OUR LADY OF FATIMA UNIVERSITY
COLLEGE OF COMPUTER STUDIES
ANTIPOLO CITY

ILOCATE: AN ONLINE RECORD MANAGEMENT SYSTEM WITH EMAIL NOTIFICATION FOR PROVIDENCE MEMORIAL PARK-ANTIPOLO

A Capstone Project

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Chapter I

INTRODUCTION

Mapping and information management are crucial aspects of cemetery operations, aiding both staff and visitors in locating burial sites and managing records efficiently. In general, mapping involves the organization of burial plots within the cemetery grounds, often utilizing block and lot designations for different sections. This general approach provides an overarching framework for understanding the layout of the cemetery and the allocation of burial spaces.

Recognizing these problems, researchers decided to create a system called iLocate: An Online Record Management System for Providence Memorial Park. This system aims to make burial procedures easier by using technology. Instead of visiting the cemetery office, people can now fill out forms online using a website. This not only saves time but also reduces mistakes, making the whole process smoother for both customers and staff. Interview results with Engr. Hans shed further light on the significance of mapping in cemetery operations. Engr. Hans highlighted the diverse nature of burial plots, ranging from lawn lots to estate lots, each with its own set of regulations and characteristics. Additionally, he emphasized the importance of accurate mapping in facilitating various burial procedures, such as obtaining permits and scheduling interments. Overall, the mapping system plays a crucial role in streamlining operations and enhancing the overall experience for clients at Providence Memorial Park.

Background of the Study

Providence Memorial Park, located in Antipolo, has been a cornerstone in providing dignified burial services for over two decades. Established in the early 2000s, Providence has become a trusted name in the funeral industry, offering peaceful resting places for the departed. With a dedicated team of over fifty employees, including regular staff and contractors, Providence ensures the upkeep and maintenance of its vast grounds, spanning more than 9 hectares, providing comfort to grieving families in their time of need. Moreover, Providence extends its services beyond Antipolo, with branches in Dasmarinas, Cavite, and San Jose Delmonte, Bulacan, catering to a broader clientele.

Currently, the process for families at Providence Memorial Park involves a traditional approach that can be time-consuming and difficult. Families seeking burial services must physically visit the cemetery office to fill out necessary forms and complete paperwork. This manual process not only demands significant time and effort from both the families and the staff but also increases the chance of mistakes in documentation. Furthermore, the lack of a digital platform for keeping records and communicating adds to the inefficiency of the current process, hindering smooth operations and customer satisfaction.

Recognizing the inefficiencies and challenges posed by the current process, researchers encountered several problems during their investigation. Firstly, they observed that the reliance on physical paperwork led to delays and mistakes in record-keeping, causing frustration for both families and staff. Additionally, the absence of a

centralized system for information management made it hard to track submissions and communicate updates effectively. Moreover, the absence of a digital interface deprived families of the convenience and accessibility they expect in today's digital age, further complicating the already stressful process of arranging burials.

To address these challenges, the researchers proposes the development of iLocate: An Online Record Management System for Providence Memorial Park. This innovative solution uses technology to simplify burial procedures, providing families with a user-friendly website to fill out forms and submit requirements remotely. By digitizing the process, iLocate aims to remove the need for physical visits to the cemetery office, saving time and reducing mistakes. Furthermore, the mapping function of iLocate makes it easy to find your way around the cemetery grounds, improving the overall experience for families. With features such as email notifications for updates on submissions, iLocate ensures clarity and peace of mind for both families and staff, bringing in a new era of efficiency and convenience at Providence Memorial Park.

Objectives of the Study

The general objective of the study is to develop an Online Record Management System for Providence Memorial Park, named iLocate.

Specifically, the study aims to:

1. To enhance the efficiency of locating burial sites within Providence Memorial Park.

2. To develop a user-friendly website facilitating burial arrangements for families.
3. To enable families to complete forms and submit requirements online, eliminating the need for physical visits to the cemetery office.
4. To integrate a mapping feature into the website, simplifying navigation within the cemetery grounds.
5. To establish an automated email notification system to keep families updated on submission statuses and scheduling.
6. The proposed study will be evaluated using ISO/IEC 25010 quality model.

Scope of the Study

The scope of the study is to provide an automated system that enables quick record searches, easy navigation to gravesites through digital mapping, and ensures secure backup of records.

- Detailed analysis of existing procedures in cemeteries for internment requests, record management, and form processing related to burials.
- Design and development of a dedicated system for internment order forms at Providence Memorial Park.
- Incorporate a payment gateway for processing fees related to internment services, allowing users to make payments online securely.

- Create a digital map of the cemetery with the ability to track available plots, reserved plots, and occupied plots, facilitating efficient allocation.
- A feature enabling administrators to monitor the schedule and timeline of internment procedures.

Limitation of the Study

The limitation of the study which is not included in the study are the following:

- The application will only work with an internet connection.
- The system may encounter compatibility issues with outdated web browsers or devices, potentially affecting user experience.
- Language barriers could limit iLocate's accessibility since it currently only supports one language, possibly excluding non-English speakers from using the system.

Significance of the Study

A discussion of the significance of a study for the iLocate: An Online Record Management System with Email Notification for Providence Memorial Park - Antipolo typically includes an explanation of what is the work's significance and who will benefit also when the system is already developed, its potential benefits and its overall impact.

Management. iLocate at Providence Memorial Park helps managers by making burial procedures smoother and organizing records better. With iLocate, managers know quickly about burial requests and available plots, helping them make smart decisions.

