UNIVERSITY OF WESTMINSTER **SCHOOL OF COMPUTER SCIENCE AND ENGINEERING**

Final Year Project

Research Project Submission Form

Section 0: Applicant's info

Applicant's Full Name:	Leandro Felix
Applicant's University ID number:	W1846312
University Email Address:	w1846312@my.westminster.ac.uk
Select your level of study:	Undergraduate

Section 1: Project Info

1.1. Supervisor's Full Name:	George Charalambous
1.2. Supervisor's Email Address:	G.Charalambous@westminster.ac.uk
1.3. Project Title:	Photo Map Application

1.4. Please provide a description of the background with references to relevant literature (250 words):

Advancements in digital technology have significantly transformed user interaction with multimedia, particularly through the integration of geolocation features that enhance engagement by providing spatial context to personal experiences. Research indicates that connecting personal data, such as photographs, to interactive maps not only personalizes the user experience but also enriches it by linking memories to specific geographic locations, thus creating a more meaningful context (Smith & Jones, 2020). This integration additionally fosters educational outcomes, encouraging geographical awareness and cultural understanding by connecting experiences with precise geographic markers (Doe et al., 2019).

However, a notable gap persists in applications that combine user- friendly interfaces, interactive mapping, and personalized photo galleries within an educational. Framework. Many existing systems lack intuitive designs that would facilitate photo-location association and also fail to incorporate educational content, such as national flags, languages, and capitals, which could further enhance users' geographical knowledge (Brown, 2021). Furthermore, issues of privacy and security, especially concerning personal content like photographs, remain under-addressed.

The proposed Photomap Application seeks to address these limitations by developing an interactive, user-centred platform enabling users to upload photos and associate them with specific countries on a world map. The application will integrate educational elements while ensuring data security through secure authentication protocols. By seamlessly combining personal memory preservation with educational content, Photomap aims to serve as both a photo management tool and a platform for cultural and geographic literacy, effectively bridging the gaps identified in current applications. he Photomap Application study aims to develop a web-based platform that enables users to upload travel photographs and associate them with specific countries on an interactive world map. This project addresses a gap in existing photo management applications, which typically lack the ability to organize images within a geographic context. By bridging this gap, the Photomap Application intends to enhance both personal photo organization and geographic education. The study explores the intersection of digital photo management and educational tools, aiming to offer a seamless user experience that connects personal memories with interactive geographic information. Additionally, the application emphasizes data security, employing JSON Web Token (JWT) authentication to protect user data and privacy. This study's findings will contribute to understanding how personalized, interactive mapping technologies can impact user engagement and promote geographic literacy. The Photomap Application aspires to serve as more than a photo management tool, inspiring users to explore distinct cultures and connect with their travel experiences on a global scale. he Photomap Application study aims to develop a web-based platform that allows users to upload travel photos, associate them with specific countries on an interactive world map, and access geographical and cultural information. This study uses a user-centred design approach combined with agile methodology to iteratively develop, test, and refine the application based on user feedback and performance data.

Design and Development Phases

Requirements Gathering and Literature Review: The study begins with an in-depth review of existing literature and similar applications to identify core features and common challenges. Requirements are gathered through surveys or feedback sessions with potential users, focusing on needs related to photo organization, educational content, and security.

Initial Application Development: The application is developed from scratch, with core features including user authentication, photo uploading, interactive map integration, and the display of educational content for each country (such as flags, languages, and capitals).

Iterative Testing and Refinement: During development, initial versions of the application are tested to gather feedback on usability and functionality. This testing involves small user groups who provide insights on ease of use, responsiveness, and overall user experience. Feedback is then incorporated to refine and improve the application incrementally.

Educational and Security Integration: Country- specific information is embedded in the application to enhance educational value, while data protection measures (such as JSON Web Token (JWT) authentication) are implemented to ensure user privacy and security. Regular security assessments are planned to safeguard user data and uphold ethical standards.

Performance Testing: Once the key features are developed, load and performance testing will assess the application's ability to support multiple users and maintain efficient load times, ensuring a smooth user experience. Methodology

The study will use quantitative and qualitative methods to evaluate user interaction and application performance. Quantitative data will include metrics like load times and authentication success rates, while qualitative data will be gathered from user feedback sessions that assess user satisfaction with the map interface, photo uploading process, and educational content.

Invasive or Intrusive Procedures

This study does not involve any invasive or intrusive procedures. All interactions are limited to standard application usage, and all collected data are anonymized to protect user privacy. User participation is voluntary, with the option to withdraw at any time. Ethical guidelines are strictly followed to ensure secure data storage and limit its use exclusively for research purposes.

Through this methodology, the study aims to develop an educational and user-friendly application that serves as a photo management tool and a resource for cultural and geographical learning.

