

## **Abstract**

TriangleCare is an innovative native iOS application that allows those that have loved ones in elderly homes to monitor the status of their loved ones, using caretaker input about the elderly home's patients. TriangleCare forms a triangle of communication between (1) the patient's loved one, (2) the caretaker, and (3) the patient.

TriangleCare will be the first application of its type. It will demonstrate value to potential users by the heightened sense of connection between patients and their loved ones. Moreover, elderly homes will receive tangible benefits from using the service because of the higher quality of service delivered by using TriangleCare. They will receive heightened revenues as a result of using TriangleCare from either (1) increased occupancy due to the use of a new technology to revolutionize the elderly care system, or (2) charging a higher cost for their services due to a higher quality of service provided.

With 15,600 licensed nursing homes in the United States of America, which account for 1,700,000 beds, TriangleCare is poised to penetrate and improve the standard of elderly care in the country and around the world.

## **User Interface and Experience**

TriangleCare has been comprehensively and interactively prototyped in Balsamiq Mockups. The UI is centered around TriangleCare being a tabbed application; users will primarily navigate through the app using the clickable tab bar at the bottom of most screens.

The UI is designed to be simple and intuitive. Since it is targeted mainly towards use by the caretaker and loved one outside of the nursing home, the text is legible for most intended users.

All three parties in the triangle will be able to download and use TriangleCare, including the nursing home patient (provided they are still of their faculties). The main functionality, which is inputting and viewing status updates, will remain between caretakers and loved ones outside of the nursing home. However, patients will be able to view the information input about them and also message their loved ones and caretakers.

Each screen is comprehensively detailed in "TriangleCare — Screen Descriptions."

TriangleCare uses an appealing shade of blue, dubbed TriBlue (Hex #25a2f1), to foster sentiments of care, homeliness, and wellbeing within the application. It is soft on the eyes and provides high contrast with white, black, and navy.

The UI was designed with input from potential application users (i.e. those that have loved ones in nursing home). Their feedback on the overall layout, interaction, and linkage within TriangleCare was taken into account and used to refine prototypes, until the final iteration of TriangleCare was made.

## **Feasibility and Business Strategy**

TriangleCare will first be made as a native iOS application. Further iterations could be expanded to the iPad and Android devices. It will be programmed in Objective-C.

The application will be available for a free download on the App Store. TriangleCare will generate revenues by charging each elderly home on a customer-by-customer basis. Each "MyTriangle Code," which allows users to link accounts to their beloved patients in elderly homes, will cost a certain fee for the nursing home to use over a one-year period. TriangleCare will work to win, maintain, and renew contracts from nursing homes.

While institutional buy-in serves as a roadblock to implementation for TriangleCare, TriangleCare will penetrate the market by demonstrating the multi-faceted value of the service. It will increase the quality of service provided to an elderly home's customers. Once this is shown, their business will have greater appeal and desirability. In turn, elderly homes will be able to operate at maximum occupancy and charge a higher rate for their services, thus generating more revenues. All of these benefits are accompanied by the gratification of showing the greatest care, love, and compassion for customers.

As previously stated, there are 15,600 licensed nursing homes in the United States of America, which account for 1,700,000 beds. With the aging population in America and the retirement of the Baby Boomers, the demand and need for a service such as TriangleCare will only grow. Supporting this growth will be the fact that elderly people are becoming more and more technologically acquainted.

## **Information Security**

TriangleCare will rely on the input of data from users, which include workers at a nursing home and those monitoring loved ones in nursing homes. This will ensure that all data within the app in unlinked to any system within the nursing home, therefore working around potential HIPPA requirements. Profile information, photographs, information about patients, and information about the nursing home will be input by users. Critical information (e.g. profile information and photographs) will be downloaded to the local drive on the mobile device.

While the U.S. Health Insurance Portability and Accountability Act (HIPAA) does not apply to the data handled by TriangleCare, TriangleCare will employ an Amazon Web Services S3 HIPPA-compliant cloud server to store data and deliver content. HIPAA-compliance will assure customers of TriangleCare's legitimacy and diligence to protecting user privacy. Data will be regularly purged from the server on three month intervals.

TriangleCare will have user-created usernames and passwords, which will be stored on the same web server described above. The login process will use optional multi-factor verification; only a username and password will be required for login but users can opt to receive a confirmation code on their mobile device to make the login process slightly longer, but more secure.