Plus, the map feature lets them see how the cemetery is used, so they can maintain it well and keep the park's reputation high.

Staff. iLocate makes work easier for staff by handling paperwork automatically and keeping all internment requests in one place. This saves time, so staff can focus on supporting grieving families and keeping the cemetery neat. Also, the map feature helps staff find burial sites quickly, making their job easier and more satisfying.

Families. Families benefit a lot from iLocate because it lets them arrange burials from anywhere and cuts down on paperwork. The easy-to-use interface and map make it simple for them to find their loved ones' resting places. Plus, they get updates on their submissions, which helps them feel more at ease during a difficult time.

Future Researchers. iLocate opens doors for future researchers to study how to improve burial management systems. They can look into making iLocate even better for users, and explore new technologies to help cemeteries run smoother. Also, they can see how iLocate affects cemeteries in the long run, providing insights for making burial services even better in the future.

Operational Definition of Terms

The definition of terms is based on observable characteristics and how it is used in the study. For the purpose of clarity, the following terms are defined operationally.

Cemetery Operations. The management activities involved in internment requests, record keeping, and maintenance tasks within a cemetery setting. Utilized in the study to

understand the existing processes and identify areas for improvement in cemetery management.

Digital Map. A graphical representation of the cemetery grounds and burial plots accessible online. Incorporated into iLocate to provide users with a visual guide for locating burial sites within Providence Memorial Park.

Email Notification. Automated messages sent via email to provide updates and notifications to users. Utilized in iLocate to keep users informed about the status of their submissions and scheduling of burial services.

Form Processing. The handling and management of burial-related paperwork. iLocate automates form processing, allowing families to submit requirements digitally, thereby streamlining the burial arrangement process.

Internet Connection. The connection that links a device to the internet, enabling online access. Required for accessing iLocate's online platform and utilizing its features effectively.

Mapping Function. The feature that displays the layout and locations within the cemetery. iLocate's mapping function facilitates visualization of burial plots and navigation within the cemetery grounds, enhancing user experience.

Record Management. The organization and storage of burial-related records and information. iLocate streamlines record management by centralizing burial requests and documentation, ensuring efficient data organization.

Submission Status. Indicates the current stage of a user's request within the iLocate system. iLocate provides updates on submission status via email notifications, keeping users informed throughout the burial arrangement process.

User Interface. The visual design of the online platform, facilitating user interaction. iLocate offers a user-friendly interface for easy navigation and seamless interaction, enhancing user satisfaction and usability.

Workflow Optimization. The improvement of efficiency in task completion and resource allocation. iLocate optimizes workflow by digitizing burial procedures and implementing features such as form processing and email notifications, thereby enhancing operational efficiency.

Conceptual Model of the Study

The conceptual model of the study shows the input – process – output of the system. The input shows the knowledge and software requirements, while the process shows the model used for making the system and the output in which the system is shown.

