

Initial Plan

Carer Communication Application

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Project Description

In a 2017 report into health and care of older people in England, Age UK stated “It is now well understood that our population is ageing rapidly, and that this is now the single most significant driver for changing health and care needs in our society“ (ageUK, 2017, pg 8). With this rise in average age comes an increase in the frequency and complexity of health problems for the elderly such as dementia. This places more demand on our struggling health service and increases focus on caring for the elderly outside of hospitals, for example by putting in place home care packages which can cover personal care, washing, dressing, domestic work, nursing and healthcare (NHS Choices, 2018).

Typically, one patient will have multiple paid carers assigned to their care and they will visit frequently but for short periods of time. Family members often take on the care role to supplement professional care. The success of caring for the elderly in their own homes often relies on a partnership between professional carers and non-professional carers such as family members and friends.

Currently, there is no easy method of communication between those responsible for providing care i.e. between multiple professional carers and the family members, unless a family member is present when the carer visits. Non-professional carers may be remote from the person they care for, with other responsibilities to balance such as maintaining a full time job. The difficulty of communicating with professional carers can lead to worry about the wellbeing of the person they care for.

A UK State of Caring Report 2017 stated “only 15% of people said their contribution is well understood and valued by health and care professionals, despite these being the very people who carers rely on for support” (CarersUK, 2018, pg24). This statistic highlights the disjointed relationship between the different carers, which could ultimately impact the overall quality of care.

In this project, I aim to tackle this difficulty in communicating by designing and building a simple-to-use application for carer interaction. Professional carers will use the application to fill in short, patient-orientated questionnaires that are then stored by the application for later review. Family members will receive notifications of activity on the application and then have access to the recorded information.

The information captured would include objective observations such as whether the care receiver has eaten, washed, been changed or taken their medication. Alongside these indicators of care, the carer could also capture subjective measures such as the patient's mood or whether they'd advise a family member to visit.

The goal of the application would be to have a more consistent and effective care system. Updates from professional carers will help to provide reassurance of the wellbeing of the care receiver when away from family members. For professional care providers, better communication would help provide continuity as care responsibilities shift between professional and non-professional. Importantly, for

the care receiver the application would help to provide a balance between professional care, family/friend involvement and independent living.

Ethics

In my research, I will be using human participants to complete questionnaires. I have therefore completed the 'Research Integrity Online Training Programme' and submitted forms to the ethical approval committee detailing exactly how and why I will be using these participants. I will ensure that questionnaires are kept anonymous and that all participants give consent, knowing that they can withdraw from the questionnaire at any point.

Projects Aims and Objectives

The main aim of this project is to build a functional mobile application that will allow professional carers and families to communicate on a regular basis.

- 1) To gather requirements from the target audience
 - a. Circulate a questionnaire to professional and non-professional carers
 - b. Analyse the questionnaire results effectively. For example, do the professional carers want the application's questionnaire to be very quick to fill in due to their time constraints? Do families want more detailed descriptions or are they happy with yes/no answers?
 - c. Research into existing applications and analyse what they are missing or what techniques they used that could be replicated.
- 2) Research into the most appropriate implementation approach, followed by development of a functional application using the selected architecture.
 - a. What technology choices are most appropriate?
 - b. How should data be stored securely?
 - c. Which development languages should be adopted?
 - d. Which mobile platforms will the application be deployed on e.g. iOS, Android?
- 3) Test that the application meets the functional and non-functional requirements, for example
 - a. Does the application handle errors correctly e.g. wrong passwords
 - b. Do the target audience enjoy using the application (user feedback)
- 4) Evaluate the final solution
 - a. Did the application solve the identified problem?
 - b. Does the application allow families to go about their lives feeling less stressed and more connected to the person they care for even in times they cannot be there?

Work Plan

Gantt Chart

The Gantt chart shows a high level overview of the project. This is broken down to individual key tasks and the duration that they are expected to take.

The key milestones are represented using colours. Following on from the Gantt chart, there is a more detailed representation of the project tasks in a table. The coloured milestones in the table correspond to the milestones in the Gantt chart.

Tasks	1	2	3	4	5	6	7	8	E	E	E	9	10	11	12	
Initial Plan																
Ethical Approval																
Research																
Implementation method chosen																
Questionnaires Distributed																
Requirements Captured																
Prototype Infrastructure																
Design wireframes/workflow																
Content Creation																
Requirement Implementation																
Testing																
User Feedback																
Design re-structuring																
Testing																
Results and evaluation																
Further work																
Conclusion																
Complete Project																

Detailed Work Plan

The following plan is a more detail representation of the tasks that are targeted for each week. Weekly progress review meetings will be scheduled with the project supervisor in order to address any issues or difficulties in keeping to the plan.

Week	Weeks	Tasks
1	29/01 - 04/02	<ul style="list-style-type: none"> Write initial report Complete Research Integrity Online Training Programme Submit ethical approval forms
MILESTONE: ETHICAL APPROVAL AND INITIAL PLAN		
2	05/02 - 11/02	<ul style="list-style-type: none"> Research and analysis of current applications available Look into what makes a great application e.g.

techniques that make it easy of use, colour schemes used by similar applications, other lessons from similar applications.

