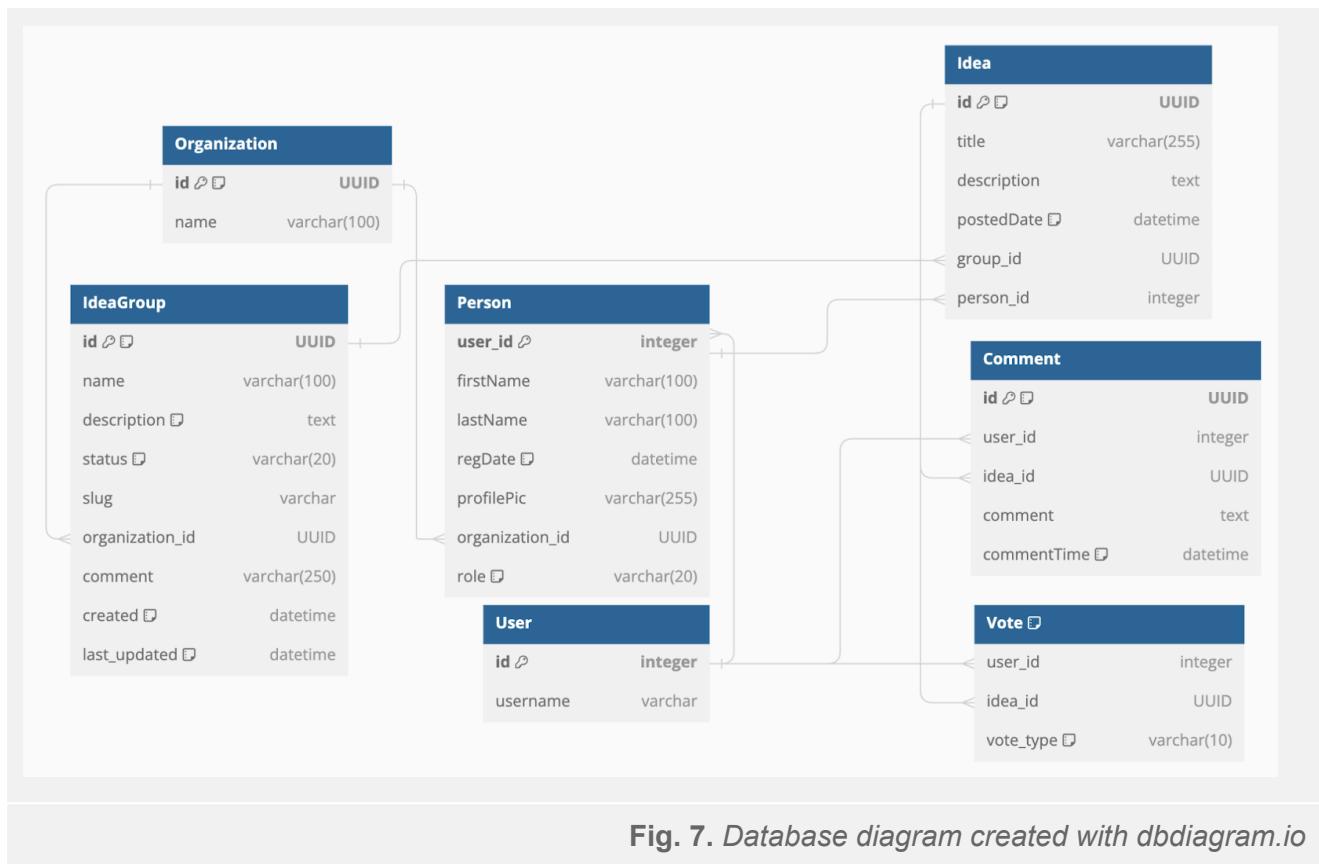


Fig. 7. Database diagram created with dbdiagram.io

## 4.6 Database

A PostgreSQL database was established on Heroku to serve as the primary database for the Django application. PostgreSQL was chosen for its reliability, robustness, and compatibility with Django. Ensuring the security and integrity of the application is important. The database credentials are securely stored within the `settings.py` file, with the password specifically kept in an environment variable for enhanced security. Data interactions are handled via a REST API, outlined in the `api.py` file. On the front-end, React components utilise the `useEffect` hook to efficiently fetch and post data from this API as required.

## 4.7 Django Rest API

**Table 4:** Django RestAPI endpoint and corresponding functions

API Endpoint	HTTP Verb	Function Name	Purpose
/get-csrf-token/	GET	get_csrf_token	Sets a CSRF cookie
/api/invite/orgs/<uuid:organization_id>	GET	RegisterFromInvite.as_view()	Retrieves organization details for the invitation
/api/invite/<uuid:organization_id>	POST	send_invite	Sends an invite email
/api/organizations/<str:organization_name>/id eagroups	GET	IdeaGroupList.as_view()	Lists IdeaGroups for an organization
/api/ideagroups	POST	IdeaGroupCreateView.as_view()	Creates a new IdeaGroup
/api/members/<int:member_id>/update-role	POST	update_member_role	Updates a member's role
/api/comments/<uuid:idea_id>	GET	CommentsList.as_view()	Lists comments for an idea
/api/comments/new/<uuid:idea_id>	POST	CommentCreateView.as_view()	Creates a new comment for an idea
/api/hall-of-fame/<uuid:organization_id>	GET	hall_of_fame_view	Retrieves the hall of fame for an organization
/api/register	POST	RegisterView.as_view()	Registers a new user
/api/<str:organization_name>	GET	IdeaGroupList.as_view()	Lists IdeaGroups for an organization's homepage
/api/<str:organization_name>/<slug:slug>/ideas	GET	ideas_for_group	Lists all ideas within one idea group
/api/<str:organization_name>/<slug:slug>	GET	GroupDetailView.as_view()	Retrieves one Idea Group view within an organization
/api/organizations/<uuid:organization_id>/members/	GET	organization_members	Lists members of an organization
/api/idea-groups/<uuid:groupId>/	GET	GroupDetailView.as_view()	Retrieves details for a specific IdeaGroup
/api/<str:organization_name>/create_idea_group/	POST	create_idea_group	Creates a new Idea Group for an organization
/api/create_idea_group/	POST	create_idea_group	Creates a new Idea Group for a guest user

