FINAL PROJECT CS273

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**Abstract:**

An emergency room simulator is based on the concept of treating patients and recording their diagnosis information. This program takes in doctors, nurses, and patients according to the user and then outputs the record of all the patients that have been treated. The patients are first separated according to the severity of illness which determines the probability of medical attention they require. The record shows patients in an alphabetical order and includes the severity of the patient and the time taken to treat the patient. It also shows the number of times each patient visited the emergency room and by each visit, the severity of the patient becomes low. The patient’s severity determines if they’ll get treated by the doctor or the nurse. Patients with high severity are automatically forwarded to get treatment from a doctor and those with low severity gets treated by the nurse. The number of patients that can be accustomed in an hour is 60. Once the information of the patients have been outputted on the terminal, the user gets a menu with the help of which they can search for the specific patient whose data they want to view and the average time taken by the treatment. The average time is the time a person takes with a specified doctor or a nurse. This simulation runs for a period of one week and all the data that it shows is of this amount of time.

void updateRoomQueue(Emergency room \*r, int seed, vector<string>\*names)

int clockTick = seed;

Seed++; //Incrementing the seed

srand(seed); //generating random numbers

int prob = rand() % 10; //generating probability for the patient

If (check if the person is coming)

if (probability < 7) //70% chance; low severity

rand() % 10;

//create and add a new person with a random name to the ER

if (probability > 6 and probability < 9) //20% chance; med severity

11 + rand() % (15-11+1); //number between 11 and 15

//create and add a new person with a random name to the ER

if (probability > 8) //10% chance; high severity

16 + rand() % (20-16+1); //number between 16 and 20