Physician-Driven Management of Patient Progress Notes in an ICU

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Introduction

A Critical Care Note is a clinical document, written by a physician, describing a patient under his or her care. Physicians often review clinical patient data during the note-composition process in order to document relevant data and formulate assessments and care plans.

While sophisticated systems exist for retrieving and visualizing clinical patient data, current support for inserting this data into documents is limited, inflexible, and complicated to use.

We are working with physicians in the New York Presbyterian Hospital (NYPH) Cardiothoracic Intensive Care Unit (CTICU) to design activeNotes, a prototype system to explore techniques for presenting and interacting with patient information during the clinical documentation process, focusing thus far on Critical Care Note creation.

Field Work

User observations, and structured and semi-strucutred interviews revealed:

- Highly structured form fill-in UIs conflict with the physicians' mental models.

- Previous attempts to combine data retrieval and note creation in a single application have restricted physician annotation of patient data.

- It is inconvenient, yet important, to update Critical Care Notes throughout the day, and annotate importance of certain items in the notes, after initial editing.

Qualitative Study

Qualitative review session with 15 physicians (11 male/ 4 female , 11 attending physicians/ 4 residents, between 29–55 years old) in NYPH ICUs.

We provided a ten-minute training session, after which participants completed a practice note composition task. The system retrieved patient information based on a single, sample patient profile, composed using historical data from the CTICU.

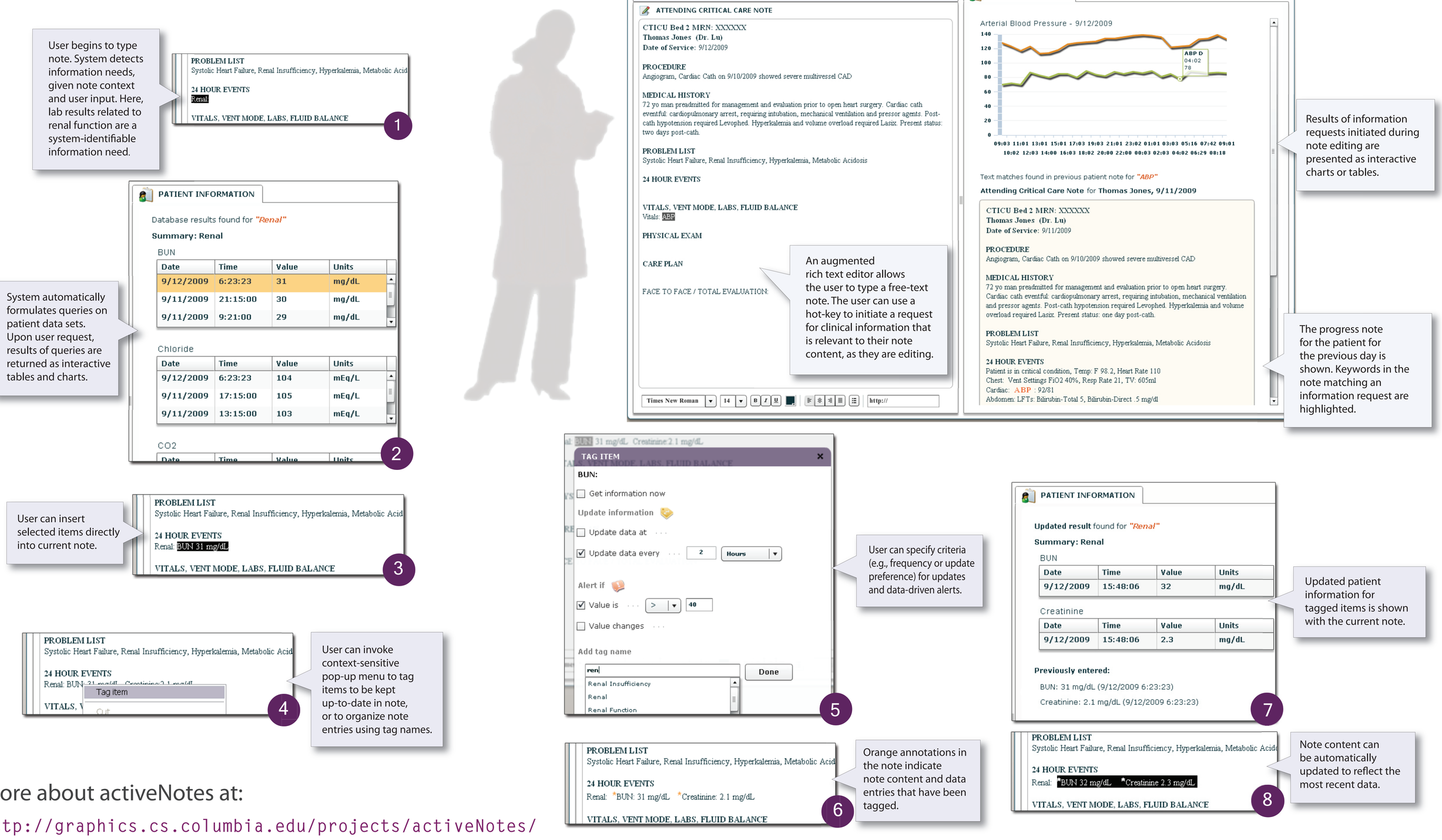
Participants performed information requests to complete one note section, without intervention, using a "think out loud" protocol. After each participant completed a section, we asked them a series of qualitative questions to structure their feedback.

Results

Feedback from our qualitative study suggests that the information retrieval and tagging techniques of activeNotes were well-received. Throughout our study, physicians also proposed several uses of tags in conjunction with patient information retrieval. These uses include:

- Grouping items for data retrieval
- Sharing information with other members of the care team
- Organizing note content
- Assisting in recalling items related to care delivery
- Creating reusable note templates

Design of activeNotes



More about activeNotes at:

http://graphics.cs.columbia.edu/projects/activeNotes/