/api/person/<str:username>/	GET	fetch_person_details	Fetches details for a person based on username
/api/person/settings/account/email	POST	change_email	Updates the email of the current user
/api/person/settings/account/password/<int:user_id>	POST	change_password	Allows a user to change their password
/api/person/settings/profile/<int:user_id>	POST	update_person_details	Updates the profile details of a user
/api/ideagroups/update/<uuid:pk>	PUT	IdeaGroupUpdateView.as_view()	Updates an existing IdeaGroup
/api/group/<uuid:id>/	GET	ideas_for_guest	Retrieves ideas for a guest user's view of an IdeaGroup
/api/ideas/vote/<uuid:idea_id>	POST/GET	handle_vote	Handles voting on an idea. POST to vote or change vote, GET to retrieve vote details.
/api/ideas/	POST	create_idea	Creates a new idea
/auth/login/	POST	login_view	Custom login endpoint
/auth/logout/	POST	LogoutView.as_view()	Logs out a user
/api/organizations/<uuid:organization_id>/tags	POST	tag	Automatic tagging

## 4.8 Profanity filter

In the initial stages of development, I intended to leverage Python's natural language processing (NLP) capabilities for implementing a profanity filter. However, upon conducting thorough research, I discovered that training a custom model on a corpus was unnecessary, given the availability of pre-built libraries. My first attempt involved trying two Django profanity filter libraries. Yet, this approach proved inadequate due to the libraries' limited word repository. After further exploration, I identified a more comprehensive solution— Robert James Gabriel's node.js profanity filter module [\[9\]](#). This particular filter utilises Google's extensive profanity words list, which encompasses 958 English words. Opting for this pre-existing solution not only streamlined the development process but also ensured a more robust and reliable profanity filtering capability within the application. This decision aligned well with the project's objectives, prioritising efficiency and effectiveness in content moderation without the additional complexities and resource demands of custom NLP model development.

The profanity detection code is stored in a `mjs` JavaScript module. In a React application, when a user enters and submits the Idea description, the text is sent to the profanity detection function from the `mjs` file. This function, upon being called, processes the text to check for any profanity. After completing the check, it returns the result, indicating whether the text contains profanity or not, back to the React application.

## 4.9 Email invitation with SendGrid Email API

My initial approach to enable the Admin user to send invitations for joining the organisation involved using Django's integrated 'smtplib' module. However, due to my Heroku setup, this approach failed. In search of a free email delivery service, I reviewed multiple options and ultimately chose the SendGrid Email API, recognized for its popularity and ease of use.

By integrating the SendGrid API key as an environmental variable, the backend was equipped to send emails via their service.

## 4.10 Profile Image upload with Cloudinary

Following numerous attempts and testing, I discovered that my existing configuration—using Heroku and PostgreSQL as the database—wasn't the best fit for supporting and hosting user-uploaded profile images. This was because my PostgreSQL database could only store the path to the images, not the images themselves. Consequently, I began looking for a free image hosting API service and came across Cloudinary. Opting to use Cloudinary turned out to be a straightforward choice. The setup and integration process was simple; all I needed to do was save the URL generated post-image upload into my database.

## 4.11 Automatic tagging

A machine learning model [10], which was trained on 28 thousand news articles with tags, is used to create suitable tags for every idea. Organisation admins can see all the tags used in their organisation. In the future, this could be beneficial for creating statistics or identifying trends.

## 4.12 Summary

In conclusion, the development process of this project involved a series of carefully planned and executed steps. From setting up a virtual environment to deploying the application on Heroku, each phase was designed to build a robust, secure, and user-friendly web application. The integration of modern technologies like React, Tailwind, and DaisyUI, along with the utilisation of Django's powerful features and Heroku's deployment capabilities, underscored the project's commitment to quality and innovation. As the project progresses, these foundational decisions will continue to play a crucial role in its success and scalability.

# 5. Evaluation

1318 words

## 5.1 Functional testing

During development, I vigorously tested, redesigned, and refined the features myself. Before it was ready for a Beta release, I put together a 'Functional Testing' script and asked my family and friends to help me test my application for bugs and anomalies.

See '[Appendix \[4\]](#)' for the User Acceptance Testing Script.

During the testing, several bugs and anomalies were discovered.

**Table 5:** Functional testing summary - session 1

#	Problem
<b>2.1.4</b>	Profanity filter does not work
<b>2.2.1</b>	Not redirected to the Login page after successful registration.
<b>2.2.2</b>	Logo linked to the home page, not Organization's home page.
<b>2.2.4</b>	'New Idea' button is still displayed on the closed idea group.
<b>2.2.6</b>	Can upvote or downvote the same idea several times.
<b>3.1.8</b>	After clicking 'Logout', redirected to home page but user is not actually logged out

**Table 6:** Functional testing summary - session 2

#	Problem
<b>1.1</b>	Favicon missing
<b>1.2</b>	Error message missing
<b>1.3</b>	Input labels are missing
<b>2.1.3</b>	'Post anonymously' checkbox is not disabled for Guest user
<b>2.1.5</b>	When a GuestUser opens a shared link and they want to register, Organization should be preselected.
<b>2.2.11</b>	New comment displayed temporarily, but when modal closed and opened again, it's not displayed
<b>3.1.4</b>	Profile pictures does not update in header

#	Problem
1.1	Favicon missing
1.2	Error message missing
1.3	Input labels are missing
2.1.3	'Post anonymously' checkbox is not disabled for Guest user
2.1.5	When a GuestUser opens a shared link and they want to register, Organization should be preselected.
2.2.11	New comment displayed temporarily, but when modal closed and opened again, it's not displayed
3.2.6	Input displays a success message but invitation not received in email inbox
3.2.12	Feature missing
3.2.14	No success/error indication

## 5.2 User acceptance testing

After the initial bugs and anomalies found during the ad-hoc functional testing were fixed and the main flows of the application were established, the app was ready for user acceptance testing. The aim of user acceptance testing is to verify that the application meets its business requirements and is usable from an end-user perspective.

See '[Appendix \[5\]](#)' for the User Acceptance Testing Script.

The application successfully supports all intended user interactions for guests, registered users, and administrators. While the functional testing phase did reveal a few minor bugs, these have not affected the core usability or functionality of the application. Users are able to complete their tasks without significant disruption. These findings confirm the application's solid performance and user-friendly design, although addressing the identified bugs will be crucial for enhancing the overall experience. Rectifying these small issues will not only improve the platform's performance but also elevate user confidence and satisfaction.

## 5.3 Usability testing

Usability testing is similar to user acceptance testing, in a way how tasks are given to the users to complete, the focus of usability testing is to discover usability issues and problems: where the users get confused, what they find difficult to complete in the application, tasks, that they are not able to complete because of usability issues.

To test the application's usability, I've created a usability testing script and outlined 10 specific tasks for users to accomplish, assigning each task a priority level: high, medium or low.

See '[Appendix \[3\]](#)' for the Usability Testing Script.

During the testing, a few usability issues were discovered.

