

**CAPSTONE PROJECT REPORT**

**Report 1 – Project Introduction**

– Hanoi, August 2023 –

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# I. Record of Changes

| **Date** | **A\* M, D** | **In charge** | **Change Description** |
| --- | --- | --- | --- |
| 22/05/2024 | A | Yen | Project Team,Product Background |
| 22/05/2024 | A | Kỳ Anh | Project Information, Existing Solutions |
| 22/05/2024 | A | Dũng | Software Product Vision |
| 22/05/2024 | A | Huy | Business Opportunity, Limitations & Exclusions |
| 22/05/2024 | A | Hiếu | Existing Solutions,Major Features |
| 6/6/2024 | M | Huy, Hiếu | Edit Project Scope & Limitations, Existing Solutions |
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\*A - Added M - Modified D - Deleted

# II. Project Introduction

## 1. Overview

### 1.1 Project Information

* Project name: Columbarium management system
* Vietnamese name: ***Hệ thống quản lý nhà lưu trữ tro cốt***
* Project code: ***CMS***
* Group name: ***SEP490-G65***
* Software type: ***Web***

### 1.2 Project Team

| **Full Name** | **Role** | **Email** | **Mobile** |
| --- | --- | --- | --- |
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## 2. Product Background

Cemeteries and memorial sites are upgrading services from cremation to electric cremation, an environmentally friendly alternative to traditional methods. This new method uses electrical energy for combustion, significantly reducing emissions and negative impacts on the environment compared to traditional methods.

Previously, managing ashes storage and ordering services consumed a lot of effort, time and money based on manual processes. These methods lead to inefficiencies in document management, time management, and customer management, leading to customer dissatisfaction.

Realizing the above disadvantages, the cemetery management board decided to implement an ash storage management system. The system aims to streamline the entire process, from booking and managing ashes to updating the status of storage cells and maintaining accurate records.

The need for the new system stems from several key issues:

* Inefficient manual processes: Current systems require significant manual effort to place and manage urns.
* Environmentally friendly: Electro landfilling offers a greener option, complying with increasing regulations on environmental pollution.
* Customer Experience: Families often face delays and frustration due to outdated systems, including service, contract, and information availability issues.
* Accuracy of records: Manual record keeping leads to high risks, affecting service quality and operational efficiency.

The primary users of the system will be policyholders, employees and management, who will benefit from system improvements along with the households who will experience the system's services. .

Columbarium management system will help the Memorial district deliver modern, environmentally friendly services while enhancing the customer service experience.

## 3. Existing Solutions

Many enterprises in the ashes management and souvenir service industries are currently using contract management software to deal with different operational aspects. The system mainly focuses on internal management, allowing companies to monitor the location, inventory and records related to the ashes storage room. However, there is still a considerable gap in customer solutions.

At present, there is no website or platform that allows customers to directly interact or manage their reservations. This limitation brings some challenges:

* Lack of transparency: customers cannot easily access real-time information about their reservations, which makes it difficult to track and manage urns.
* Inconvenient communication: customers often have to contact management directly to update information, resulting in delays and potential communication errors.
* Manual customer process: The lack of online platform leads customers to face complicated processes, such as paperwork or calling to handle changes, renewing or asking about their urns.

This defect in the customer interface reduces the efficiency and satisfaction of the ashes storage service. Therefore, the demand for integrated Web solutions enables customers to:

* Check the status of your reservation.
* Manage and update lease details.
* Get notifications and updates related to their urns.

By filling this gap, the new system will improve the customer experience, provide greater transparency and simplify the interaction between the ashes service and customers.

### 3.1 Sala Garden

Descriptions: Sala Garden is located in Tan Hiep commune, Long Thanh district, Dong Nai province, 35 km from Ho Chi Minh City city. This is not only a resting place, but also a memorial park, where family members gather, thereby forming a culture of visits, to strengthen the bond between generations and the deceased. . Sala Garden is the only 5-star cemetery garden in Vietnam that owns a modern needle static system built synchronously with environmental protection technology that meets European standards.

Link: [Hoa Viên Nghĩa Trang Sala Garden Long Thành (salagardens.com)](https://salagardens.com/)

System actors:

* Management: system management
* Staff: responsible for service distribution and customer care
* Customers: order services, make payments and track information

Features:

* Funeral service
* Burial and cremation services
* Grave design and construction services
* The wall stores ashes
* Grave care service

Pros:

* 5-star standard amenities such as temple, funeral home, Sala monastery, crematorium, ashes wall,...
* Full and professional service

Cons:

* There is no online service booking system but still need to contact directly

### 3.2 Columbarium USA

Descriptions: Columbarium USA is an ashes storage service in the US, providing storage solutions with a variety of spaces and prices, with an online management system.

Link: <https://www.columbariumusa.com/>

System actors:

* Admin: Manage brothels, storage status and contracts.
* Staff: Customer support and maintenance.
* Customers: Booking, payment and tracking information.

Features:

* Manage brothels and storage locations.
* Book and pay online.
* Automatic reminders and notifications.
* Reporting and data analysis.

Pros:

* Convenient online management system.
* Diverse storage options, competitive prices.
* Supports many payment methods.

