

User Interface Design Decisions

Insight into key user interface design decisions behind Subside, a case management system for Anesthesiologists who practice acute pain management.

Product Statement

Subside gives Anesthesiologists providing acute pain management services (APMS) the ability to retrieve, maintain, and review pertinent patient data such as vital signs, medications, pain scores, and treatment complications. Additionally, *Subside* provides the ability for APMS staff to analyze historical treatment data and treatment outcomes for the purpose of identifying effective pain management scenarios. *Subside* helps providers ensure repeatable positive results for optimal patient care.

Audience

Subside is targeted toward the following audiences:

- Physicians practicing anesthesiology in conjunction with APMS
- Nurses supporting patient care activities within the APMS unit
- Medical Directors overseeing the performance of all APMS activities

Platform

Healthcare providers access *Subside* through wireless tablet devices. Commonly known as *Tablet PCs*, this platform enables APMS staff to utilize *Subside* in a variety of settings:

- Attending to a patient at bedside
- Performing an epidural or nerve block procedure in the operating room
- Outpatient follow-up
- Administrative environments such as nursing stations and offices

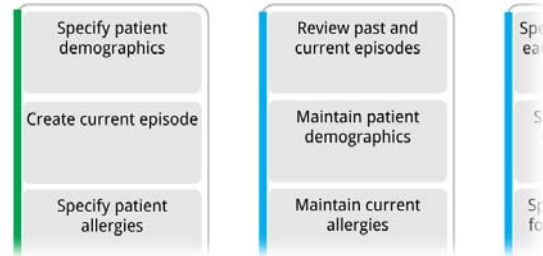
Primary design considerations for the tablet device platform include touch interaction (with a stylus pen or finger) and mobility. Considerations for mobility include energy consumption and frequent mental context switching inherent among healthcare practitioners. Physicians and Nurses shoulder an incredible amount of responsibility at any given time and *Subside* supports them by providing comprehensive, timely, specific data. *Subside* also embodies a streamlined, task-based interface.

Human Interface Architecture

A breakdown of *Subside* experience elements:

INTERFACE STRUCTURE & NAVIGATION SCHEME

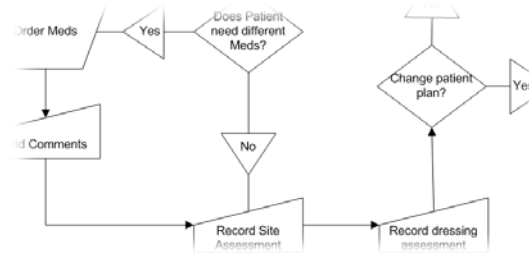
Activity Model



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Through the creation and distribution of an activity model, designers answer with some certainty *who* the target audience is and *what* actions and operations they will perform. This model also helps the product team identify features and tools to support actions. For example, the action *patient consultation* is supported by a comprehensive list of available patients sorted by room number.

Task Flows

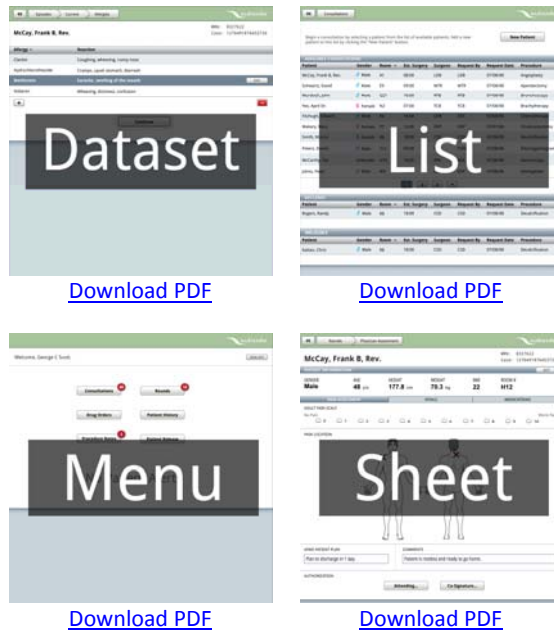


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Specific actions and/or operations can be visualized and vetted among the product team in the form of task flows. These are a great way to identify decision points and low-level interactions people may engage in with the user interface. Task flows also help identify additional opportunities for features in the system involving automation, calculations and the creation of other system actors that reduce cognitive overload.