**Table 7:** Usability testing session summary - 5 participants

#	P	Task	Success Score	Difficulty Score	Usability Score	Comments
T1	H	Open the application and start collecting ideas	3	7	10	
T2	H	Invite someone else to add new ideas to the topic.	2	4.8	6.8	Some tester said they would like to enter email address to directly send the link instead of sending a generated link
T3	H	Create an account.	3	7	10	
T4	H	Log into your account.	3	7	10	
T5	H	Add an idea.	3	7	10	
T6	M	Add a comment to the idea.	1	2.2	3.2	Users could not find the link to the comments
T7	M	Vote on your idea.	3	7	10	
T8	M	Change your email address.	2.6	6.6	9.2	
T9	M	Add a profile picture.	3	6.6	9.6	
T10	M	Log out from the application	3	7	10	

In conclusion, the usability testing session revealed 2 problem areas:

- Simplifying the process of sharing the Idea board would be beneficial, specifically by enabling users to input an email address directly.

- There's a need to make the link to comments more visible, as it is currently obscurely located on the reverse side of the idea card.

To fix these issues, I added new requirements to the next release plan and updated the screen designs with a new solution.

## 5.4 User analytics

To further evaluate the performance of my application, I decided to add a user analytics solution: Hotjar.

Hotjar can track user behaviour and record user sessions, helping to further identify bugs, anomalies and user experience problems. Data collection is still in progress.

## 5.5. Automated and unit testing

After the cumbersome experience of manual functional and user acceptance testing, my recognition of the necessity for automated testing became evident. In contemplating future enhancements for my project, the potential implementation of both unit and automated testing stands out as a pivotal upgrade.

Despite my intentions, integrating unit testing into my workflow did not materialise. My focus was elsewhere, leaving me with no opportunity to explore how to implement Django unit tests within my application. The complexity of my setup, which includes Django, React, Heroku, and PostgreSQL, made the task less straightforward.

Moving forward, I plan to prioritise establishing the testing environment and crafting unit tests before embarking on feature development. Typically, this approach is advised, but my lack of familiarity and experience with unit testing meant I didn't allocate sufficient time to grasp it.

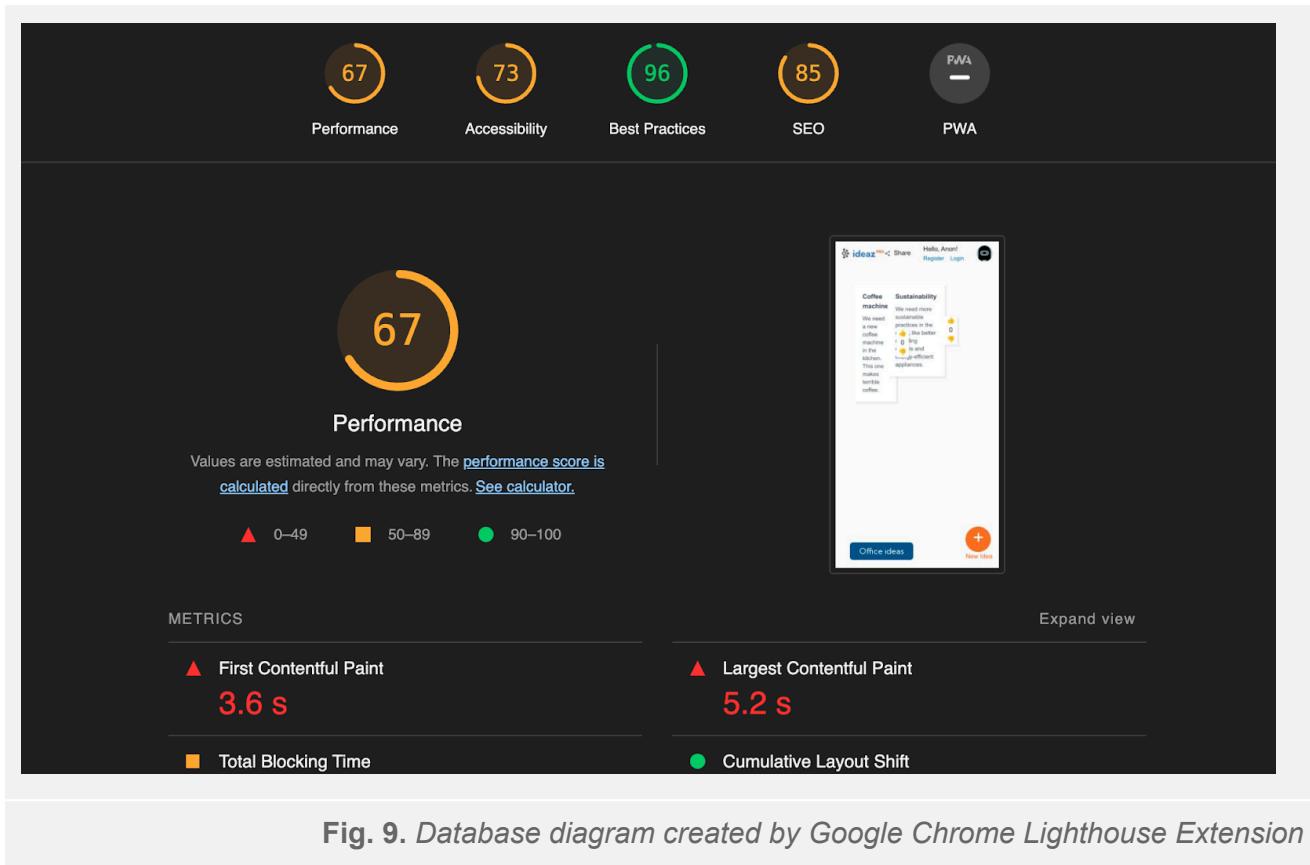
For unit testing within the React components of the application, I foresee utilising tools such as Jest, for executing tests and formulating assertions, alongside React Testing Library, which serves to render React components within a test environment. This approach would not directly engage with user flows but rather concentrate on verifying the functionality of individual components in isolation, ensuring their performance aligns with expectations.

On the other hand, the integration of End-to-End (E2E) testing represents a critical facet of this future improvement strategy. By adopting E2E testing frameworks that facilitate browser automation, such as Cypress or Selenium, the project could mimic user interactions more naturally, including clicks, typing, and navigation through the application. This would enable a systematic verification of the expected outcomes at various stages of the user journey, thereby enhancing the reliability and user experience of the application.

This strategic incorporation of automated and unit testing not only aims to alleviate the labour-intensive nature of manual testing but also seeks to establish a more robust and error-resilient application infrastructure. By doing so, it underscores my commitment to elevating the project's quality, ensuring its long-term success and adaptability in meeting user needs.

