

V4You Application for Dementia Patients

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ABSTRACT

This project was developed for a Callaghan Innovation which offers extensive Research and Technical Services (RTS) to businesses in the high-tech manufacturing and services sector through both world-class facilities and the skills with knowledge of their engineers, technologists, designers and scientists. The company proposed an idea to help dementia patients to remind them about their past as well as whom they are through a user friendly application and website. This work was for the dementia unit in a Wellington based hospital to provide quality care for patients. They were keen to develop this application on the iPad platform, as it was more feasible for them compared to other products.

Another aspect which motivated Callaghan Innovation to build the application was to help the hospital in building a website to encourage the promotion of v4you applications.

Categories and Subject Descriptors

K.3.1 [Computers and Education]: Computer Uses in Education

General Terms

Design, Experimentation, Human Factors

Keywords

Dementia, Alzheimers, php, mobile applications, website development



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1. INTRODUCTION

Touch screen devices such as iPads and iPhone are tactile, versatile and very simple to use. This is changing the concept that people with dementia often find it difficult to access or use new forms of technology. There is no end of content which can be accessed using an iPad and all it takes is the touch of a screen. In this way, they are suitable for use even for those with advanced dementia.

The purpose of developing this project on the iPad platform for Callaghan Innovation was to help cognitive stimulation therapy for dementia patients. This project plan was developed for a Wellington based hospital. The project comprised two parts, the website and the mobile application. The website part was developed to give awareness for the public about dementia, its causes and ways to overcome it, as it is not fully curable. Moreover, website gives detailed description about the application and its usage. The application on the other hand was developed for dementia patients. The application helps patients to remember their personal details, daily routine and nursing care, the intention is to improve their quality of life.

The design part of the website and application was done using HTML5 and CSS3, the backend was done using PHP, JavaScript and JQuery. For the web application we used bootstrap, to make it available for all devices.

2. PROJECT CONTENT

The iPad application is implemented taking into account the concept of reality orientation for dementia patients. Individuals diagnosed with dementia will usually have trouble such as difficulty in recognizing their relatives, they forget their current place of living and even fail to recall memorable events in their life. Through this application we help them to know their past, relatives, unforgettable events and current place of living. Besides, to entertain them we have added the provision of uploading their favorite songs and images.

In the iPad application the pages can be accessed in two different ways such as edit mode and view mode. The edit mode is for adding the content to the pages and uploading Medias. The view mode is for the patients to view the contents without any trouble. The home page consist of 6 options.

2.1 Who am I?

This page gives a detailed description about the patient and has a provision to add images from the past or present.

2.2 My Family

This gives details about the family member. This is an editable page and can add as much as information possible in this page.

2.3 Where I live

In this page, it will shows google map of the persons current position.

2.4 Pictures

This is a gallery of different images in a folder. It can be of different type as the images can be uploaded in different folders.

2.5 My Calendar Notes

This page helps patients to store their memorable days and even timings to consume medicines.

2.6 Music

The music page entertains the patients with their favorite music. They can upload their favourite tunes and play them with ease.

3. PROJECT MANAGEMENT

3.1 Quality Assurance

Quality assurance is an important part for V4U application. As the project is built for dementia patients it was essential that 100% quality was ensured in each of the project. To assure the quality of our project the model we used is the ISO-9126, which is an internationally recognised model. We choose this model because it covers all parts of our application. According to the model it classifies software quality in a structured set of characteristics and sub-characteristics, which directly corresponded with our project.

3.2 Risk Analysis

All projects have risks associated with them. Risks have two components, probability and consequence. The aim of risk management is to reduce the probability of the risk occurring as well as putting safety measures in place so that the consequence of the risk can be minimal. We selected a risk management plan which we then developed and used to mitigate risks during the development of the project.

3.3 Usability Testing

As this application was a prototype and the target audience were actual patients we were unable to do any live testing with the patients. It was tested as a prototype against the criteria and objectives that were set. All the objectives of the project proposal were tested and met.

4. CONCLUSION

The project gave us a deeper understanding of the application and the web development area. We have a sentimental value attached with this project as it gave us an opportunity to do something good for the elderly. How often does somebody get a chance to do that? It also helped us polish our technical skills as well which will be helpful to us in our future prospects. Developing the application and website for the dementia patients gave us a sense of satisfaction and a feeling of joy.

The next stage in the development would be to implement this application with wearable technology.

5. ACKNOWLEDGMENTS

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