Georgia Tech Junior Design Expo Collateral Draft:

Heart Disease Readmission Prevention

Team 3342

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Draft (folded inward to be internal contents)



Every year, an ebout 805,000 Americans experience a heart attack. While the world-class heart disease experts at Grady Memorial Hospital work hard to treat their patients, historical data shows almost 50% of dicharged patients are readmitted within 6 months of being discharged.*

Approximately 75% of these readmissions are preventable. By detecting fluid buildup in the legs and abdominal cavity, the cost of retreatment and readmission rates can be drastically reduced.*

Working with Dr Muling Lin at Emory Hospital, we have developed a comprehensive system to allow medical staff to view patients daily weights and other critical information. This allows pre-emergency check-ins to be possible where there were not prior to this multiparty.

Our system features a dashboard for medical staff to review their patients information that is capable of detecting potentially dangerous weight trends and a patient-sided mobile application that allows the discharged patients to easily report their well-being.

PATIENT APPLICATION

Our patient application is designed specifically to be accessable for the demographic of Grady's heart failure patients. A large number of such patients are disadvantaged and have low level of technological literacy, so our team designed this application with high contrast and general case-of-use.

Patients are notified Daily to complete a questionnaire to ensure the proper data is collected during the appropriate time-frames.

Draft (folded outward to make up front cover)



Physical Parameters Description:

This trifold brochure will be printed in color in the format and size of standard letter paper. The paper used will most likely be standard weight gloss, however if this feels too flimsy we will be printing instead on a thicker cardstock. These prints will be attempted to be made on GaTech library color printers with buzzcard funds, however if these do not support the desired paper thickness we will go to a third party office supply store to have them printed.

Finalization / Printing:

February 20th: By this date the images and details for the brochure will be finalized and reviewed by our client Dr. Muling for approval.

March 10th: By this date several prints of the brochure will be made to determine the proper paper weight, color settings, and gloss level.

April 22nd: By this date the final prints will be made and later distributed at the expo.

Key Information:

Our project seeks to solve the problem of high rates of readmission for heart failure patients at Grady hospital. This is a widespread and very common problem, as over 50% of heart failure patients are readmitted to the hospital within 6 months of being initially discharged. Studies suggest 75% of these readmissions could be prevented through proper patient self-care and reporting.

The solution our project provides is an application that medical staff help install on patient's phones that provides daily questionnaires and notifications that collect the

appropriate data from patients: a spike in weight could indicate a fluid buildup in the legs, which would require a patient to return to the hospital for example. We also provide the medical staff a portal to view all their patient's information to detect complications and suggest changes in patient care protocol. This system is secure and HIPPA-compliant.

Three Key Features

- Patient daily questionnaire: as stated above, patients are prompted to provide personal data for review by the medical staff.
- Medical Staff access portal: medical staff can view patient's collected information in order to provide the most accurate suggestions for continued care.
- 3. Problematic weight detection: our medical staff portal provides smart graphs that are capable of detecting potentially problematic patterns in patient data to allow medical staff to focus on the most obvious problems first and prioritize patient care.