The password reset process will use multi-factor verification to ensure that the compromising of a linked email account does not lead to a TriangleCare account also being compromised. A password reset code will be sent to the mobile device associated with the TriangleCare account.

TriangleCare will use input filtering and validation to ensure acceptable data types and ranges. As a native iOS application, the security of Apple devices and Objective-C will be integral in the overall security of the application; it will be more secure than an Android counterpart.

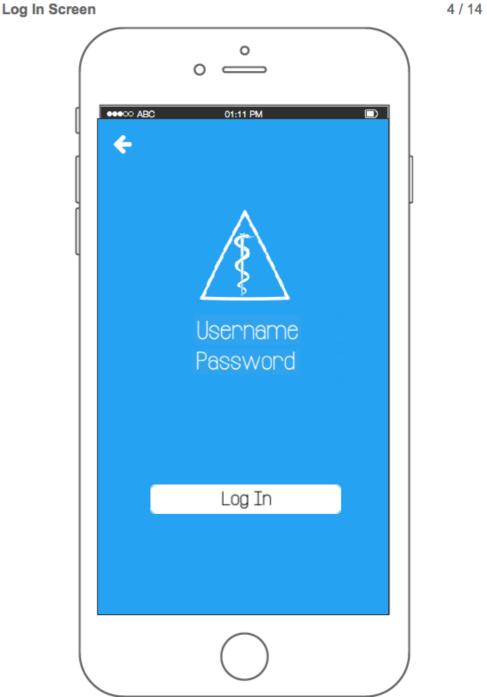
TriangleCare will have unique session tokens tied to each device. This will validate accounts and make sure that they are not compromised.

All in all, TriangleCare takes the highest precautions when handling user information and data.

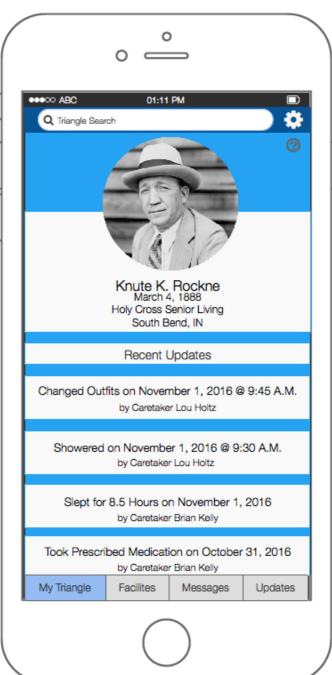


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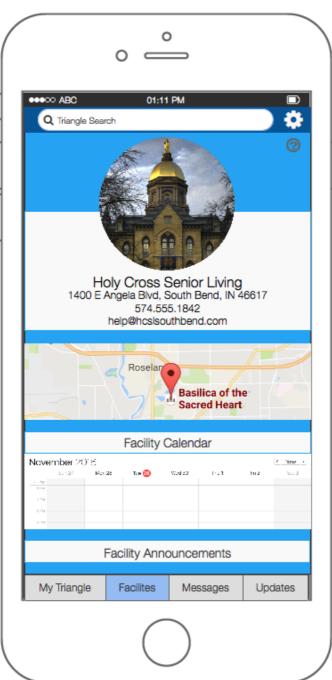




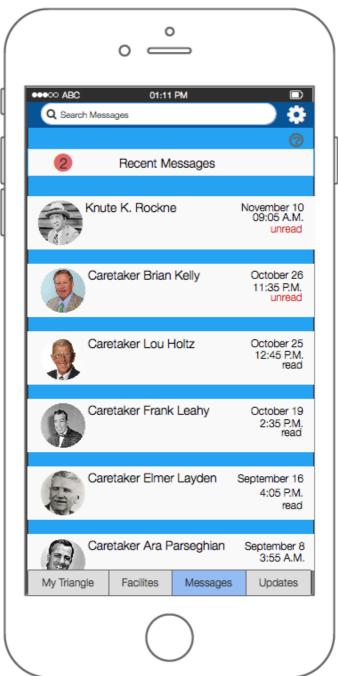
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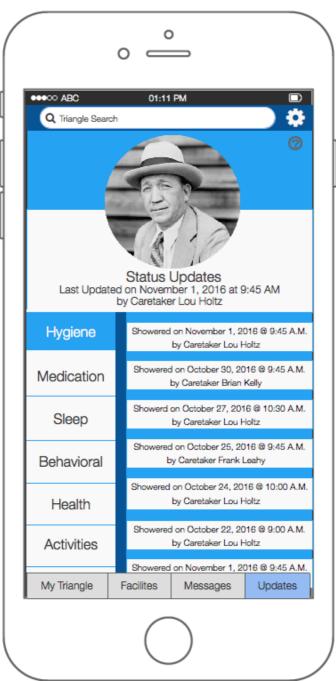