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|---|---------------|---|
| 3 | 12/02 - 18/02 | <ul style="list-style-type: none">• Research into technology stacks and development tools to build and deploy the application, and select which is most appropriate for this application• Research appropriate approach for the application development and testing (e.g. agile, waterfall, continuous integration, test driven development) and the supporting tools for unit tests, integration tests, UI tests. Select method to use. |
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MILESTONE: IMPLEMENTATION METHOD CHOSEN

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| 4 | 19/02 - 25/02 | <ul style="list-style-type: none">• Assume ethical approval has been accepted• Create and distribute questionnaire• Analyse results• Capture the functional and non-functional requirements of the target users |
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MILESTONE - REQUIREMENTS GATHERED

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| 5 | 26/02 - 04/03 | <ul style="list-style-type: none">• Prototype the chosen client-server infrastructure as a proof of concept• By the end of this week, validate the chosen technology stack. |
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| 6 | 05/03 - 11/03 | <ul style="list-style-type: none">• Draw wireframes to design the interface e.g. using a tool such as balsamic• Design the workflow of how to move through the application• Content creation e.g. questionnaire, help descriptions |
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MILESTONE - DESIGN COMPLETE

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| 7 | 12/03 - 18/03 | <ul style="list-style-type: none">• Start to implement the core functional requirements for log-in and navigation through the application.• When developing, ensure that tests are being documented e.g. unit testing |
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| 8 | 19/03 - 25/03 | <ul style="list-style-type: none">• Continue to implement the core functional requirements, focusing on the care provider functionality.• Again ensure all testing is being documented |
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| Easter | 26/03 - 01/04 | <ul style="list-style-type: none">• Continue to implement the core functional requirements, focusing on the non-professional carer functionality.• Again ensure all testing is being documented |
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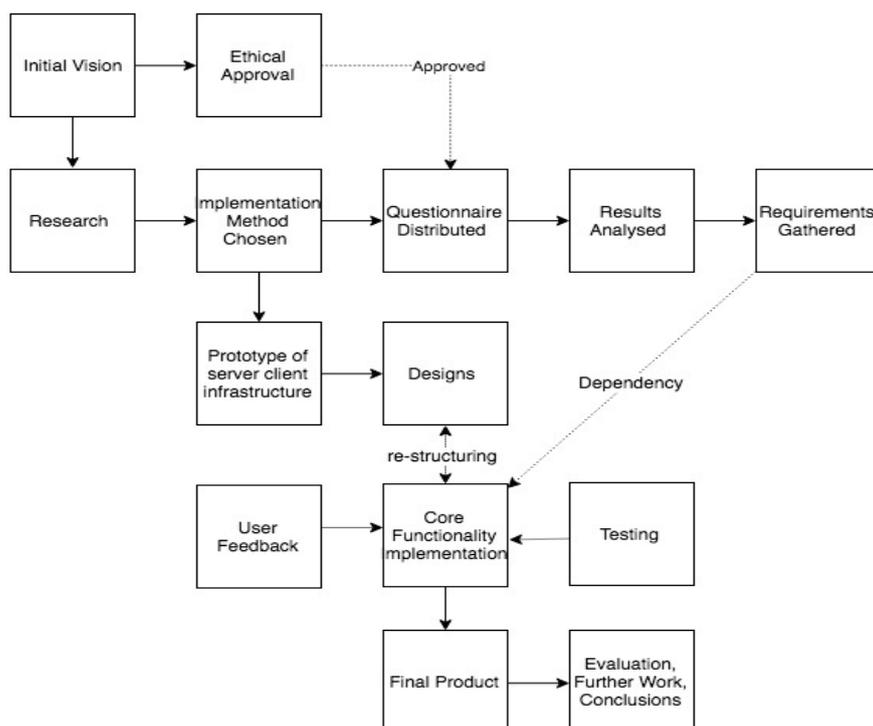
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| Easter | 02/04 - 08/04 | <ul style="list-style-type: none">• Continue to implement the core functional requirements, focusing on the overall quality of the solution and refactoring as necessary. |
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		<ul style="list-style-type: none"> • Again ensure all testing is being documented
MILESTONE: CORE REQUIREMENTS IMPLEMENTED		
Easter	09/04 - 15/04	<ul style="list-style-type: none"> • Meet up with the participants that took part in the original questionnaire to conduct user feedback • Continue developing, taking into account user feedback • Test that the non functional requirements are met e.g. performance
9	16/04 - 22/04	<ul style="list-style-type: none"> • Attempt to solve any outstanding issues to finalise the application. • Ensure all design documentation has been adapted to fit the final structure
MILESTONE: TESTING COMPLETE		
10	23/04 - 29/04	<ul style="list-style-type: none"> • Review the results from testing and document • Write an evaluation on the application as a whole
11	30/04 - 06/05	<ul style="list-style-type: none"> • Document any further work that could be used • Document my conclusions
12	07/05 - 11/05	<ul style="list-style-type: none"> • Have a final review with supervisor and make any last minute improvements • Submit final report on the 11/05/18

MILESTONE - COMPLETE EVALUATIONS

Visual Plan

This is a more visual plan to show how I am going to tackle this project. It also shows a few dependencies that may occur in the project. These could be potential pain points in the future.



Appendix

carersUK (2018) *State of caring 2017 report*.

Available at: <https://www.carersuk.org/for-professionals/policy/policy-library/state-of-caring-report-2017> (Accessed: 02 February 2018)

ageUK (2017) *Health and Care of Older People in England 2017*

Available at: https://www.ageuk.org.uk/Documents/EN-GB/For-professionals/Research/The_Health_and_Care_of_Older_People_in_England_2016.pdf?dtrk=true (Accessed: 02 February 2018)

NHS Choices (2018). *Homecare: what's available*. [ONLINE]

Available at: <https://www.nhs.uk/conditions/social-care-and-support/home-care/>. (Accessed 4 February 2018)