Elective Surgery Web Application

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Development Team: Dr. Mark Robinson and Tyler Mitchel (UTSA)

SCOPE

The Elective Surgery software is a web application that allows users to schedule surgeries for a variety of surgical services. Users are required to have a valid UTHSCSA account and authenticate via normal Microsoft single sign-on. The currently supported services include General Surgery, Bariatrics, Plastic Surgery, Trauma, and more. Other data the user can provide about a surgery include patient name, MRN, date of surgery, location, doctor, insurance, authorization date and status, diagnosis, COVID-affected, patient readiness for surgery, and general status (active, canceled, or deleted). When a date of surgery is first provided (or changed) and the service has an associated Outlook calendar, the web app will create (or move) a calendar event in that service's shared Outlook calendar. The web app can also update a doctor's associated calendar if one is associated with the doctor. The surgery list screen has a wide range of filters, allowing a user to search for surgeries and customize the surgery list. An audit trail is maintained per surgery and a user may store and associate files for each surgery. Lastly, users can generate Excel-based spreadsheets as ad hoc reports, also customizable via filters.

FEATURES

- Software and database maintained entirely on-premises at UTHSCSA (VPN-accessible)
- User authentication via Microsoft active directory SSO
- Surgery schedule integrated with shared (and personal) Microsoft calendars
- Supports a wide variety of surgery search and list filters
- Responsive, mobile-friendly React-based web application
- Excel-based spreadsheet reporting

LIMITATIONS

- Current calendar support is limited to newer Outlook calendars. Older Exchange calendars are currently not supported.
- User access control is limited to a single service, or all services.
- User access must be managed directly in the database (no software UI)

NEAR-TERM GOALS

- Administrative level of access with a user-management GUI
- Support finer-grained access control
- Implement pagination for surgery list
- User-specific dashboard showing summary information and one-click accessibility to important items
- Adoption by any UTHSCSA surgical service in need of flexible scheduling

LONGER-TERM GOALS

- Integrate with Epic EMR to reduce duplicated patient data
- Provide surgical team task management
- Integrate tasks with other Microsoft components, like Planner

GOING FORWARD

Tyler Mitchell has been critical in the speedy development of the software and its GUI design. As he recently graduated from UTSA, he is currently seeking employment. To efficiently realize the software's near-term goals, we request that UTHSCSA consider hiring Tyler part-time in the following capacity:

- A wage of $25 per hour (a competitive wage for UTSA CS graduates)
- Part-time work of 20 hours per week
- 3-month contract