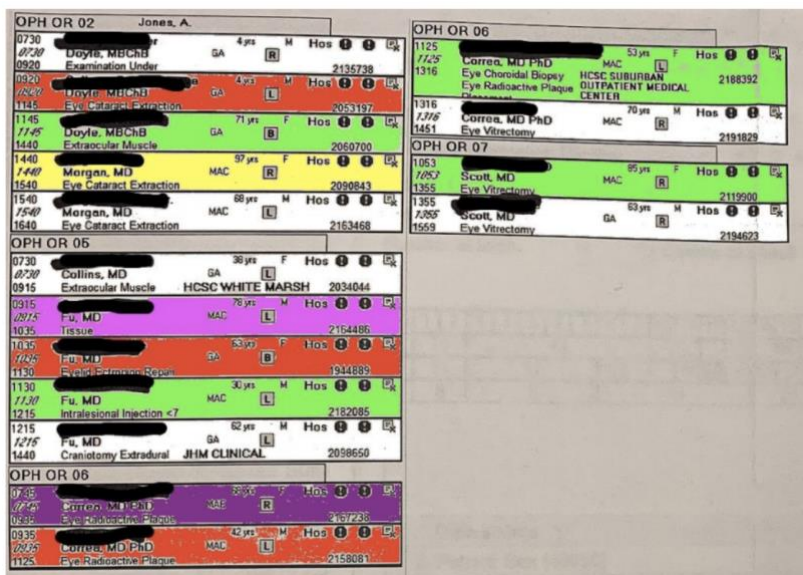


EPIC User Interface and Notification Problem

Johns Hopkins Hospital (JHH) operating rooms (OR) utilize EPIC as the primary electronic-medical record and workflow management tool for the operative patient. However, the OR status board at the time was reported as cluttered, inefficient, and hard to interpret by nurses, doctors, Clinical Care Technicians, and anesthesiologists in JHH. In 2019, a student group from Whiting School's Master of Science in Engineering Management (MSEM) program came in and worked as student consultants to help JHH solve the problem.

The student consultants spent eight weeks interviewing and surveying potential solutions to improve the status quo. They found that the layout of EPIC was represented in a vertical fashion (figure 1), requiring nurses and doctors to spend extra time deciphering the information on the board instead of capturing the information at first glance. Given this fact, the students considered different scenarios and cases and proposed a robust prototype that could enhance the user's experience without altering the current user's knowledge. The recommendations are as follows:

- Reconfigure the layout to be horizontal in representation in that English is read left to right.
- Divide the interface into time-scaled horizontal frames using white dotted lines in the background, and this horizontal frame will update after every one hour, creating new space for the upcoming information to flood in as the time progresses.
- Reconfigure the User Interface to show precise information (Patient Name, Doctor's Name, and Patient ID) about procedures that happened earlier in the day.



*Figure 1. The current EPIC status board
(Due to HIPAA compliance, the patient names are blacked out)*

The newly proposed interface is shown in figure 2. A time-oriented horizontal axis with the current time marker gives users a clear understanding of what is going on at any given time. By also time-scaling patient boxes, it is now much easier to compare relative operation lengths.

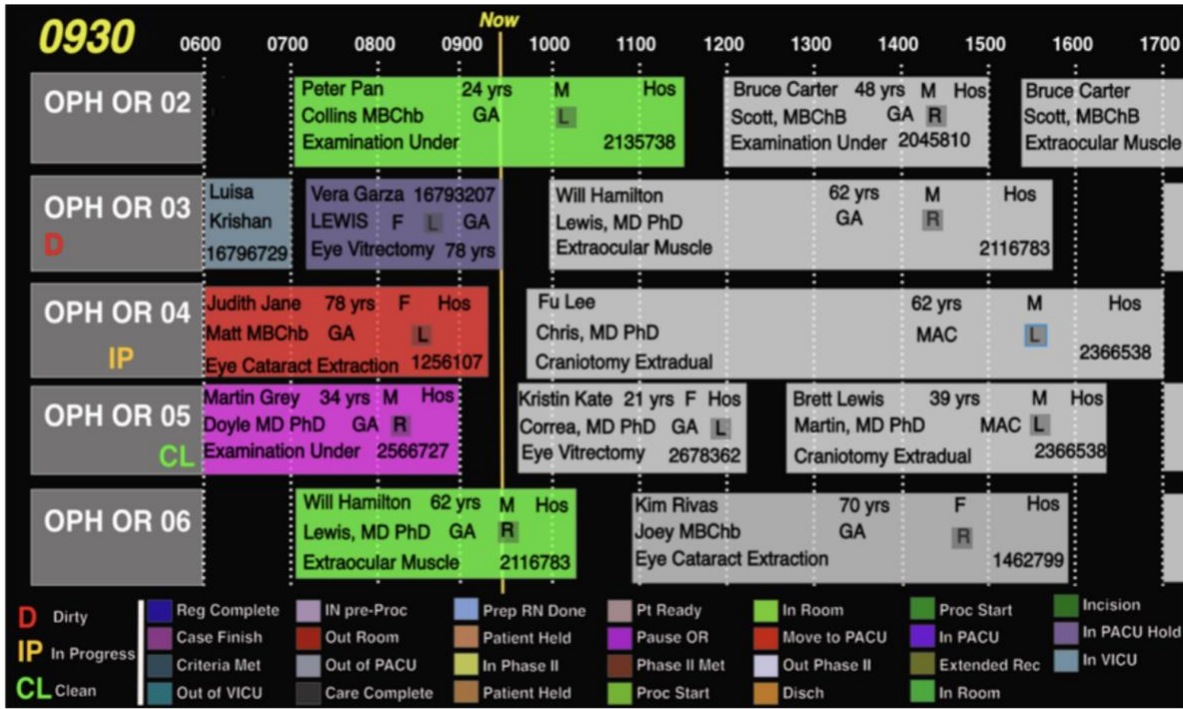


Figure 2. The redesigned User Interface

This project revealed that the students were able to translate their engineering acumen into helping improve healthcare industry issues. By integrating simple principles and user needs into the design, JHH not only retained all pertinent patient information but also gained a user-friendly interface.