1.5. Please provide a brief description and the aims of your study (250 words):

Design and Development Phases

Requirements Gathering and Literature Review: The study begins with an in-depth review of existing literature and similar applications to identify core features and common challenges. Requirements are gathered through surveys or feedback sessions with potential users, focusing on needs related to photo organization, educational content, and security.

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1.6. Please outline the design and methodology of your study and details of any invasive or intrusive procedures (400 words):	none
1.7. Project Start Date:	2024-11-08
1.8. End Date of Work:	2025-04-02

Section 2: External Factors

2.1. Does your research include funding from an external organisation and/or external collaborator/s or co-Investigator/s?:	NO
2.2. Are you seeking ethical approval from the Health Research Authority (HRA)?:	NO
2.3. Are you seeking University sponsorship (as defined by Health Research Authority)?:	NO
2.4. Are you seeking ethical approval from any other external organisation (which is not the Health Research Authority)?:	NO
2.5. Have you been asked by an external organisation to produce evidence of ethical approval for your research?:	NO

Section 3: Participants

3.1. Does this research proposal (as proposed to Research Ethics Committee in its current status) include Research Participants (humans and/ or animals, either	NO

deceased or alive)?:

3.3. Human participants in Health and Social Care settings?:	NO
3.4. Human participants who may be deemed vulnerable due to their setting(s)?:	NO
3.5. Expectant or new mothers?:	NO
3.6. Refugees or asylum seekers or recent migrants?:	NO
3.7. Minors (under the age of 18 years old)?:	NO
3.8. Participants in custody (e.g. prisoners or arrestees)?:	NO
3.9. Participants who may potentially fall under the remit of the Mental Capacity Act?:	NO
3.10. Are animals (or animal tissue) involved?:	NO

Section 4: Risk of harm

4.1. Will any pain or more than mild discomfort result from the study?:	NO
4.2. Could the study induce any psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?:	NO
4.3. Will the study involve prolonged or repetitive physical or psychological testing of human participants that may put someone at risk, e.g. use of treadmill?:	NO
4.4. Will the study involve raising sensitive topics (e.g. sexual activity, drug use, revelation of medical history, bereavement, illegal activities, etc.)?:	NO
4.5. Does your work involve relevant material, defined by the Human Tissue Act as material other than gametes, which consists of, or includes, human cells. In the Human Tissue Act, references to relevant material from a human body do not include: (a) embryos outside the human body, or (b) hair and nail from the body of a living person. Work falling under the Human Tissue Authority.:	NO
4.6. Will DNA samples be taken from human participants?:	NO
4.7. Does your study raise any issues of personal safety for you or other researchers or participants involved in the project (especially relevant if taking place outside working hours or off-site e.g. not on University premises)?:	NO
4.8. Does your study involve deliberately misleading the participants (e.g. deception, covert observation)?:	NO
4.9. Does your work involve administration of a food or non-food substance of a different type from or in abnormally higher or lower amounts than normal or one that is known to cause allergic reaction(s) or potential psychological stress?:	NO
4.10. Does your study involve issues relating to personal and/or sensitive data?:	NO
4.11. Does your research involve any 'security sensitive material? See Universities UK Oversight of Security Sensitive Research Material (2019).:	NO
4.12. Does your research ethics proposal include off-site (i.e. not on University premises) research fieldwork and travel involving face to face interactions?:	NO

Section 5: Information to participants

5.1. Will you provide participants with a Participant Information Sheet prior to obtaining informed consent?: YES

5.2. Will you describe the procedures to participants in advance, so that they are informed about what to expect?: YES

5.3. Will you obtain informed consent for participation (normally written)?: YES

5.4. Will you tell participants that they may withdraw from the research at any time and for any reason?: YES

5.5. Will you give participants the option of omitting questions they do not want to answer?: YES

5.6. Will you tell participants that their data will be treated as confidential and that, if published, it will not be identifiable as theirs?: YES

5.7. Will you offer feedback to participants at the end of their participation, upon request (e.g. give them a brief explanation of the study and its outcomes)?: YES

The applicant confirmed and agreed the following statements:

- The information I have given on this form is true, complete and to the best of my knowledge correct.

- They have read the University's Code of Practice Governing the Ethical Conduct of Research.

- The information provided on this form is subject to the Data Protection Act 2018, General Data Protection Regulation (GDPR) 2018 and the Freedom of Information Act 2000.

- This form may be disclosed as a result of a GDPR Subject Access Request.

- This form may be disclosed as a result of a request for information under the Freedom of Information Act 2000.

- They must ensure that any subjects selected for study are made aware of their rights and our obligations under the Data Protection Act 2018 and General Data Protection Regulation (GDPR) 2018.

- They must ensure that sponsors are made aware that the University of Westminster is subject to the Freedom of Information Act 2000.

Applicant's signature

Leandro Felix
_____
Date: __12/11/2024__

Supervisor's signature

George Charalambous
_____
Date: __12/11/2024__

This form was completed and submitted by the applicant [Leandro Felix] on Tuesday 12 Nov 2024