Cons:

* The interface is not optimized.
* Customer support is limited.

## 4. Business Opportunity

**Market Opportunity:**

Currently, the need to store the ashes of deceased relatives is increasing, especially in large cities with high population density and limited burial land area. Businesses providing ashes storage services, also known as columbariums, are looking to optimize the management and delivery of this service to meet growing customer demand.

Business Problem: Current management systems have many limitations, including managing customer information, managing storage status, and supporting customers in booking and payment. These processes are often complex and time-consuming, causing difficulties for both businesses and customers.

**Market Environment:**

The current market includes many companies providing ashes storage services of varying sizes and qualities. Large companies such as Nirvana Memorial Garden and Eternal Gardens have built strong brands and have good infrastructure, but there are still many smaller businesses that are struggling to manage effectively and meet customer needs. row.

**Comparative Evaluation:**

Compared to existing systems, the proposed crematorium management software will provide a more comprehensive and optimal solution. It will integrate warehouse management, customer information, contract and payment features, while providing a user-friendly and easy-to-use interface. This will help businesses save time and costs, improve management efficiency and enhance customer experience.

**Unsolved Problems:**

Currently, many businesses do not have an effective online management system, leading to inconsistent information storage and management, making it difficult to control warehouse status and interact with customers. The new product will solve these problems by providing a comprehensive and easy-to-use online management system, helping businesses improve workflow and provide better services.

**Market Trends and Strategic Directions:**

Current market trends are shifting strongly towards digital solutions and automation. Applying technology to ashes storage management not only helps improve efficiency but also meets customers' increasing demands for convenience and transparency. This product is consistent with the strategic direction of many businesses in applying technology to improve services and create competitive advantages.

## 5. Software Product Vision

**Vision Statement:**

Ash storage management software will become a pioneering solution in optimizing management and providing ashes storage services. With a comprehensive, easy-to-use and highly secure online system, this product will help businesses improve management efficiency, reduce operating costs and bring the best experience to customers. In a world where technology plays an important role in every field, this product will be a bridge between tradition and modernity, bringing peace of mind and convenience to those who have lost loved ones.

**Purpose and Intent:**

The goal of the product is to provide a comprehensive management solution for ashes storage service businesses, helping them effectively manage customer information, storage and post-production services. The product will help automate processes, reduce errors and increase customer interaction through advanced online features.

**Balanced View:**

Products are designed to meet the needs of both businesses and customers. For businesses, the product helps manage effectively and save costs. For customers, the product brings convenience in booking, paying and tracking information. The product is also consistent with modern technology trends and the strategic direction of the business in applying technology to improve services.

**Reality Check:**

While the product had an idealistic vision, it was also designed based on the realities of market needs, technical capabilities, and available resources. The product will be developed in stages, starting with basic features and gradually expanding with advanced features based on user feedback and market demand.

This product not only helps solve current problems but also creates new opportunities for businesses to improve service quality and create a strong brand in the field of ashes storage.

## 6. Project Scope & Limitations

The Columbarium Management System project aims to provide a comprehensive solution for managing and operating cremation storage facilities. The software will help businesses optimize storage management, customer information, and service processes. The project scope includes developing basic and advanced features to meet the needs of businesses and customers.

The software will bring numerous benefits to businesses by effectively managing storage facilities, enhancing service quality, and optimizing customer experience. The integration of advanced features such as online booking and payment, automated reminders, and data analysis will help businesses better meet the growing needs of customers and the market.

### 6.1 Major Features

FE-01: User Interaction

* View Homepage
* User Authentication (Login, Password Reset)
* Register Visit
* Schedule Contract Signing

FE-02: Columbarium Management

* View Houses, Floors, Areas, and Slots (Guests and Staff)
* Detailed Slot Information (Ownership and Occupancy) (Staff)

FE-03: Online Booking and Service Management

* Online Booking for Slots
* View and Book Services
* View and Manage Service Orders (Create, View, Modify, Delete)
* Service Invoice Payment

FE-04: Contract Management

* View Contracts
* Register for Contract Renewal
* Staff Management of Contracts (View, Add, Notify for Payment)

FE-05: Personal Information Management

* View and Edit Personal Information

FE-06: Customer Management (Staff)

* View and Manage Customer Information (View List, Details, Add, Edit)
* Manage Visit Orders (View List, Details, Modify)
* Manage Slot Bookings (View List, Details, Update)

FE-07: Reporting and Analytics (Managers)

* View Contract Status Reports (Daily/Monthly/Yearly)
* View Service Status Reports (Daily/Monthly/Yearly)
* View Income Reports

### 6.2 Limitations & Exclusions

**LI-1: Mobile application**

In the initial stages, the software only offers a web version. Mobile applications will be developed at a later stage if there is a need.

**LI-2: Multi-language support**

The first version of the software will only support Vietnamese. Other languages will be considered for addition in future versions.

**LI-3: Integration with asset management or ERP systems**

The software does not include integration with major ERP or asset management systems in its initial release. This feature will be considered in future versions.

**LI-4: Physical Asset Management**

The software will not manage physical assets other than the urn cells. Physical asset management will require a separate system or additional integration.