Project Proposal
Nature Edge Sustainable Community

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1 Problem State

Since sustainable development is urgently needed, Nature's Edge Property Management Company has realized that meeting the goal of sustainable communities in Article 11 of SDG has become a major problem for them. In the community, Nature's Edge Property Management Company has already provided some convenient facilities, such as fitness equipment, community hospitals, etc. However, according to the community survey, the utilization rate of these facilities is extremely low, making it difficult to achieve the goal of sustainable communities. Additionally, the community has problems with high energy consumption and high carbon emissions, which are inconsistent with the concept of sustainable development.

2 Vision

GreenVista Software Company's aims to develop a comprehensive community service website for the existing community to solve the problems of Nature's Edge Property Management Company. Our vision is to build a community comprehensive service website for Nature's Edge Property Management Company that meets user needs in terms of functionality, security, and reliability. We will provide a sustainable community template website with community resource integration, owner resource consumption control, sustainability guide, and employment recruitment.

There are four modules on the website. The community service queries support map navigation, making an appointment or inquiry door-to-door services, and other services. The resource management section allows owners to check energy consumption and automatically make early warnings. In the electronic library, user can search for books and read them online, which achieves the goal of the education aspect of SDG 4. In the business docking users can enter the community recruitment platform, which meets the need of SDG Article 8.

From the perspective of functions, community resource map navigation, artificial intelligence, and electronic libraries are attractive to users, while automated resource monitoring and energy statistics can provide users with fast and convenient sustainable energy consumption management. Moreover, our projects enhance security through the use of encryption methods and the implementation of rights management systems, providing different services to our clients and their clients. The reliability of our projects can be guaranteed through manual and automated testing. In addition, the website also provides sustainability guidance and is equipped with an artificial intelligence assistant to help users make a sustainable living. The emerging platform will be in sharp contrast to the existing traditional communities and help build a sustainable smart community in an all-round way.

3 Benefits and Deliverables

Our deliverable is a Sustainability Community Software: based on the requirements of SDG 11, a complete software has been developed to promote the sustainable development of the community. The software should have a range of features to support the needs of community service, resource management, community engagement, etc.

- **Functional implementation**

  Ensure that the software implements all the functions listed in the project plan such as sustainability guidelines, health checks, owner resource management functions, job search functions, etc. In the process of development, the project may be developed or expanded according to the needs of continuous optimization has obtain the best results.

- **Quality assurance**

  To ensure that the actual quality of the project meets expectations. This means ensuring that the performance, stability, and security of the software are at the expected level. We will use software testing, code reviews, performance testing, etc., to ensure quality.

- **Comprehensive testing**

  All functions of the software are thoroughly tested before delivery. This includes functional testing, performance testing, user experience testing, etc., to ensure that the software is complete, stable, and meets user needs at the time of delivery.

- **Positive feedback**

  Receiving positive feedback during the testing phase ensures that the needs and expectations of users are fully understood and met before the software is delivered. Positive feedback can be obtained through communication with community members and user feedback collection, and the software can be adjusted and improved in time.

4 Evaluation criteria

Some of the evaluation criteria required to implement the project are listed below:

- **Security and Ethical standards**

  This standard aims to create a safe and regulated use environment, strictly abide by ethical standards, and ensure the security of users' data. In the collection of personal data, resolutely ensure the security of the privacy of users' personal information, such as the sleep quality and health monitoring of community-related service functions, will be carried out under the premise of users' priority to allow the lawful collection of personal data, and the collected data will be privatized for users and their related information, and users can also change the collected data. The function of the software and the relevant data displayed ensure that the content can be read healthily and safely, and do not use false and illegal data.

- **Project-related management criteria**

  —Project modular management. The project will be divided into 7 functional modules for implementation and management, which make it easy to deal with some problems that may be encountered in the future, and will also facilitate the optimization of the project in the later stage.

  —Milestones will serve as project metrics. The overall project development process will be carried out step by step, implementing module functions, testing, and collecting data feedback within the specified time.

- **About the project practicality standard**

  This standard is committed to ensuring that unregistered visitors (anonymous users) can use some of the functions of the website and some of the reading rights to browse the website, and to ensuring the relevant rights of customers who use the product by registered users (owners will be able to use most of the service functions of the software, and properties can use the management functions of the software, etc.).

5 Deadlines/Plan/Approach

The Gantt chart describes the detailed division of labor arrangements for each team member under the corresponding work package, and the team will flexibly adjust the work arrangements during the development process to ensure that it does not deviate from the project goals and meet user needs.

Technical details: The project is expected to adopt Web development with front-end and back-end separation and adopt an agile development model. The front end uses react as the framework introduces ant design, and uses the nextjs framework with Zustand state management to ensure the reliability and aesthetics of the project. The backend uses Flask + SQLALchemy. The project uses Figma for UI design to ensure that the project is fully functional, the webpage conforms to the user's usage logic, and the webpage design is beautiful and reasonable. The project uses GitHub as a repository management tool, pnpm for software dependency package management, and built-in eslint to ensure that development members have consistent code styles and are easy to read. After the functions are established, interface documents are carefully written to reduce the cost of front-end and back-end docking.

6 Cost/Budget/Team Requirements

- 100,000 for server building
- 1.5 million for software development and supporting hardware development and adaptation
- 200,000 models used for software big data and machine learning
- 200,000 for information security enhancement