## 5.7 Other testing methods

Google Lighthouse is a free, automated tool designed to enhance the performance, quality, and reliability of your web applications. During an audit, Lighthouse conducts a comprehensive series of tests on the page and produces a report detailing its performance. This report highlights the areas where the page falls short, serving as a guide for making improvements to your app.



**Fig. 9.** Database diagram created by Google Chrome Lighthouse Extension

Areas for potential improvement according to the report:

### Performance:

To enhance the app's performance, I should reduce unused JavaScript, enable text compression, optimise images and improve First Contentful Paint.

### Accessibility:

I should ensure interactive elements are distinguishable.

I should address browser console errors and utilise passive listeners for touch and wheel events to improve user experience and page scroll performance.

### SEO:

I should ensure the app is mobile-friendly, with touch elements properly spaced and content sized to the viewport. Mobile usability is a crucial factor in SEO rankings. I should include relevant meta tags such as a description meta tag to improve the app's visibility in search engine results.

## 6. Conclusion

513 words

Reflecting on the Ideaz Pro project, its development has been an insightful journey into the potential of combining traditional feedback mechanisms with contemporary digital solutions and AI technology. This venture aimed at crafting a modern digital suggestion system that not only facilitates efficient idea sharing but also utilises advanced technological integrations to enhance the ideation process within organisations.

The inception of Ideaz Pro was rooted in a detailed observation and analysis of existing digital suggestion systems, which often seemed outdated and lacked essential features for today's fast-paced work environments. This gap in the market underscored the need for a platform that was not just user-centric but also incorporated the latest in AI technology to support and enrich the creative process. Ideaz Pro was conceived as a response to these shortcomings, aspiring to offer a more interactive and productive experience for idea generation and collaboration.

Throughout the project, a considerable focus was placed on understanding user needs and preferences, which guided the development of Ideaz Pro's design and functionality. The choice of technologies, including Django for the backend and React for the frontend, was driven by the goal of creating a robust, scalable, and responsive platform. The integration of AI components aimed to further distinguish Ideaz Pro from its competitors by offering features such as automatic categorization, sentiment analysis, and enhanced filtering capabilities, thus providing a more engaging and productive environment for users to share and develop their ideas.

A critical aspect of this project was the competitor analysis, which revealed a significant opportunity for innovation in the digital suggestion system space. Many existing platforms lacked modern AI-based features, which presented an exciting avenue for Ideaz Pro to explore and incorporate. This analysis not only informed the development strategy but also highlighted the importance of creating a platform that could adapt to and evolve with the changing dynamics of workplace collaboration and idea management.

The project's design and development phases were characterised by a continuous cycle of testing, feedback, and iteration, ensuring that the final product not only met but exceeded user expectations. This approach was vital in addressing the initial challenge of creating a system that was accessible, intuitive, and capable of fostering a culture of innovation within organisations.

In conclusion, the development of Ideaz Pro has been a rewarding experience that has not only allowed for the practical application of web development and AI technologies but has also offered valuable insights into the dynamics of digital innovation in the context of organisational development. The project underscores the potential of digital platforms to transform traditional processes and

catalyse creativity and collaboration within organisations. As Ideaz Pro moves forward, it stands as a testament to the importance of leveraging technology to enhance the way we share, evaluate, and implement ideas in the modern workplace.