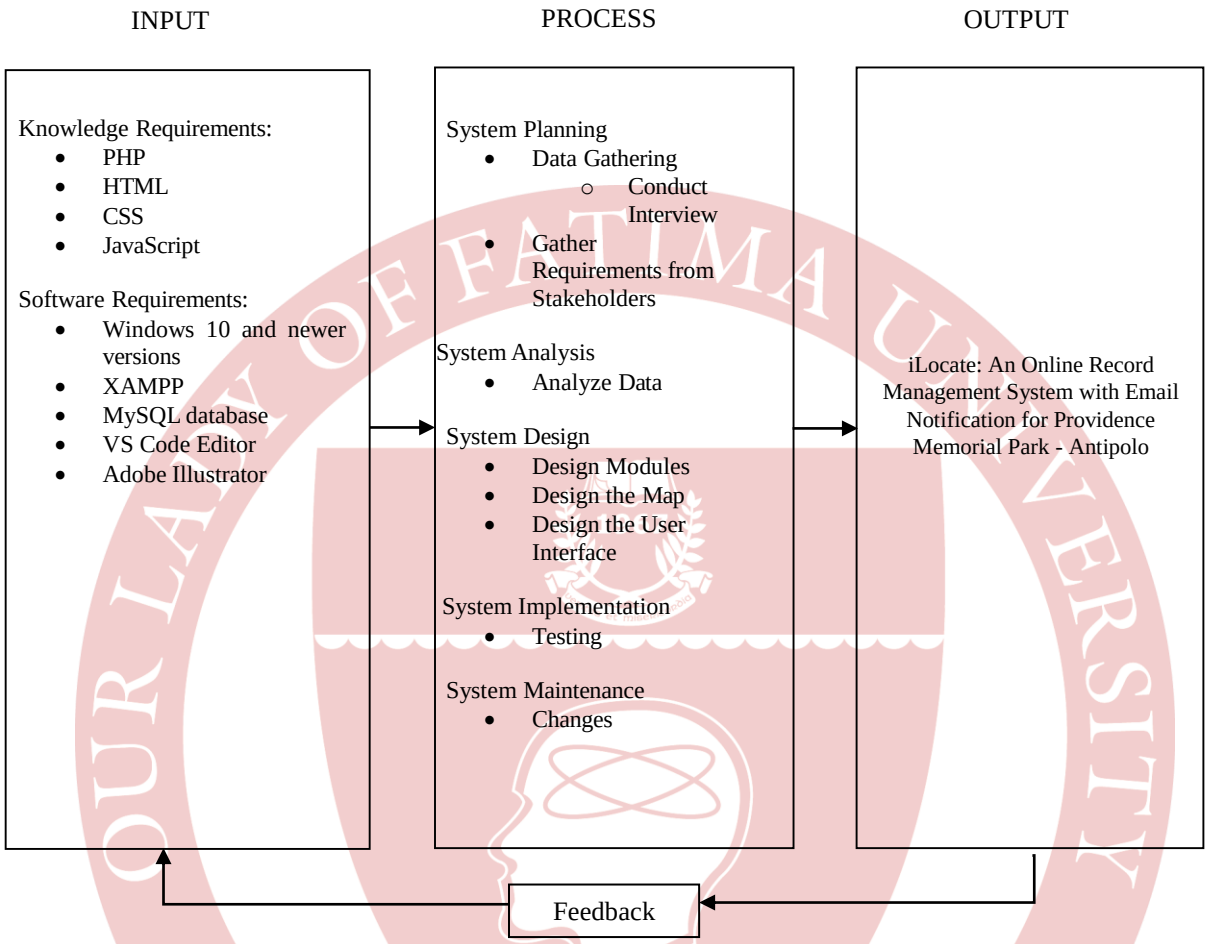

Figure 1. **Conceptual Framework of the Study**

It shows all concept used to develop and design the system. It is composed by using input, process, and output model to understand the data flow and identify the materials being used in conducting the study. The Input contains the data & requirements that is needed to create the project. The process contains system planning, system analysis, system design, system implementation, and system maintenance. Output shows the result made by researchers that focuses on iLocate: An Online Record Management System with Email Notification for Providence Memorial Park – Antipolo.

Chapter II

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter presents the related literature and studies after the thorough and in-depth search done by the researchers. This will also present the technical background and synthesis, to fully understand the research to be done.

Technical Background

Transitioning from manual operations to a web-based management system that enables quick record searches, easy navigation to gravesites through digital mapping, and ensures secure backup of records. This upgrade not only makes work more modern but also shows how we are using the latest technology to improve and provide a better service to everyone.

In the software components, the system operates on Windows 10 and newer versions. XAMPP version 8.2.12 to handle server setups and MySQL database version 8.3.0 to store and manage data. In the development process, researchers use VS Code Editor version 1.86 for writing code. Programming languages such as PHP, HTML, CSS, and JavaScript to make the system's functionalities and user interfaces. Additionally, Adobe Illustrator version 28.3 is used to draw maps. These tools and technologies contribute to making the system better, easier, and visually appealing for everyone to use.

Foreign Literature

According to Noor et al. (2023), the initial aim of this research was to address a concern confronted by the state religious council in Perlis, Malaysia: the surplus of waqf land allocated for cemetery purposes, posing sustainability challenges ongoing development trends. MAIPs Perlis, facilitated by GIS software such as QGIS and MapInfo. Findings revealed a mismatch between waqf land usage and local land zoning, indicating deficient communication between planning authorities and the religious council. This imbalance could lead to an overabundance of cemetery land until 2035. The study proposes enhancing waqf land management through GIS technology integration, particularly within MAIPs' MYGOS database, facilitating data accessibility and transparency. Such efforts highlight the potential of GIS in modernizing traditional land management approaches and exposing data inconsistencies between religious and urban planning institutions in Malaysia, facilitated by GIS software such as QGIS and MapInfo Findings revealed a mismatch between waqf land usage and local land zoning, indicating deficient communication between planning authorities and the religious council. This imbalance could lead to an overabundance of cemetery land until 2035 proposes enhancing waqf land management through GIS technology integration.

The literature shares a common theme with the current study, employing GIS software to facilitate accurate mapping within a system designed to assist in locating graves within a cemetery. In this literature, it is revealed that there is a mismatch between waqf land and local land zoning, causing deficient communication between planning

authorities. This imbalance could lead to an overabundance of cemeteries estimated until 2035. The literature discusses the use of two types of GIS software, QGIS and MapInfo, which could potentially assist the current study in developing a mapping system.

According to Rae (2021), the significance of cemeteries in cities grows. These spaces not only serve as vital public green areas but also hold historical and cultural value, embodying sacred and social meanings as sites of burial. This study delves into cross-national disparities by comparing Green-Wood Cemetery in Brooklyn, New York, USA, and Östra kyrkogården in Malmö, Sweden, employing a case study approach. Through semi-structured interviews and observations, it scrutinizes differences in management, funding, and physical layout, and their impacts on recreational utilization. The study highlights how funding sources, burial practices, and landscape design influence public access and the multifunctional role of cemeteries as urban green spaces. Ultimately, it underscores the evolving nature of cemeteries as dynamic landscapes serving both the living and the departed, subject to diverse national practices and policies.

This literature can help researchers understand the importance of cemeteries and advocate for improved accessibility to sites for a better overall experience. The literature explores differences in cemetery management, funding, and form, and how these factors can influence the recreational usage of space as public urban green space. It also examines how the physical layout of a cemetery can impact public accessibility, its use as urban green space, and landscape management practices.

According to CemSites (2022), the utilization of management software in cemeteries has become increasingly imperative with the advancement of modern technology. Such software facilitates efficient management of cemetery records and it simplifies the process of locating gravesites for both cemetery staff and visitors. By transitioning from traditional methods to user-friendly customer relationship management (CRM) software, significant time and financial resources can be saved. This software enables quick record searches, easy navigation to gravesites through digital mapping, and ensures secure backup of records, mitigating risks associated with disasters or data breaches. Overall, implementing cemetery software not only enhances operational efficiency but also offers a safeguard against potential disruptions, making it a vital asset for cemetery management.

