Version	Date	Auteur	Changement
V1	13/06/2023	Clément PAYET	Création du document

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Introduction

Overview

This document describes the GreenTech app design for the Proof-of-Concept implementation. The solution will be designed to comply with the requirements provided by the client. In the case of a conflict, the more secure controls will be applied.

Goal

The goal of this project is to create an immersive and interactive Unreal Engine 5 application that empowers vineyard owners and managers to explore and analyze their vineyard in a 3D representation.

By offering a visually engaging and data-rich environment, the app aims to enhance the user's understanding of their vineyard's conditions, leading to improved crop quality, increased productivity, and ultimately, a more successful and thriving vineyard operation.

Introduction to Greentech App

This project revolves around developing an innovative Unreal Engine 5 application tailored for vineyard owners and managers. The app will offer a cutting-edge 3D representation of their vineyard, allowing users to navigate through a digital environment.

Within this immersive landscape, users can interactively access vital statistics about each vine row, including information on illnesses, soil and overall temperature, moisture levels, and other crucial metrics. This comprehensive data visualization will empower users to make informed decisions and devise effective strategies to optimize vineyard management practices, leading to improved crop health and productivity.

The application's seamless user interface and intuitive controls will ensure a user-friendly experience, making it accessible to both tech-savvy users and those new to virtual environments.

By bringing together advanced visual fidelity and insightful data analytics, this app will revolutionize the way vineyard owners monitor and assess their vineyards, ultimately fostering a more successful and sustainable grape cultivation industry.

Key features

Immersive 3D Vineyard Representation: The app will showcase the vineyard as a stunning and interactive 3D environment, allowing users to explore the entire vineyard with ease. The realistic visuals and engaging interface will provide an unparalleled experience.

Vine Row Statistics: Users can access detailed statistics for each vine row, including information on illnesses, soil and overall temperature, moisture levels, and more. These comprehensive insights will aid in identifying potential issues and optimizing vineyard management practices.

Data Visualization: The application will employ advanced data visualization techniques to present complex information in a visually appealing and easy-to-understand manner. This will enable users to quickly grasp the state of their vineyard and make informed decisions.

Real-Time Updates: The app will support real-time data synchronization, ensuring that the displayed statistics are up-to-date and accurate. This feature will allow users to monitor changes in the vineyard in real-time and respond promptly to any emerging challenges.

User-Friendly Interface: With an intuitive and user-friendly interface, the app will cater to a wide range of users, including those who may not have extensive technical knowledge. Simple navigation controls and accessible features will enhance the overall user experience.

Customization Options: Users will have the flexibility to customize their experience, such as filtering specific data, toggling between various visualization modes, and setting personalized parameters for analysis.

Benefits

Enhanced Decision Making: By providing users with comprehensive insights into their vineyard's conditions, the app will enable more informed decision-making. Users can proactively address issues and implement optimized strategies to enhance crop health and productivity.

Efficient Vineyard Management: With real-time updates and data-driven analysis, vineyard owners and managers can efficiently allocate resources, time, and efforts, optimizing overall vineyard management. This will lead to cost savings and improved productivity.

Improved Crop Quality: The ability to monitor crucial factors like illness occurrences, temperature, and moisture levels in real-time will help maintain optimal growing conditions. This, in turn, will contribute to higher crop quality and potentially lead to premium wine production.

Time-Saving and Cost-Effective: The app's data visualization capabilities will simplify the analysis process, reducing the time and effort required for vineyard assessment. This efficiency will result in cost savings and increased productivity.

Educational Tool: The interactive 3D representation of the vineyard can serve as an educational tool, helping vineyard workers and novices understand the complexities of vineyard management and develop their expertise.

Requirements

Hardware

iOS:

Device: iPhone 12 or newer (iPhone 12, 12 Mini, 12 Pro, 12 Pro Max, or later models)

Operating System: iOS 14 or newer

Processor: Apple A14 Bionic chip or newer (A14 or later)

RAM: 4GB or higher

Storage: Sufficient free space for installing the app and caching data (at least 2GB recommended)

Android:

Device: High-end Android smartphone or tablet (recent flagship models for optimal performance)

Operating System: Android 10 or newer

Processor: Qualcomm Snapdragon 865 or higher, or equivalent from other manufacturers

RAM: 4GB or higher

Storage: Sufficient free space for installing the app and caching data (at least 2GB recommended)

Software

Unreal Engine 5: A cutting-edge game engine delivering photorealistic 3D experiences with Nanite and Lumen technologies.

Integrated Development Environment (IDE):

Xcode (for iOS): Apple's integrated development environment (IDE) for iOS, macOS, watchOS, and tvOS app development.

Android Studio (for Android): Google's official integrated development environment for Android app development.