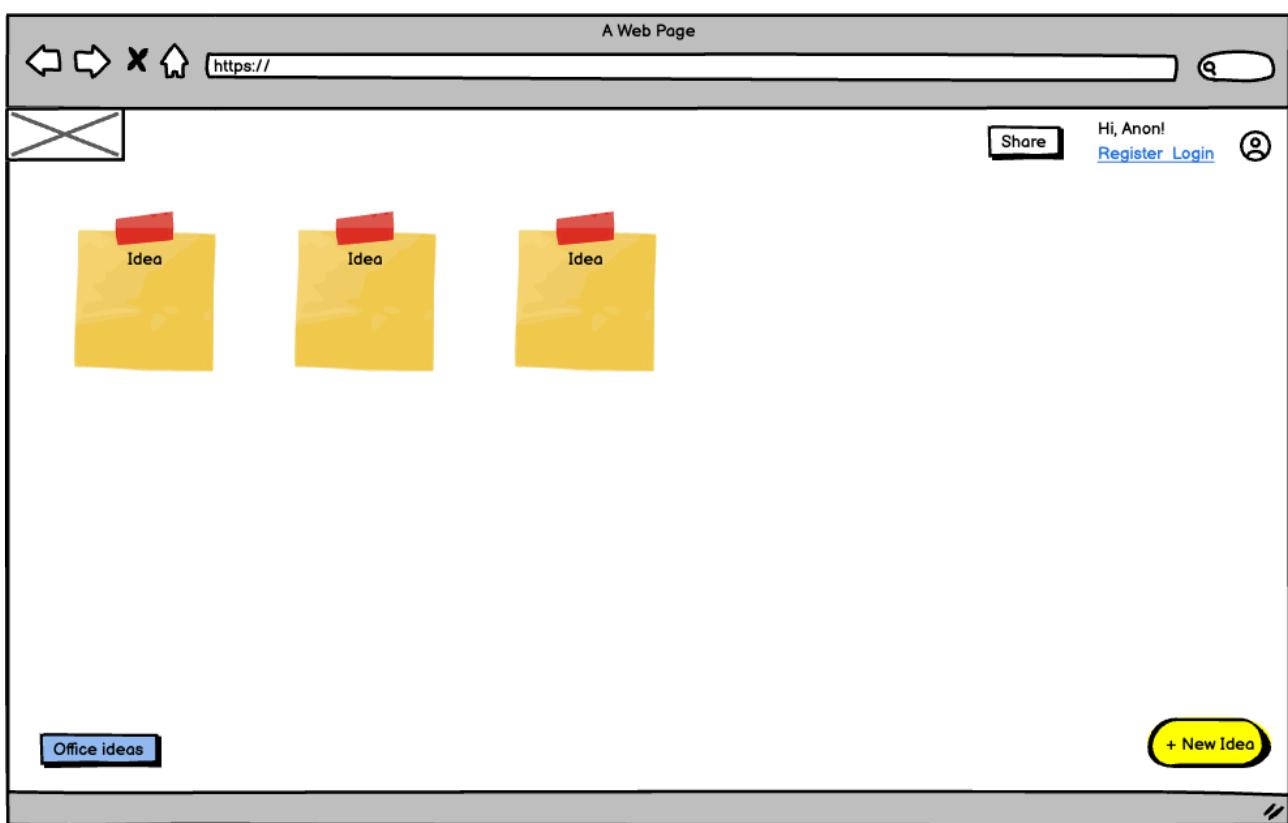
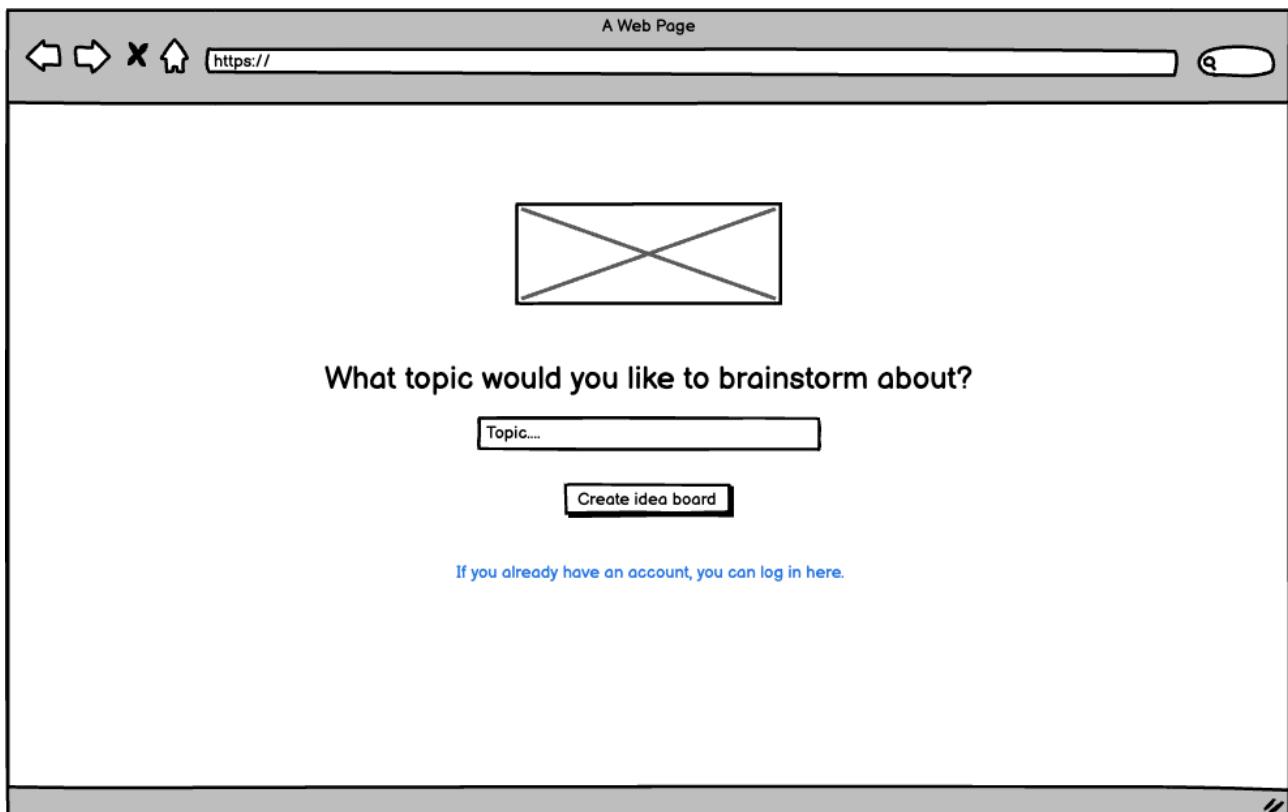
This journey, from conceptualization to realisation, reflects a broader narrative of technological evolution and its impact on organisational culture. Ideaz Pro, in essence, encapsulates the promise of digital transformation in empowering individuals and teams to contribute more effectively to their organisational ecosystems, driving forward the engines of innovation and progress.