This literature can help researchers to understand why cemeteries are becoming increasingly imperative with the advancement of modern technology. Such technology facilitates efficient management of cemetery records and simplifies the process of locating gravesites for both cemetery staff and visitors. Transitioning from traditional methods to user-friendly customer relationship management software enables quick record searches, easy navigation to gravesites through digital mapping, and ensures secure backup of records, thereby mitigating risks associated with disasters or data breaches. Implementing cemetery software not only enhances operational efficiency but also offers a safeguard against potential disruptions, making it a vital asset for cemetery management.

According to Komalasari (2020), the Waqf cemetery information system, a web-based platform which aims to establish a comprehensive database reflecting the actual status of Waqf cemetery lands across Karees, Cibeunying, Bojonegara, and Tegallega areas. Employing the waterfall model, this research entails a thorough review of relevant legislation, database fundamentals, and system development theories. Field surveys, initially focusing on Gedebage and Ujung Berung areas and later extending to direct field reviews in Karees, Cibeunying, Bojonegara, and Tegallega, have yielded valuable insights. Results reveal a total Waqf cemetery land area of 36,547 m2, comprising 19,751 m2 certified and 16,796 m2 uncertified lands, spread across 22 cemetery locations in nine sub-districts, covering an area of 19,571 m2. Moreover, 13 cemetery locations spanning 8 sub-districts with a total area of 13,197 m2 lack certification but possess Akta Ikrar Wakaf (AIW), while 36 uncertified cemetery locations across 5 districts encompass 9,205 m2. The developed web-based application offers expedited search processes, robust reporting, and statistical data analysis, thereby enhancing efficiency, minimizing errors, and augmenting community service delivery.

This literature will assist researchers in understanding that a comprehensive database entails a review of relevant legislation, database fundamentals, and system development theories. Additionally, it highlights the development of a web-based application that offers expedited search processes, robust reporting, and statistical data analysis. This approach enhances efficiency, minimizes errors, and augments community service delivery.

According to Eichert (2021), in contemporary archaeological practice, the dissemination of cemetery research typically adheres to a standardized format, featuring detailed catalogs of graves, buried individuals, and associated artifacts complemented by site maps and visual representations. Despite advancements in digital data utilization, publications often remain confined to traditional formats like PDFs, hindering accessibility and analysis. Addressing this gap, this article explores strategies for digitizing burial data and ensuring its sustainable accessibility to the public. Drawing from previous endeavors, the author introduces OpenAtlas, a database system facilitating the acquisition and mapping of archaeological data onto CIDOC CRM standards. Additionally, spatial and temporal ambiguities are addressed through concepts like GeoJSON-T, with data made available as Linked Open Data through a JSON-LD API. While data acquisition predominantly relies on manual input due to prevailing publication norms, recent efforts have digitized hundreds of burial sites, particularly focusing on Early Medieval Austrian and Czech contexts. To facilitate data dissemination, an online platform, thanados.net, has been developed, providing a user-friendly interface for accessing and exploring this wealth of archaeological information.

This literature provide knowledge to the researchers in understanding why cemeteries typically adhere to a standardized format, which includes detailed catalogs of graves, buried individuals, and associated artifacts, complemented by site maps and visual representations. Despite advancements in digital data utilization, publications often remain confined to traditional formats like PDFs, hindering accessibility and analysis.

The literature also discusses strategies for digitizing burial data and ensuring its sustainable accessibility to the public.

Local Literature

According to Gonzaga et al. (2023), they introduced a new system to manage cemeteries and memorial gardens in Negros Occidental, Philippines. This system uses maps and data analysis to make managing these places easier. It helps by making processes smoother, improving how services are given, and reducing mistakes. It also helps keep the burial grounds tidy and organized. People who work there can quickly find and update records, send bills, and make reports. The system even helps with tasks like transferring ownership of graves and planning maintenance. This means the graves are kept nice, creating a respectful place for visitors. Plus, there's a user-friendly system for visitors to leave messages and get updates, making the experience more personal. Overall, it's made visiting and managing cemeteries better for everyone involved.

Furthermore, by utilizing modern technology like GIS, the system ensures that resources are used efficiently, contributing to cost savings and sustainable management practices. This innovative approach not only improves the operational efficiency of cemeteries but also enhances the overall experience for families and visitors, fostering a sense of connection and comfort during times of remembrance.

The literature review and the proposed study both are aiming for the integration of modern technology to revolutionize cemetery management practices, underscoring a

shared emphasis on efficiency, accuracy, and enhanced visitor experiences. By leveraging advanced systems like Geographic Information Systems (GIS) and online record management platforms, both initiatives seek to lessen the burdens associated with traditional manual processes. They aim to organize tasks such as record-keeping, form submissions, and communication channels, thereby reducing delays, errors, and unnecessary physical visits to cemetery offices. Furthermore, the proposed features of the iLocate system, such as email notifications and mapping functions, echo the user-friendly interfaces described in the literature, promising to provide visitors with convenient and personalized interactions. Ultimately, these efforts towards technological integration not only promise cost savings and sustainable management practices but also signify a paradigm shift towards a more efficient and visitor-centric approach to cemetery management.

