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INSO4116 – Software Design

A3: ePatientRec

Problem:

The standard for hospitals and doctor's offices is storage of patient information in paper. Filling forms, taking a copy of it and putting the record in a box or storage compartment. This process takes time, effort in the form of searching and navigating through hundreds of records and wastes resources such as paper.

While it is indeed understood and a process that the customer has agreed on doing for a long time, a faster more computer-based approach is easier to use and also avoids spending as many resources.

According to J. Stausberg et. al, "the paper-based patient record is still the main source for information management in daily care delivery for several reasons. Utilization of the paper-based patient record, both as a reminder to health care providers to report events, such as the course of an illness, and as a tool for communication among clinicians, has already been documented in the literature. The German legal system treats the paper-based patient record preferentially. Health insurance companies use the paper record to evaluate appropriateness of admission and length of stay. Conversely, electronic data storage is used for legislatively obliged standardized and structured documentation and reporting." in the paper Comparing Paper-based with Electronic Patient Records: Lessons Learned during a Study on Diagnosis and Procedure Code.

Paper records are still an ongoing problem and a more thorough record processing application needs to be built to replace that.

Target:

The immediate milestones include:

\* Processing basic patient information such as Name, DoB, Physiological information (Heart Rate, Blood Pressure, etc), and any special patient characteristics such as allergies or handicaps. This also includes family and legal information. For minors we need the parents or guardians name and who is legally able to consent to the child's care. Also, who is not allowed to care for said minor.

* Attach notes and comments along the patient information for future reference or aid in diagnosis.
* Be able to navigate, manage and search patient records along with the notes associated to it.

Analyse the cause:

This problem of paper records vs online records comes from the incompleteness of patient processing applications vs the need of robustness that medical practitioners require when inputting patient data and updating it or managing it. Paper allows them to free hand and get extra notes associated with the patient whereas most patient processing applications do not.

Propose and implement countermeasures:

* Create a patient processing application that handles both all the basic patient data, can capture notes and comments on said patient to allow for more space in the diagnosis process, and be able to manage and search the processed records efficiently.