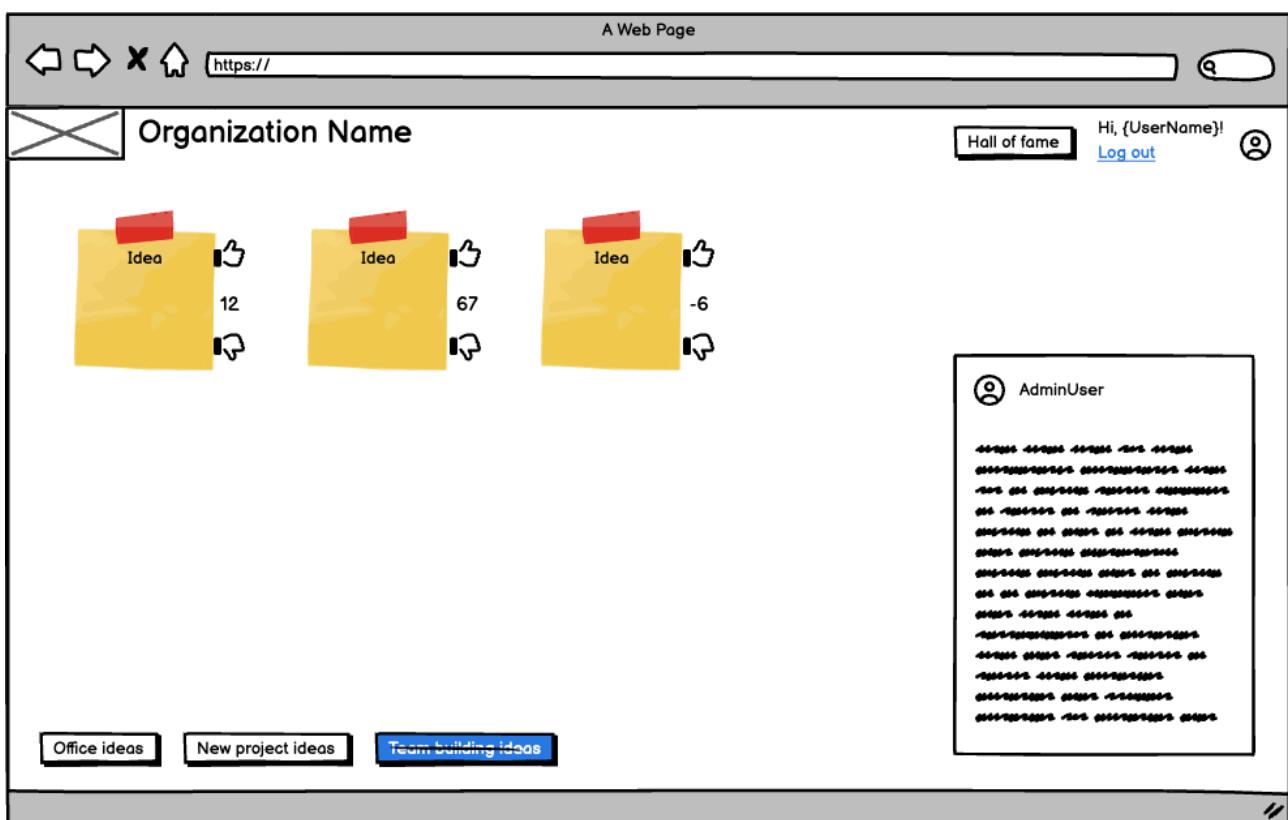
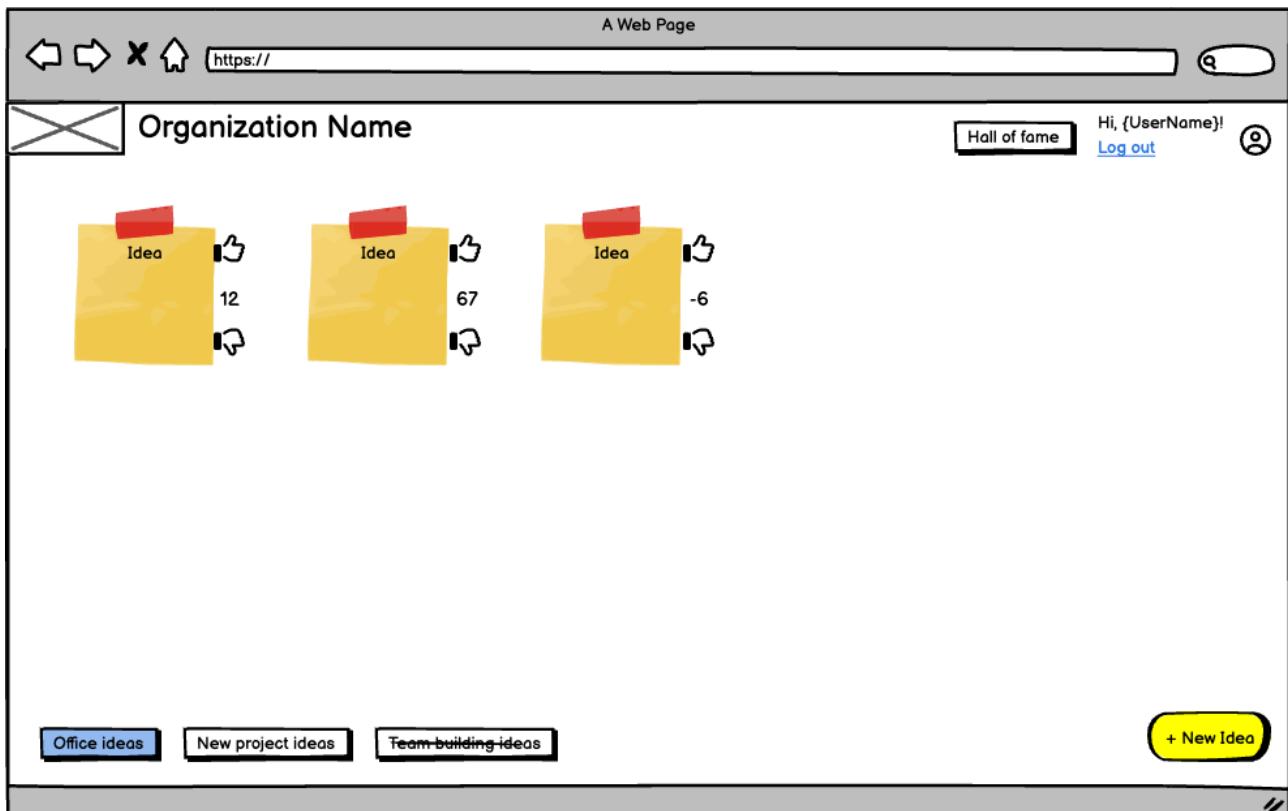
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- [10] <https://huggingface.co/efederici/text2tags>

## Appendix

## [1] Wireframes





**A Web Page**

Organization Name

Hi, {UserName}! Hall of fame Log out

Settings

Update profile picture

First name  
Last name  
Email  
Password

Update profile

**A Web Page**

Organization Name

Hi, {AdminUser}! Hall of fame Log out

Invite

Email address Send invite

Idea Groups

Name (job title)	Description	Status	Comment	Created at	Updated at	Actions
Name	Description	Active	Comment	HH:MM DD/MM/YYYY	HH:MM DD/MM/YYYY	Edit
Name	Description	Closed	Comment	HH:MM DD/MM/YYYY	HH:MM DD/MM/YYYY	Edit
Name	Description	Archived	Comment	HH:MM DD/MM/YYYY	HH:MM DD/MM/YYYY	Edit

Organization Members

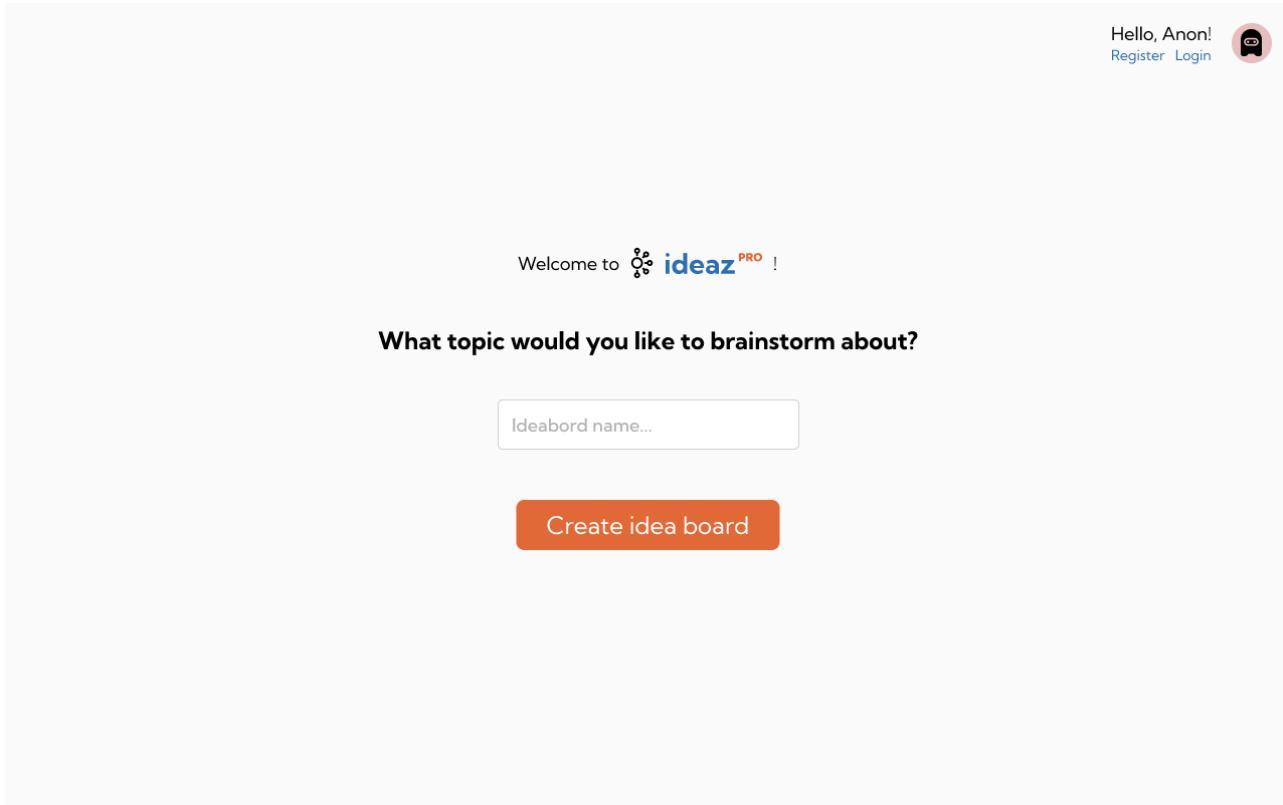
Username	Email	First Name	Last Name	Role	Registration Date
Username	Email	First Name	Last Name	Role	DD/MM/YYYY HH:MM
Username	Email	First Name	Last Name	Role	DD/MM/YYYY HH:MM