According to Algura (2019), the cemeteries, often perceived as desolate and eerie landscapes, are in fact vibrant communities where residents of Manila North Cemetery live and thrive amidst the tombs and mausoleums. Through ethnographic research, interviews, and observations, the hidden stories of life within these spaces were uncovered and utilized to create a series of maps. These maps, based on the actual layout of the cemetery, depict stained-glass images representing aspects of life such as motherhood, faith, and peaceful coexistence. Contrary to popular belief, the residents exhibit a strong sense of family ties and Christian faith, demonstrating resilience and hope for the future despite societal perceptions. The maps serve as a testament to the

coexistence of the living and the dead within the same space, challenging stereotypes and highlighting the urban life on the fringes of Manila city.

Both the study on Providence Memorial Park's iLocate system and the literature on the Manila North Cemetery share a common theme of using technology and innovation to enhance the experience within cemetery spaces. The literature focuses on creating maps to highlight the vibrant community within the Manila North Cemetery, the iLocate study aims to develop an Online Record Management System to simplify burial procedures and improve efficiency at Providence Memorial Park. Both initiatives recognize the importance of understanding the needs and challenges faced by families dealing with burials, whether it's navigating the vast grounds of a cemetery or streamlining paperwork and communication processes. By leveraging technology, both projects seek to enhance accessibility, convenience, and overall satisfaction for families during difficult times. Additionally, the incorporation of a digital map not only helps visitors navigate the cemetery grounds but also enhances the overall experience by providing clarity and peace of mind.

According to this literature (2024), Cemetery Mapping and Information System (CMIS) serves as a vital tool for cemetery operations by providing precise location coordinates and linked data for various site features such as interment records, monument photos, and site statuses. This system significantly facilitates the task of locating loved ones within the cemetery grounds. Personnel, users, and proponents stand to benefit from CMIS implementation. Personnel efficiency is enhanced, leading to improved customer

satisfaction and service quality through easier access to information and reduced manual recording efforts. Users benefit from streamlined grave location searches and real-time monitoring of grave statuses, even remotely. The objectives of this study encompass improving end-user experience by enabling remote grave location, providing detailed grave information, and facilitating grave status updates without direct interaction with cemetery staff.

The study proposing the development of iLocate: An Online Record Management System for Providence Memorial Park shares several similarities with the literature on Cemetery Mapping and Information Systems (CMIS). Both are initiatives aiming to enhance cemetery operations and improve user experience by leveraging technology. By digitizing the process of burial arrangements and incorporating features such as online form submissions, mapping functions, and email notifications, iLocate aligns with the goals of CMIS to streamline grave location searches, provide detailed information, and enable real-time updates. Through its user-friendly interface and innovative features, iLocate has the potential to significantly enhance end-user experience, improve operational efficiency, and ultimately elevate the service quality provided by Providence Memorial Park.

According to Garcia et. Al (2021), the analysis of land suitability serves as a fundamental step in understanding the potential and limitations of an area for optimal crop cultivation. In this study, the suitability of the entire landmass of the Philippines for

coffee cultivation, specifically C. arabica and C. liberica, was evaluated. Utilizing five agronomic factors including elevation, precipitation, temperature, soil pH, and soil texture, alongside the socio-economic factor of road density, Geographic Information System (GIS) and Multicriteria Decision Making (MCDM) techniques were employed to produce suitability maps. These criteria were standardized and weighted using the Analytical Hierarchy Process to create comprehensive suitability assessments. The findings indicate that a significant portion of the country's land exhibits varying degrees of suitability for coffee cultivation, with considerations of sustainability and profitability integrated through the inclusion of road density as a socio-economic indicator. Validation of the suitability maps was conducted using production volume and field verification, providing a robust foundation for enhancing coffee production management and practices. This study not only furnishes essential baseline data for coffee farming improvement but also fosters awareness towards more sustainable approaches within the coffee industry.

The similarity between the literature on land suitability analysis for coffee cultivation and the proposed study on developing an Online Record Management System for Providence Memorial Park lies in their shared objective of leveraging technology to enhance efficiency and convenience within their respective domains. Just as the land suitability analysis study employs Geographic Information System (GIS) and Multicriteria Decision Making (MCDM) techniques to produce suitability maps for coffee cultivation, the iLocate system proposed for Providence Memorial Park utilizes

digital platforms and mapping functionalities to streamline burial procedures. Both studies recognize the importance of integrating technology to address existing challenges and improve processes. By implementing iLocate, families no longer need to visit the cemetery office physically, aligning with the aim of the land suitability study to improve efficiency through technology. This digital solution facilitates remote form submissions and provides email notifications for updates on submissions and scheduling, thereby reducing the time and effort required from both families and staff.

According to Augustus et. al (2019), community engagement is fundamental for fostering community development and addressing unforeseen events. This research introduces a community-driven incident reporting and mapping system aimed at enhancing public awareness and collaboration between authorities and citizens. Leveraging the Google Maps API, this system facilitates the dissemination of pertinent information, efficient incident management, and visualization of significant occurrences through geographical mapping. Employing reverse geocoding techniques, geographic coordinates are translated into comprehensible city addresses and street names, enabling the visualization of incident data on maps. Moreover, the system encourages community involvement by allowing individuals to validate reported incidents in their vicinity, thereby enhancing the accuracy of data monitored by governmental bodies. Feedback from city officials and residents underscores the system's utility in streamlining inter-agency coordination and improving management efficiency. The study underscores the

efficacy of geographical visualizations and color-coded incident markers in providing lucid presentations of incidents, thereby empowering decision-making processes.

