

Terms of Reference

Cover Sheet

Candidate's name:	Kashif Ahmed
Supervisor's name:	Dr. Annabel Latham
Project title:	Online hobby matching system.
Award:	MSc Computing
Credit rating:	60 credits
Start date:	April 2019
Proposal date:	04-2019
Intended submission date:	27 th September 2019

Project Background And Motivation

Age UK research states that 3.6 million older people in the UK live alone, 1.9 million older people often feel ignored or invisible, and loneliness is as harmful to health as smoking 15 cigarettes a day (AgeUK, 2019). Although there are some services and hobby meetups available, these normally target the younger demographic with the websites designed in a way that is not suitable for older adults. For example *www.match.com* and *www.eharmony.com* are extremely popular services used by people to meet others, but their homepages are filled with pictures of young people, which is likely to put off seniors. *Meetup.com* is a popular service to help people come together based on similar interests but searching for groups that cater to older adults in the UK yields sparse results.

Older adults also have unique mobility and usability needs (**Bergstrom et al., 2014**). Due to limited ability to move the mouse and use the keyboard, the navigation and user interactions in general need to be simplified and the website also needs to be simple, yet appealing. Font size, colors used, animations and placement of content all need to be optimized for an older adult. A better understanding is needed of effective application of age-appropriate design. Recommendations outlined by the World Wide Web Consortium for example in relation to seniors and web services need to be implemented to ascertain efficacy. to help determine how to design a website that combines these unique needs and features in a way to be appealing for older adults and help their social situation while retaining a sustained interest in the web service.

Project Description

This project aims to design and develop an online hobby matching system that will allow older people to find others with similar interests to their own, and to make contact. The system should allow people to register their name and general location and their hobbies and interests. Facilities should include a matched list, showing people with similar interests and

their locations (carefully designed with simple visual feedback), a messaging option, 'chatroom' option and a search facility. Care will need to be taken that the design of the system is age-appropriate. A usability evaluation study involving older people will be done to assess the usefulness of the system, where possible involving links with community workers and the Health and Social Care Department.

Project Aims & Objectives

Aim is to design, develop and evaluate a website that allows older adults to help meet others based on similar interests/hobbies, for the purposes of companionship and friendship. The website should be produced and evaluated by the end of August, 2019.

Objectives

- 1) Conduct a literature review into age-appropriate web design, older adults' needs when using web services and what older adults find appealing when using technology, specifically websites. In addition, review website usability and data security/GDPR privacy compliance.
- 2) Carry out interviews, formal or informal with seniors to gather requirements for the website and help understand the user needs of senior citizens.
- 3) Design a website that allows users to register/login, have a customizable profile, search for adults based on interests/hobbies and a chat/messaging service allowing users to communicate with each other.
- 4) Implement and test the website.
- 5) Evaluate usability testing and user acceptance of the website by having at least 30 adults older than 50 years of age to carry out tasks on the website.

Ethical/Legal/Social Issues

A more detailed analysis of these issues will occur in the dissertation associated with this project; however, it is important to highlight the ethical, legal and social issues in relations to the project. Ethically, because the work is associated with older individuals, it is imperative that they feel respected and no negative feelings arise due to taking part in this study. This can be achieved by being careful regarding the language used. In the dissertation, and during the evaluation, the participants must not be made to feel as if they are 'bad' with technology or any other negative stereotypes that might exist. Furthermore, their privacy and confidentiality must be upheld.

Although this project will not be a commercial product, any commercial website that holds personal data must comply with GDPR legislation that protects user data. There are serious penalties associated with non-compliance. Furthermore, security of the website must be proactively strengthened to ensure no data breaches can occur.

Ethically and legally, the evaluation aspect must ensure that data is collected anonymously, and consent is sought. There will be consent forms available and detailed participant information sheet to ensure the participant is well informed of what they are involved in and whether they want to take part or not. Participants will also be able to stop their participation at any time before and during the evaluation.

This study also has social aspects associated with it. The dissertation will analyse this aspect in greater detail, but it is important to ensure that technology is inclusive or different age groups. A responsible society ensures participation from all its members. Like any age group, older individuals have specific challenges and needs that technology can help address. This study is going to help understanding of how web services can be used to help meet the needs and mitigate the challenges faced by older individuals.

