Beaumont Hospital uses an episode number-based labeling system to organize patient samples. An episode number is a unique number issued to the patient for each hospital admission and details the patient location for the specific visit. All samples taken during the hospital stay should reference the current episode number. When samples are taken by the clinician, he/she prints and attaches a label referencing the episode number and other relevant patient information. The sample is then sent to the microbiology laboratory for analysis by a lab technician. From the sample analysis, a medical scientist determines any required treatment needed by the patient (for example, antimicrobial treatment needed to treat an infection). This is a time-sensitive process, as adverse effects may manifest if the patient is left untreated.

However, a patient can have multiple episode numbers from previous hospital visits, meaning samples can be mislabeled with previous episode numbers. The lab technician may not be aware that an old episode number was used until after the analysis has been performed. They must then identify the current episode number by manually searching the Beaumont database. This is a time-consuming task which may delay the patient receiving treatment.

To prevent these mistakes occurring, our team has developed a mobile application which will be used by the clinicians that are printing out the labels, as a pre-emptive system to flag mislabelled samples prior to being sent to the laboratory for analysis. After the clinician has printed the label, they will quickly scan it to double check that the label has the correct episode number. This application will identify mislabeled samples, at which point the clinician can print the correct label. This check saves time for the medical scientists, and ultimately reduces the time before a patient receives treatment.

Address of the repository and code for the application is in the BeaumontOCRApp folder:
https://github.com/ZachMeade/CSU44098-A-SEM202-202021-GROUP-DESIGN-PROJECT.git