The study on the development of iLocate: An Online Record Management System for Providence Memorial Park shares several similarities with the literature on community engagement and incident reporting and mapping systems. Both emphasize the importance of leveraging technology to streamline processes, enhance communication, and improve efficiency. While the literature focuses on community-driven incident reporting systems, the iLocate system aims to simplify burial procedures and improve the overall experience for families at Providence Memorial Park. By introducing a digital platform for record management and communication, iLocate aligns with the broader goal of enhancing public awareness and collaboration, albeit in a different context. Furthermore, both initiatives emphasize the utilization of mapping technology to visualize information and facilitate decision-making. The iLocate system's mapping function not only helps families navigate the cemetery grounds but also contributes to efficient allocation and management of burial plots.

Foreign Studies

In the research conducted by Schmidt, Yuan, and Jang (2020), geospatial technologies were effectively utilized to enhance local-level cemetery management, particularly in Woodland Hills Memorial Park Cemetery, Minnesota, USA. Through meticulous data collection using Trimble Geo 7X unit with a Zephyr antenna and a Laser

Rangefinder sensor, coupled with Excel table integration and GIS mapping, the study achieved remarkable locational accuracy. Analysis of the collected data unveiled insightful demographic patterns, such as the significant representation of ethnically German and Scandinavian individuals, with a notable portion being veterans, predominantly from the Greatest Generation. The study's findings not only provide valuable insights for cemetery managers for future development planning but also serve as a resource for historians and enthusiasts interested in local culture and history. The outlined methodology holds promise for streamlining cemetery data management, mapping, and analysis at the local level, showcasing its potential significance in cemetery management practices.

This study concludes that using GIS geospatial technologies has achieved remarkable locational accuracy and has been effectively utilized to enhance local-level cemetery management. As a result, researchers have confidence that this study will be successful in streamlining cemetery data management, mapping, and analysis at the local level. This showcases the potential significance of GIS in cemetery management practices, which aligns with the aims of the current study.

Lot #	Sec. #	Pl .#	First Name	M. int.	Last Name	DoB	DoD	Vet-eran	Epi-taph	Urn	Marker
73	A	2	Jane1	C.	Doe1	06/17/1949		No	No	No	Mult.
73	A	1	John1	M.	Doe1	11/02/1948	08/22/2003	No	No	No	Mult.
73	B	1	John2	D.	Doe2	1929	2015	No	No	No	Mult.
73	B	2	Jane2	F.	Doe2	1933		No	No	No	Mult.
73	B	3	John3	W.	Doe3	03/13/1929	01/08/2016	Korean	Yes	No	Single
73	B	4	Jane3	J	Doe3	05/14/1935		No	Yes	No	No
73	C	1	John4	J.	Doe4	1930	2015	No	No	No	Mult.
73	C	2	Jane4	L.	Doe4	1935	2010	No	No	No	Mult.
73	D	1	John5	W.	Doe4	02/29/1960	10/29/2016	No	Yes	No	Single

***Figure 2*: Plot attribute table**

This table illustrates how the researchers organized the data to facilitate the plotting of graves, aiding the current study in understanding and identifying the necessary components for creating a system that enables easy navigation.

According to Sultana et. al (2021), urbanization is rapidly advancing worldwide, impacting regions like Bangladesh, particularly evident in its capital, Dhaka, which faces challenges in cemetery maintenance. Currently, manual methods are predominantly utilized for graveyard management, leading to inefficiencies in documentation, storage, and retrieval of crucial information. Recognizing the critical need for improvement, this study aims to develop a digitized graveyard management system tailored to Bangladesh's context. Through field visits and surveys, functional and non-functional requirements were identified, culminating in a conceptual framework. Subsequently, a web-based system was developed, facilitating structured preservation of cemetery records, financial management, and employee monitoring. Traditional paper-based record-keeping poses risks of loss, damage, and inefficiency, emphasizing the urgency for digital

transformation. The proposed system not only enhances workflow and data security but also enables public access to burial information. Future enhancements include integration with mapping technology and government platforms for comprehensive data gathering on mortality statistics and burial sites.

This study shares similarities with the current study, as both propose transitioning from manual operations to a web-based management system. They both recognize the challenges of manual operations, including inefficiencies in documentation, storage, and retrieval of crucial information. Traditional paper-based record-keeping methods also pose risks of loss, damage, and inefficiency, highlighting the need for digital transformation. Both studies propose graveyard management systems aimed at structured preservation of cemetery records, financial management, and employee monitoring. These systems not only enhance workflow and data security but also enable public access to burial information.

However, there is a difference between the two studies. While this study does not integrate a mapping system, the current study does. The integration of a mapping system in the current study aims to facilitate the finding of graves without the need for staff assistance, particularly for relatives of deceased persons.

According to Chibuye (2022), the aim of this research was to assess the factors influencing record-keeping practices in cemetery management, particularly focusing on the adoption of electronic models at Lusaka City Council (LCC), Zambia. Using the

Technology Acceptance Model (TAM), the study employed a cross-sectional design with a descriptive quantitative approach in Lusaka District, with a population exceeding 1,733,821. Stratifying the population into seven constituencies due to high density, a sample size of 313/400 (78.3%) was determined using the Taro Yamane formula. Researcher-led interviews and pretested questionnaires were utilized for data collection, with Statistical Package for the Social Sciences (SPSS) software employed for analysis. Findings suggested no substantial evidence to reject the null hypothesis regarding the impact of electronic data management on access to cemetery services at LCC. However, the association between perceived risks of electronic record management and cemetery management favored migration to electronic record-keeping. The subsequent chapter summarized relevant literature on effective cemetery management in Zambia, incorporating theoretical frameworks, historical and contemporary record-keeping methods, technology adoption in cemetery management (including GIS and remote sensing), challenges encountered, and empirical findings from prior studies.