Learning Outcomes

Knowledge and Understanding:

- PLO1. Apply knowledge of computing relevant to a chosen specialization.
- PLO 2. Critically evaluate the impact of current problems and/or new insights in computing.
- PLO 3. Apply advanced principles and techniques of computing to their specialization.
- PLO 4. Critically evaluate current developments and emerging trends, utilizing the knowledge to solve problems in computing, and where appropriate displaying plausible originality in solutions and hypotheses.
- PLO 5. Apply knowledge of a variety of communication approaches to facilitate the sharing of sophisticated concepts and analyses in an appropriate fashion.

Intellectual Skills:

- PLO 6. Apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding at the forefront of computing.
- PLO 7. Critically evaluate arguments, assumptions, and abstract concepts to make judgements and to frame appropriate questions to achieve solutions to a problem.
- PLO 8. Communicate information, ideas, problems and solutions.
- PLO 9. Match problems to computing tools and techniques most suitable for solving them.
- PLO10. Employ the skill required to plan and execute a specific piece of independent research in an agreed specialist field.

Professional and Practical Skills:

- PLO11. Effectively use a range of computer based tools.
- PLO12. Analyse computing and computing-related problems and devise practical solutions.
- PLO13. Prepare presentations, reports and documentation appropriate to requirements.

Transferable/Key Skills:

- PLO14. Communicate effectively using a variety of methods.
- PLO15. Make decisions and evaluate relevant information and data in complex situations.
- PLO16. Use problem-solving techniques and analytic skills in a wide range of practical situations.
- PLO17. Work as effective professionals, exercising as appropriate, skills such as time management, multi-tasking, co-operation, information seeking and data gathering, analysis, synthesis, reflection, critical appraisal, planning and autonomy.

Capabilities:

- PLO18. Have the capability to further their own knowledge and develop new skills via independent study.
- PLO19. Exercise initiative and personal responsibility.
- PLO20. Develop plans to deal with complexity, unpredictability and change.

Values:

- PLO21. Apply the professional, legal and ethical obligations of a computing Professional to their work.
- PLO22. Explain the contribution of study, research and discourse to continuing professional development.

MSc Computing:

- PLO23. Develop computer programs using object-oriented development techniques.
- PLO24. Apply object-oriented techniques for systems analysis and design.
- PLO25. Explain database technology and its exploitation.
- PLO26. Exemplify and explain underlying technical concepts of network, internet and multimedia technology for the delivery of application systems.
- PLO27. Apply appropriate techniques and concepts across to relevant specialist computing subjects.
- PLO28. Propose and implement a research-informed practical project involving system construction or

experimentation work.

Evaluation Plan

The system will be evaluated by conducting a usability study with participants from the target audience (older than 50 years of age). After having the study explained to the participants and after reading and signing the consent forms, the participants will be asked to carry out the following tasks on the website made for this study: -

- Register and Login using the details provided.
- Find three people in Greater Manchester that enjoy reading books.
- Send a message to one of these people saying “Hello. Which books have you recently read?”
- Complete a questionnaire about how they found the website and what improvements they would like to see. Comment on intuitiveness and ease of use.

Milestones and Activities Schedule

- 10th June 2019 – Have the ethics and terms of reference submitted.
- 20th May 2019 – Have a general outline of the website i.e wireframes, designs and technologies to be used to build it.
- June 2019 – Have a draft literature review carried out to give an in-depth understanding of age-appropriate design and good user interface/experience or older adults. Understand the challenges and any unique experiences faced by older individuals when using web services.
- 20th Jun 2019 - Have requirements interviews carried out to help guide website design.
- 10th July 2019 - Design completed and website backend built.
- 20th July 2019 – Have a fully functional website. Have identified at least 30 individuals that can carry out the evaluation of the website. Have a rough draft of the dissertation.
- 30th July 2019 – Carry out a website review with an expert who works with seniors to help suggest improvements to the website. Finalize the website and have a good draft of the dissertation ready.
- July/August 2019 - Website tested fully to ensure functionality is complete and evaluation can be carried out on it.
- August 2019 – Carry out user evaluations and analyze the results to be incorporated into the dissertation. If time allows, incorporate the improvements discovered through the evaluation.
- September 2019 – Finish dissertation and get project ready for final submission.

References

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