A Mobile and Web App for Radiation Oncology Patients

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Background

Radiation oncology patients are seldom provided with personalized treatment information. As a consequence, they are unable to fully plan their lives during radiotherapy.

In an attempt to address this issue, we have developed a novel app that is both secure and confidential and allows real-time encrypted communication via a cloud-based bridge database.

Methods

Our app was developed using the Apache Cordova framework, which allows an app to be used on a mobile, tablet, or desktop. For our bridge database we used Firebase by Google. Firebase may be described as a real-time cloud database that allows efficient and secure data transfers.

The app was developed using the AngularJS library for the logic, and the Onsen UI framework for the styling. Over the course of two months we have written approximately 10,000 lines of code, providing both a front-end app and a back-end administrative tool.

Results

Our app contains the following features:

- Encrypted communication with the hospital network
- A summary display of the patient's treatment
- Access to specific patient documents
- An appointment schedule, waiting times, and a check-in tool with geolocation
- Hospital maps with appointment locations
- A messaging system for communication between doctor and patient
- Disease-specific educational resources
- A notification system for appointment alerts
- A questionnaire tool for satisfaction and patient reported outcome data

A demo version of our app is available at: depdocs.com/qplus/www

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Conclusion

We have developed a mobile and web app to allow Cedars Cancer Centre patients access their personal data and communicate with their doctors in a secure and confidential manner.

Support:

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