Proof of Concept Demonstration Plan
ClinicFlow

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ClinicFlow is a software tool used by pre-operative clinics to manage patient flow into, and within a clinic environment. Primary functionality consists of providing an optimal patient schedule in accordance with the data and constraints provided by the user. The tool must be usable in live clinic environments, so it is integral to understand clients' needs and adapt to their demands.

Presentation Plan

- Market problem

- Current solutions

- Our solution

- Details of environment and use case

- Walk-through of use case

- Explanation of Technology

- Assumptions, considerations, challenges

Demonstration Plan

- User access

- User panel and account control

- Input of data (# Data)

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Demonstration Details

The tool must be simple and intuitive to use, and must compute in a reasonable time frame
It will be presented as a thing application

Implementation Details

A discrete event model of the clinic is built using past patient data. Values such as how long x-rays take (mean and SD), or the deviation between patient booked and actual arrival time are determined. This model is used to generate statistics on patient flow. The tool would be able to compare different scheduling strategies to determine which is more optimal with respect to the inputted constraints. Furthermore, the tool would generate schedules in search of the most optimal one, using a genetic algorithm for example. This schedule would then be formatted and displayed to the user.

Data

- available processes

- number of patients

- required processes per patient (interview, blood-work, x-ray, EKG, etc.)

- procedure duration

- number of procedure stations

- number of nurses

Constraints

- Employees finish work by 17:00

- Employees get 1 hour break

- Bloodwork before x-ray

Performance

- Simple to use

- run in reasonable time

- generate similar statistics to actual flow

- Improve actual clinic performance/throughput*