The study shares a common to the current study focusing on enhancing cemetery management through the integration of technology, record-keeping and accessibility for families. Both studies aiming for efficient record-keeping and emphasize the importance of improving accessibility for families seeking burial services. Furthermore, they highlight the potential benefits of technology in streamlining processes, enhancing convenience, and ultimately improving the overall experience for both families and cemetery staff. In contrast, the current study proposes the development of an Online

Record Management System (iLocate) for Providence Memorial Park, while the study conducted by Chibuye & Phiri evaluates factors affecting record-keeping in cemetery management using the Technology Acceptance Model (TAM).

According to Grabalov (2022), recent insights from cemetery research reveal the diverse roles urban cemeteries play beyond their primary function of interring human remains and honoring the deceased. This multiplicity of functions underscores the significance of cemeteries within contemporary cities, necessitating a thoughtful approach to their planning and management. This study aims to investigate the evolving role of urban cemeteries, focusing on two key aspects: the impact of urban densification on the functions of green spaces, and the intersection of secular and spiritual considerations in post secular societies. Situated within the interdisciplinary realm of urban studies, this research employs the concept of public space as its theoretical framework, supplemented by the notion of municipal spirituality to integrate spiritual aspects into planning processes. Through a comparative analysis of three cities—Oslo, Copenhagen, and Moscow—this study illuminates the multidimensional nature of cemeteries as public spaces, highlighting their varying roles and perceptions across different cultural and policy contexts. By emphasizing the spiritual dimension often overlooked in discussions of public space, this research advocates for a more inclusive approach to urban planning that accommodates diverse citizen needs and experiences.

Both studies aim to improve services within their respective areas. The current study, focusing on Providence Memorial Park, aims to update burial processes by

creating an Online Record Management System (iLocate). This technology aims to make arranging burials easier by providing families with a simple platform for submitting forms and communicating. Similarly, the research by Grabalov Urban explores the many roles of urban cemeteries, suggesting better planning and management to meet the various needs of city dwellers. Despite their differences in focus and methods, both studies aim to make things smoother and more convenient for people, whether they are families dealing with loss or city residents looking for peaceful green spaces.

According to Goyal (2024), the management of cemeteries encompasses a range of intricate responsibilities, including record-keeping, upkeep, and security measures aimed at upholding the dignity of the deceased and ensuring efficient operations. Leveraging the distinct features of blockchain technology, such as its immutable nature and automated capabilities, offers substantial benefits in this domain. This study introduces a blockchain-driven application for cemetery administration, delineating its architecture through data flow diagrams, block diagrams, and other pertinent visual aids. Furthermore, it elucidates the research outcomes, comprising performance metrics and user feedback, underscoring the implications for both cemetery management practices and the broader landscape of blockchain technology. By facilitating transparency and security, our research not only advances the social applications of blockchain but also proposes a viable solution for cemetery management specialists and researchers. Through this pioneering approach, we aspire to elevate the efficiency and accountability of cemetery management, ultimately enhancing services for all stakeholders involved.

The study has a similar goal to the current research, aiming to suggest new and helpful ideas to make cemetery management more efficient and user-friendly. Both studies want to use technology to make burial processes easier and to make administrative tasks smoother, with the overall aim of making cemeteries work better for families and staff. iLocate offers online forms, digital maps, and email notifications, focusing on making things easier and more accessible for users. Meanwhile, the blockchain-powered application emphasizes the importance of unchangeable records and automatic management, aiming to make cemetery management more efficient and secure. Combining ideas to the current study could lead to better cemetery management systems, making processes smoother, information clearer, and everyone happier.

Local Studies

According to Lapastora and Mayoga (2020), an Online Information Management at Garden of Memories Cemetery marks a big change in how the cemetery is run. This new system uses technology to manage everything from keeping track of graves to notifying families when their lot ownership is expiring. By moving away from manual processes, the cemetery aims to solve issues like difficulty finding graves, especially during busy times, and keeping families updated about their lots. The goal is to make operations smoother, require less staff, and make visiting the cemetery a better experience for everyone.

This move reflects a wider trend of using technology to improve services. Garden of Memories Cemetery wants to stay up-to-date with modern practices while meeting the needs of its visitors and staff. By embracing this shift towards innovation, the cemetery is taking steps to become more efficient and effective in its operations, ultimately ensuring a better experience for those who interact with it.

The study shares common objectives with the current study regarding the system. They aim to minimize the risk of getting lost when finding graves, particularly during the month of November. The goal is to ensure smoother, more efficient, and effective operations. Additionally, both studies involve transitioning from manual operations to utilizing technology to enhance services, reduce staff requirements, and improve the overall experience for visitors to the cemetery. In contrast would be the current system offers payment gateway since nowadays it is cashless and it will less a man power. and will use a site development plan to track the availability of lots. In contrast, the proposed system offers a payment gateway, aligning with the common cashless trend of today, thereby reducing the need for manpower. Additionally, it incorporates a site development plan to monitor the availability of lots.

