

# Final Year Project

## Professionalism Report

### CommunityNest

### (Community Management Platform)

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## 1. Introduction

The CommunityNest is the collaborative platform which facilitates efficient document sharing, event management and scheduling within the community. It allows users to create spaces for their community. It lets the communities to add members, create departments, upload documents, schedule meetings and manage events. The goal of the project is to provide a centralized platform to enhance collaboration and increase the operational efficiency within the numerous communities.

The report discusses the social, ethical, legal and the security aspect of my application. These aspects are significant to ensure how the platform can have both the positive and negative impacts while also mitigating the potential risks.

## 2. Social Aspect

Social aspect refers to the way people interact with each other. In the content of application development refers to the impact of the application on the social and societal context. These includes the consideration such as accessibility, inclusion, equity, diversity and human values and also ensuring equal access, protecting user data, and promoting accurate information sharing. (Andersen, 2024)

My application CommunityNest has a significant social aspect as it brings improvements in community engagement and collaboration. It has the potential to changes the way of collaboration among the members with shared interests and goals. It also improves the operational efficiency of the community workflow.

### 2.1. Promote Collaboration and Student Empowerment

My application provides unified platform for all the community members with particular interest fields to collaborate effectively. It allows seamless acces to the community resources ensuring transparency and accountability. It also allows the students/ members to take leadership roles n actively participate and collaborate in community initiatives.

## 2.2. Enhance student Engagement

The platform CommunityNest encourages in the active participation in community meetings, discussions, and events by providing structured document and event management tools. Through automated reminders, the community members stay informed and engaged. It also promotes higher participation of members in all the community activities.

## 2.3. Improve Digital Literacy and Accessibility

The platform is easy to use that makes community management accessible to all the members regardless of their technical skills. Since it is an all-in-one platform, it makes it easier for the members to carry on all the activities in a single platform by fostering equal opportunities for all the members. As per the role of the user their functionalities are separated so that the users get access to the functionalities as per the requirement.

## 2.4. Addressing Communication Barriers

The platform allows the members to stay updated on each point. The application allows the admin and members to schedule meetings in their respective Google Calendars and also send emails to each member so that they stay updated and informed about important discussions and events. Normally traditional the community members used different communication and file sharing channels for exchanging the document but through the user of CommunityNest it minimizes the confusion caused by the use of multiple channels as it allows file shading, meeting scheduling, attendee registration e.t.c. all in one platform. Therefore, the platform contributes in minimizing the communication barriers between the members of the community.

## 3. Ethical Aspect

The ethical aspect in web application development refers to the approach which consists of designing, creating, and maintaining web applications and websites that prioritizes on the safety, and well-being of the users. It involves a commitment to

transparency, accountability, and fairness in every aspect of the web development process. (e-dimensionz, 2024)

Considering the ethical aspect, my application CommunityNest too ensures responsible data handling, fair access, and safe environment for the users. It protects the user rights and maintains transparency in the operations.

### 3.1. Privacy and Data Ethics

My application makes sure to provide a clear information about what data is being collected and used. It also makes sure to keep the users informed on the data being shared. For example, emails have been used for the purpose of meeting scheduling (through google calendar integration) for the members in the particular space.

### 3.2. Right to control

The platform allows the users to have full control over the files and data they have uploaded. It allows them to access and update the data and file contents. It also allows the users to delete the data and files at any time. The platform also consists of the feature to reschedule and update the meeting details and timing that has been scheduled previously. Therefore, this makes sure that the users have flexibility to manage their information, discussions as per their preferences which ensures transparency and trust.

### 3.3. Fair Access and Participation

The application CommunityNest ensures fairness in the user experience by providing the required access to the features for both the community admins and members. The platform provides them with enough features such as file sharing, meeting scheduling, document creation, download and so on as per their desired user roles.

### 3.4. Digital well-being and responsible usage

The platform promotes digital well-being by encouraging responsible usage of the features. It sends timely notifications for the important updates such as event schedules and document uploads. It also allows email alerts for the meeting schedules

through Google Calendar Integration, and it also enables users to send feedback mails to the attendees registered.

## 4. Legal Aspects

The legal aspect refers to the legal considerations, implications, or issues of a certain case, action, or decision. It deals with laws, regulations, rules, and legal principles that apply to or about a given matter. (oneibc, 2025)

My application also makes sure to protect user data. It ensures that user information is handled safely, the contents are used legally, and the platform operates securely. By following the laws, the platform makes sure that it is trustworthy and avoids the legal issues.