INTERFACE STRUCTURE & NAVIGATION SCHEME (CONTINUED)

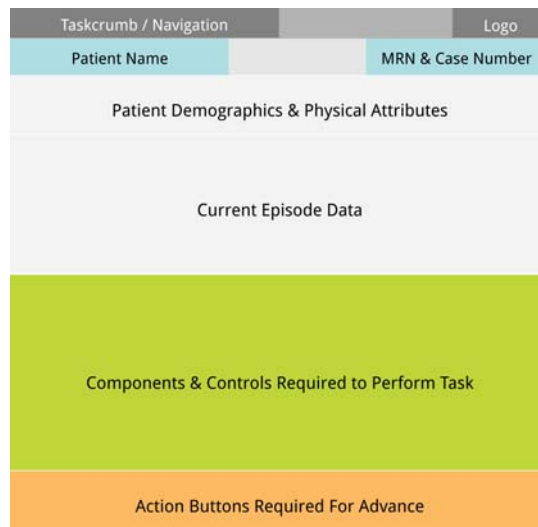
Screen Types



Screen types are informed by what type of action a person is taking with the system. For management of key datasets such as patient medications, allergies, and risk factors the **dataset** screen type was created. This provides a contextual view for managing persistent datasets within a specific operation flow. For example, during a *patient consultation* our Physician needs to document a Patient's allergies. Even though the Physician's context has temporarily shifted to managing allergies and their associated allergic reactions, *Subside* keeps the navigation context within *patient consultation*. Once finished with the dataset modification, the Physician simply taps 'Continue' to return to *patient consultation*.

SCREEN LAYOUT, TASK FULFILLMENT & COMPONENT FLOW

Screen Layout



For most actions, the screen layout on the left represents the ideal pattern for displaying pertinent patient data required for decision-making and task fulfillment presentation. Read on for more details about components and controls for each major screen area.

SCREEN LAYOUT, TASK FULFILLMENT & COMPONENT FLOW (CONTINUED)

Taskcrumb /
Navigation



The taskcrumb (task + breadcrumb) serves two purposes:

1. Provides a contextual, hierarchical view of current task.
2. Enables navigation to higher level contexts, including navigation back to the main menu.

Logo



In addition to serving as a critical brand element, product logos provide a signal to an audience utilizing many software tools as to which software program they are currently using. The logo is placed in the far right of the screen to decrease distractions from task-related elements. The logo is important, yet not critical for product usability.

Dataset Display

PATIENT INFORMATION		
GENDER	AGE	HEIGHT
Male	48 y/o	177.8 cm

Primary datasets such as *patient information* are displayed near the top of the screen because people read sheets of information top to bottom, left to right (right to left for some eastern languages). Primary datasets organized by a high level header (*Patient Information*) followed by subsets organized by header titles (*Gender, Age, Height*).

Segmented
Navigation



Many actions are comprised of large, rich data sets. Segmented navigation components provide categorized views of data and contextualize the data into task categories in terms familiar to the target audience.

SCREEN LAYOUT, TASK FULFILLMENT & COMPONENT FLOW (CONTINUED)

Buttons



Only one default action button is required per screen, and a screen may have several action buttons. Action buttons are specifically used to advance; a significant change to the view should occur if an action button is tapped. Action buttons with badges give the audience visibility into system status. For example, there are 16 rounds waiting in queue for a Physician to perform. Operation buttons are the lowest level button and are reserved for manipulation of specific datasets and subsets. Operation buttons will always be used within the context of a specific dataset.

Reference the [Subside UI Style Guide \(PDF\)](#) to see all *Subside* user interface components.