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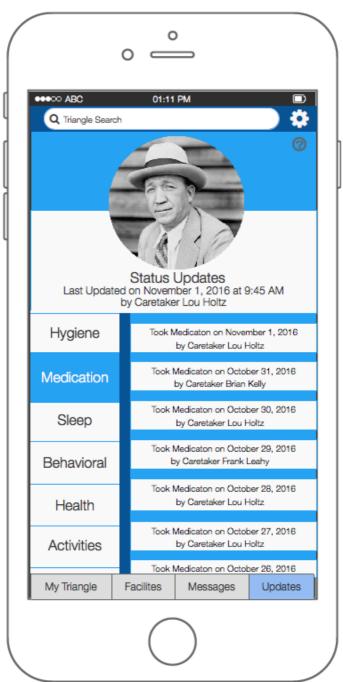


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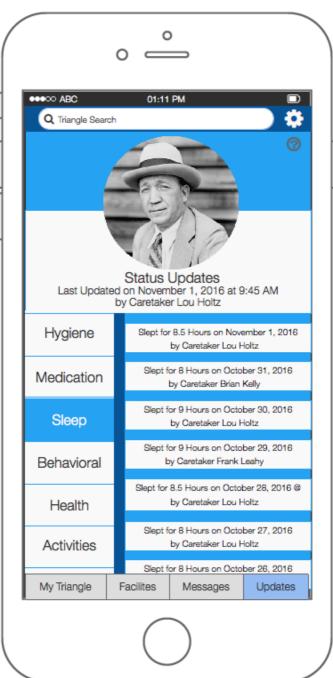




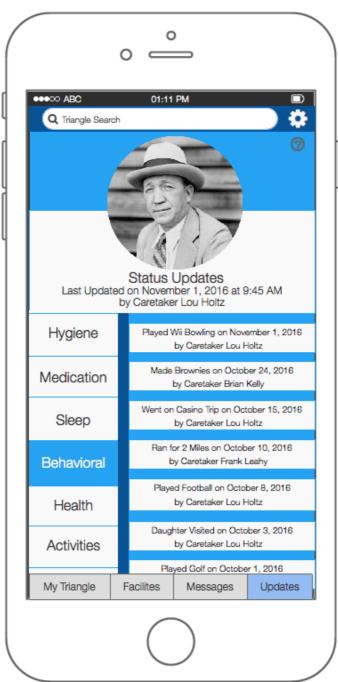
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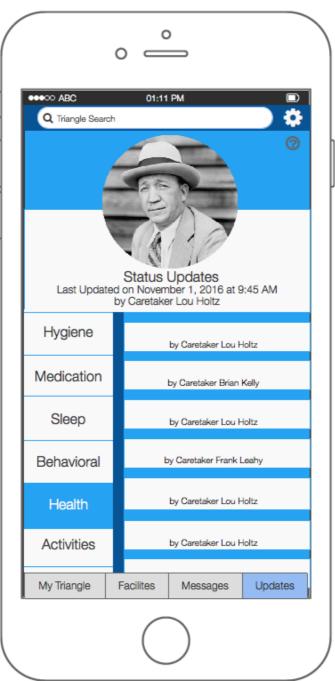
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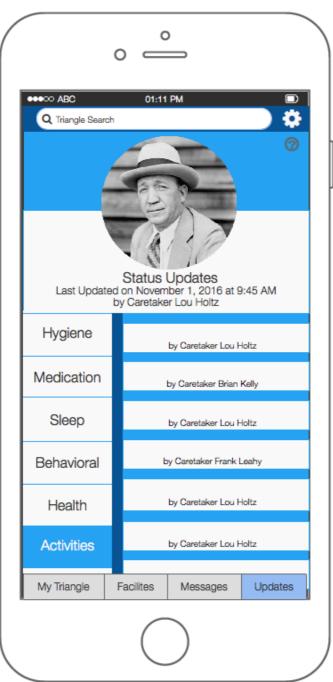
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