### 4.1. Data Privacy and Protection

The CommunityNest is the platform designed for student communities making sure it follows data protection laws. It complies with data protection laws and regulations such as GDPR (General Data Protection Regulation) making sure that the users personal information is protected and is used ethically. The GDPR is a legal framework that sets guidelines for the collection and processing of the personal information from individuals who live in or also outside the European Union. (Drury, 2024). The application follows GDPR by getting users consent to collect the user data and also allows the users to delete their account and data while required.

### 4.2. Intellectual Property and Content Ownership

In the application the user retains ownership of the content they have uploaded, such as documents and event posters. However, by uploading those materials, the users grant the platform a non-exclusive and a loyalty free licence to display and distribute the contents they have uploaded within the platform. But the platform makes the fair use of the content making sure that the intellectual property rights of the users are maintained.

### 4.3. Compliance with Business and Commercial Laws

Although the platform is designed for use within the college community and is not a commercial platform, it still needs to follow relevant business laws. Further, in future if the platform introduces features like a premium account or adds, it will need to comply with the business regulations. Now, the platform respects the intellectual property rights ensuring proper use of third party and user generated content.

### 4.4. Data Retention

The application adheres to the data protection laws as it only collects the essential personal information needed for the registration and other processes. It has a policy regarding how long a particular data or information is retained and ensures that the data is not stored as long as needed and displayed as per it. The user also has rights for the deletion of their account if they want to which ensures the full control over their data.

## 5. Security Aspect

Security is one of the crucial aspects of any web application. Security aspect refers to the measures and protocols that has been implemented to ensure safe access to the platform, protect the user data and also prevent the unauthorized activities. It includes encryption methods and authentication processes and so on.

### 5.1. Token based Authentication

The application CommunityNest uses JWT (JSON Web Tokens) for the secure authentication. It ensures that only the authorized users can access the platforms resources. JWT is one of the popular methods for maintaining authentication. It is an open standard that defines compact and self contained way for securely transmitting information between parties as a JSON objects. (medium, 2018)

The token in the application is verified using a secret key to prevents unauthorized access to any sensitive data. If the token is valid than it allows secure access to the features of the platform. It ensures that only the authenticated users can access their

personal data and manage their communities. Moreover, it also allows users to remain logged in across devices or sessions without requiring of re-authentication.

## 5.2. Password Hashing and OTP Verification

Password security is one of the most significant aspect of protecting users data. My application CommunityNest uses bcrypt to hash user password before storing them in the database. It is the cryptographic hash function designed for password hashing and safe storing.

Furthermore, the application implements forgot password feature that provides additional layer of security. When a user requests for a reset password an OTP is generated and is sent to user's registered email address. The OTP is only valid for limited time so this ensures that the unauthorized individuals cannot access to the account making sure users with access to the associated email can only access it.

## 5.3. OAuth 2.0 for Google Integration

For integration with third party services 'Google Calendar and Google Sheets', the platform CommunityNest uses OAuth 2.0. It allows the users to authenticate with their Google account without having to share their Google login credentials directly within the platform. Instead, user grant the platform permission to access specific Google services through secure token exchange.

By using the OAuth 2.0, the CommunityNest offers its users a secure way to integrate their Google services without needing to expose the sensitive login credentials to the platform. Moreover, this also reduces the risk of attacks.

Therefore, by implementing these security practices, the application communityNest ensures that the users can collaborate, share ideas, manage events and so on in a safe and a trustworthy environment.



## 6. Conclusion

CommunityNest is an all in one platform that fosters collaboration while ensuring the social aspect, ethical aspect, legal aspects and the security standards. Socially, the appication fosters the collaboration and student empowerment. It promotes engagement and ensures the accessibility and also helps address the communication barriers. Ethically, the application maintains privacy and data ethics. It gives their users the right to control their content and data. It ensures the fair role based access an participation of the users and contributes in maintaining a supportive online environment. Furthermore, legally the platform prioritizes content ownership, privacy protection and also follows data retention that alights with the legal requirements. Lastly, it maintains the security aspect with the measures such as password hashing, token based authentication, OTP verification, OAuth 2.0 integrations to make sure that the sensitive data and the user accounts remains protected.

Therefore, through these fundamental aspect the application CommunityNest makes sure to create a trustworthy, ethical and legally compliant collaborative platform the contributes in student collaboration, engagement, enhance digital interaction and contributes in providing and secure and a professional space.

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