Update profile picture

First name  
Last name  
Email  
Password

Update profile

## [2] UI Screen Designs



**Company Name** Hello, Anna!

We need a new coffee machine in the kitchen. This one makes terrible coffee. + 24

I find the lighting in our office a bit harsh. Maybe we could have warmer, softer lighting to make it more comfortable. + 11

Posted by: Nick Wallace Date: 12 December, 2023 + 4

We need more sustainable practices in the office, like better recycling options and energy-efficient appliances. + 3

Posting to: **Everydays** ▼

Your idea:  0/300 characters

Post anonymously Post idea

**Everydays** **Company vision** **Team building** **Project X** + New idea

### [3] Usability Testing Script

#### Ideaz Pro - Usability Testing Script

<b>Success Score (0-3)</b>	<b>Difficulty (1-7)</b>	<b>Overall Score (1-10)</b>
3 - Task successfully completed 1 - Indirect success 0 - Failure	7 - Not difficult at all 1 - Extremely difficult	Success score + Difficulty score

Testing script tasks:

<b>Task</b>	<b>Priority</b>	<b>Task</b>
T1	High	Open the application and start collecting ideas
T2	High	Invite someone else to add new ideas to the topic.
T3	High	Create an account.
T4	High	Log into your account.
T5	High	Add an idea.
T6	Medium	Add a comment to the idea.
T7	Medium	Vote on your idea.
T9	Medium	Change your email address.
T8	Medium	Add a profile picture.
T10	Low	Log out from the application

## [4] Functional Testing Script

#					Test	Expected behaviour
1 Home page						
1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Open <a href="http://www.ideaz.pro">http://www.ideaz.pro</a>	Home page displayed without errors
1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click 'Create Idea Group' button with empty input field	Error displayed on input 'Enter a subject you wish to gather ideas on.'
1.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click 'log in' inside text	Login modal window opens
1.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type in username and passwords field	The inputs becomes active and allow for typing
1.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on 'Cancel' on modal overlay	Modal closes
1.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Enter text in main input on home page	The input becomes active and allows for typing
1.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click 'Create Idea Group' button with filled input	Page redirected to 'Idea Group' home and correct name shows up on the button at bottom left corner
2. Idea collection page						
2.1 Guest user						
2.1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Open Idea Group page	Page displays without errors
2.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on 'New Idea' button	New idea form appears
2.1.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post new idea from	New idea card appears,

#					Test	Expected behaviour
					form anonymously	'Posted by' set as anonymous on back.
2.1.4					Try to post new idea from form containing a curse word	Warning message displayed and idea not accepted
2.1.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on 'Share' button in header	Share modal appears
2.1.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on 'Copy' button on modal	URL successfully copied
2.1.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Close modal with 'x'	Modal closes
2.1.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on 'Register' link in header	Register modal opens
2.1.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Close modal with 'x'	Modal closes
2.1.10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on 'Login' link in header	Login modal opens
2.1.11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Close modal with 'x'	Modal closes
2.1.12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Check default profile image set	Image not clickable
2.1.13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on logo	Redirected to home page
2.2 Regular user (username: testuser, password: 123abcd?)						
2.2.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Login from home page	Login successful and redirected to Organization home page
2.2.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		'TestOrganizationName' displayed in header
2.2.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		'testuser' name displayed in header
2.2.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		3 Idea Groups displayed in bottom left

#					Test	Expected behaviour
						corner
2.2.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Post a new Idea with 'Post anonymously' unchecked	New Idea card appears on canvas, with posted by: 'testuser' on the back.
2.2.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Upvote the first idea	Vote counter value correctly changes
2.2.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Downvote second idea	Vote counter value correctly changes
2.2.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hover on 3rd idea card for 4 seconds	Card flips and back is displayed with 'Posted on:' " and 'Posted by': "
2.2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on 'Comments' link	Modal with comments open
2.2.10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Add new comment	New comment appears
2.2.11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on 'x'	Modal closes
3. Settings page						
3.1 Regular user (username: testuser, password: testuser)						
3.1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on profile picture in header	Settings page open
3.1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Change email address	Email address successfully updates
3.1.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Change password	Password successfully updates
3.1.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Change profile picture	Profile picture successfully updates and refreshed in the header
3.1.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Change first name	First name successfully updates
3.1.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Change last name	Last name successfully

#					Test	Expected behaviour
						updates
3.1.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on Logo in header	Redirected to the organization's home page.
3.1.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click 'Log out' in header	Redirected to home page
3.2 Admin user (username: testadmin, password: testadmin)						
3.2.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Login from home page	Login successful and redirected to Organization home page
3.2.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		'TestOrganizationName' displayed in header
3.2.4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		'testadmin' name displayed in header
3.2.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click on profile picture in header	Settings page open
3.2.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Find 'Invite New Member' section, enter valid email address and click 'Send invite' button	Invitation email arrives at the entered email address
3.2.7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click 'Add New Idea Group' button on 'Idea Groups' section	Modal displayed.
3.2.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fill out form and click 'Add' button	New Idea Group added to list
3.2.9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Click 'Edit' button on a raw of the 'Idea Groups' table	Modal displayed.
3.2.10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Select 'Closed' from 'Status' dropdown, add a comment in	Modal closed and 'Status' column updated in table