According to Oliver (2022), the Lund Memorial Garden, established in 1938, it serves as a public cemetery and using a Microsoft Excel for data management. There are challenges in grave location, mostly during November, prompted the use of Excel for tracking a missing grave. However, knowing the limitations of manual processes, the

proposed system a Cemetery Mapping and Information System are aiming to simplify the grave location, integrating smartphone technology for efficient data access. This system, titled "Cemetery Mapping and Information System for Lund Memorial Garden," seeks to simplify grave location for users and personnel, facilitating quick access to relevant information. The study's scope involves manual grave location based on recorded data, with cemetery management employing phase numbering for easy lot identification. The objectives include ease access to deceased persons' information and addressing current system challenges, ensuring ease of use for both end-users and personnel.

The study shares common objectives with the current study regarding the system. They aim to ensure that the proposed system will assist end-users and personnel in accessing information about deceased persons with ease. Additionally, they propose employing numbering for easy lot identification. In contrast, Oliver's study integrates smartphone technology, which differs from the current study. The current study utilizes web-based technology for ease of use, allowing users to access the site without the need to download any application. The current study proposed a system that offers a payment gateway, aligning with the common cashless trend of today, thereby reducing the need for manpower.

According to Amorin (2019), a capstone project entitled "Cemetery Mapping and Information System for Pateon De Dasmarinas Public Cemetery." The project aims to implement an online-based Management Information System for the public cemetery for

Pateon De Dasmarinas, providing clients with comprehensive information about their deceased relatives and displaying available burial slots. Its primary goal is to assist the local government cemetery in establishing a Management Information System to secure and organize client data, accessible via a website, thereby simplifying services and saving manpower. The project is seeking to address a challenge faced by relatives in locating graves, finding burial spots, and managing time and expenses. Additionally, the scope includes providing mapping and information services to visitors, customers, and employees, facilitating grave location and offering occupant details such as name, lot, block, age, date of death, and birthday. However, it's important to note that the system has limitations, particularly in the scope of information it can store, focusing mainly on occupant details.

The study shares common objectives with the current study regarding the system. It aims to provide clients with detailed, secure, and organized client data information about deceased relatives in a proposed system, with a feature for displaying available burial slots and also it has an image of example lots. Additionally, the study aims to simplify services and save manpower by managing time, expenses, locating graves, and finding burial spots without the need for staff. Now, users can find directions easily via the website.

According to Gamas et. al (2019), a Cemetery Management System for Manila South Cemetery is proposed to address the challenges faced by the visitors in locating

graves and lots within the vast expanse of the cemetery. As one of the largest cemeteries in Metro Manila, with over 750,000 burials effective navigation becomes crucial. Currently, the cemetery utilizes an online website, www.manilasouthcemetery.com.ph, for basic information retrieval but lacks features like satellite views or route guidance. The proposed system aims to develop both mobile and web-based platforms to facilitate easier grave location for customers and streamline management operations. Key objectives include designing features such as registration, mapping, SMS notifications for payment reminders, scheduling modules for appointments, payment scheduling, and document management. These features are intended to enhance user experience, improve payment processes, and digitize document handling, ultimately providing a comprehensive solution to the cemetery's management and visitor needs.

The study shares common objectives with the current study regarding the system. It aims to facilitate easier grave location for customers and streamline management operations by designing features such as registration, mapping, scheduling modules for appointments, and document management. These features are intended to enhance the user experience and digitize document handling.

In contrast, the proposed system of Gamas et al. can be accessed via mobile and web-based platforms, which differs from the current study's availability only through a website. Additionally, in the proposed system of Gamas et al., their system includes SMS notifications for payment reminders and scheduling, a feature that differs from our

proposed system. Our system, instead, offers a payment gateway, aligning with the common cashless trend of today, thereby reducing the need for manpower.

According to Pitogo (2019), that the developed ancestral domain and land management system using JSON successfully integrates data for web mapping and Twitter Bootstrap with an Apache server for the web application, aiding NCIP Caraga offices in storing shapefile data on a centralized database server. This allows for online transactions, improving efficiency over manual methods. Users appreciate the software's user-friendly interface and reliable information, facilitating a more efficient and convenient way for Indigenous People in Caraga to locate their ancestral lands and domains. The project signifies a significant improvement in processing and verifying domain lands among IPs, offering a more accessible means of visualizing data maps compared to traditional hard copy materials. Additionally, the abstract emphasizes the impact of emerging technologies on everyday life, particularly for organizations like NCIP dealing with Ancestral Domains. The introduction of a "Web-based GIS Ancestral Domain Management Using Pull Technology" addresses the pressing need for efficient service delivery, utilizing various technologies to provide a streamlined approach to data management and information generation, ultimately enhancing the agency's ability to meet the needs of its clients effectively.

The study on Providence Memorial Park proposes the development of iLocate, an online record management system, to simplify burial procedures, improve

communication, and enhance the overall experience for families and staff. Similarly, the study on the National Commission on Indigenous Peoples (NCIP) Caraga focuses on developing a web-based GIS ancestral domain management system to streamline data storage, retrieval, and coordination processes, particularly for Indigenous People (IP) clients. Both studies emphasize the importance of technology in overcoming manual processes and improving accessibility to essential services, with iLocate aiming to eliminate physical visits to the cemetery office and the GIS system providing a digitized solution for efficient information generation and delivery for NCIP's clients. Insights from the NCIP study could inform the design and functionality of iLocate, enhancing its effectiveness, while iLocate's focus on user-friendly interfaces and communication features could improve the accessibility and usability of the GIS system for NCIP's clients, ultimately contributing to more efficient service delivery in their respective domains.