#					Test	Expected behaviour
					'Comment' input and click 'Save changes'	
3.2.11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Navigate to organization's home.	Closed Idea Group is displayed with strikethrough font
3.2.12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Open closed Idea Group	Admin's comment is displayed there, 'New Idea' button not displayed.
3.2.13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Navigate to Settings page again, repeat Step 3.2.10 with selecting 'Archived' status and navigate back to organization's home.	The archived Idea Group is not displayed on home page.
3.2.14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Navigate to Settings page again to 'Organization Members' table, select different role from Role column dropdown	No error messages

## [5] User Acceptance Testing Script

### 1. Guest Users Activity

<b>Test Case 1.1: Create Idea Group</b>	
Objective:	Verify that guest users can create 1 Idea Group.
Steps to test:	
1.	Navigate to the home page
2.	Attempt to create an Idea Group.
Expected result:	Guest user is redirected to the Idea Group page and the typed Idea Group is created.
Actual result:	<input type="checkbox"/> Success <input type="checkbox"/> Failure
Comment	

<b>Test Case 1.2: Share Idea Group</b>	
Objective:	Verify that guest users can share the Idea Group.
Steps to test:	
1.	Stay on the Idea Group page.
2.	Click on 'Share' button in the header.
3.	Copy link and paste link
Expected result:	Guest user can copy the link of the Idea Group, correct url is copied
Actual result:	<input type="checkbox"/> Success <input type="checkbox"/> Failure
Comment	

<b>Test Case 1.3: Add New Idea</b>
------------------------------------

Objective:	Verify that guest users can add new ideas to the Idea Group.	
Steps to test:		
1.	Click on 'New Idea' button.	
2.	Type 'Title' and 'Description'	
3.	Click 'Post idea'	
Expected result:	New card with an idea shows up on canvas.	
Actual result:	<input type="checkbox"/> Success	<input type="checkbox"/> Failure
Comment		

<b>Test Case 1.4: Register Account</b>		
Objective:	Verify that guest users can register an account.	
Steps to test:		
1.	Click on the 'Register' button.	
2.	Fill out fields	
3.	Click 'Register' button	
Expected result:	Guest users can create a new account and be redirected to login.	
Actual result:	<input type="checkbox"/> Success	<input type="checkbox"/> Failure
Comment		

## 2. Registered Users Activity

<b>Test Case 2.1: Log into account</b>		
Objective:	Verify that users can log in to their account.	
Steps to test:		
1.	Click on the login link.	

2.	Enter username and password	
3.	Click 'Login' button	
Expected result:	User is successfully logged in and redirected to the Organization's home page.	
Actual result:	<input type="checkbox"/> Success	<input type="checkbox"/> Failure
Comment		

<b>Test Case 2.2: Add new idea</b>		
Objective:	Verify that registered users can add new ideas to the Idea Group.	
Steps to test:		
1.	Click on 'New Idea' button	
2.	Type 'Title' and 'Description'	
3.	Click post idea	
Expected result:	New card with an idea shows up on canvas.	
Actual result:	<input type="checkbox"/> Success	<input type="checkbox"/> Failure
Comment		

<b>Test Case 2.3: Vote on ideas</b>		
Objective:	Verify that registered users can vote on ideas.	
Steps to test:		
1.	Click 'Thumb up' icon on an idea card	
2.	'Thumb down' icon on an idea card	
Expected result:	Counter changes +1/-1 respectively.	
Actual result:	<input type="checkbox"/> Success	<input type="checkbox"/> Failure
Comment		

<b>Test Case 2.4: See idea details</b>		
Objective:	Verify that users can see more details on the idea card's background.	
Steps to test:		
1.	Keep mouse on an idea card for 4 seconds	
Expected result:	Card flips, user can see idea poster's name, posted date and link to comments	
Actual result:	<input type="checkbox"/> Success	<input type="checkbox"/> Failure
Comment		

<b>Test Case 2.5: See comments</b>		
Objective:	Verify that users can read and post comments on ideas.	
Steps to test:		
1.	Keep the mouse on an idea card for 4 seconds.	
2.	Click on 'Comments' link	
3.	Post a new comment	
Expected result:	Users can read and write comments on ideas.	
Actual result:	<input type="checkbox"/> Success	<input type="checkbox"/> Failure
Comment		

<b>Test Case 2.6: Change account details</b>		
Objective:	Verify that users can change their email or password.	
Steps to test:		
1.	Click on Profile picture in header.	

2.	Update email address	
3.	Update password	
Expected result:	Users can successfully change their email address and password.	
Actual result:	<input type="checkbox"/> Success	<input type="checkbox"/> Failure
Comment		

<b>Test Case 2.6: User can see 'Hall of Fame'</b>		
Objective:	Verify that users can see the Organization's Hall of Fame.	
Steps to test:		
1.	Click on 'Hall of fame' button in the header	
Expected result:	Modal window opens with a top contributors list.	
Actual result:	<input type="checkbox"/> Success	<input type="checkbox"/> Failure
Comment		

### 3. Admin user's activity

<b>Test Case 3.1: Invite new users</b>		
Objective:	Verify that Admin users can send invitations to people to join the organisation.	
Steps to test:		
1.	Click on Profile picture in header.	
2.	Navigate to the 'Invite members' section, enter the email address and click on the 'Send invite' button.	
3.	Check corresponding email address for invite	
Expected result:	Invitation successfully sent from Admin interface	
Actual result:	<input type="checkbox"/> Success	<input type="checkbox"/> Failure
Comment		

<b>Test Case 3.2: Idea Groups editing</b>	
Objective:	Verify that Admin users can edit Idea Groups.
Steps to test:	
1.	On the Admin settings page, find 'Idea Groups' section
2.	Click 'Add New Idea Group' button, fill out form and save changes
3.	On the 'Idea Groups' table, click 'Edit' button on a row, edit the fields and save changes
Expected result:	Admin user can add new and edit Idea Groups
Actual result:	<input type="checkbox"/> Success <input type="checkbox"/> Failure
Comment	

<b>Test Case 3.3: User role editing</b>	
Objective:	Verify that Admin users can edit other people's roles
Steps to test:	
1.	Navigate to 'Organization Members' section on Setting page
2.	Select one dropdown from the table and change the value in it
Expected result:	Selected user's role successfully changes
Actual result:	<input type="checkbox"/> Success <input type="checkbox"/> Failure
Comment	

