**CSE299 - JUNIOR DESIGN**

**Group - 04**

**Group Members:**

Rubyda Hossain- 2012674042

Shuvashish Chakraborty- 2012875042

Sadia Rahman- 1812178042

**TOPIC: SOLVING MEDICATION ERROR DUE TO ILLEGIBLE HANDWRITING OF THE DOCTORS**

**PROBLEM DESCRIPTION**

**INTRODUCTION**

Deciphering doctor’s illegible handwriting is one of the hardest job in the world. Patients getting prescribed wrong medication is a common problem not just in our country, but all over the world. These wrong medications cause serious physical harm to the patients and in severe cases even lead to the death of the patient. And in most cases, these errors in prescriptions go unnoticed and only come to attention when something horrible has already happened to the patient, which is sometimes too late. So, it is very important to fix these medication errors before they are even dispensed.

It is the motto of doctors to do no harm. But these doctors are so overworked that to save just a little bit of time, they hurriedly scribble the diagnosis and the medicine list into the prescriptions. Often times, in their hurry, they neglect to cross their t’s and dot there i’s. As a result, wrong medications get prescribed and when pharmacists are unable to decipher the illegible handwriting, they dispense the medication that sounds the most similar to the prescribed medication. It is important to write the dosage of the medicines prescribed if multiple doses are available in the market (or even if only a single dose of the medicine is available, it is a standard practice to mention the dosage). But doctors fail to do so regularly. Furthermore, wrong placement of the decimal point or not emphasizing the decimal point enough, leads to dispensing of the wrong dose of the medication to the patient, which is very harmful. It is important to mention that due to poor handwriting of the doctors, much of the medical history of the patient becomes inaccessible to other health-care workers involved in the patient’s care, which sometimes causes delay in identifying the patient’s problem.

In a study published in Bangladesh Pharmaceutical Journal in 2014, 200 handwritten prescriptions were evaluated. And about 692 medication related problems were identified from 1234 prescribed drugs. In those prescriptions, doctors didn’t adjust doses for patients with kidney and urinary problems; some medication names remained unreadable due to ambiguous handwriting; some medications were missing their dosage strengths even though multiple dosage forms of those medicines are available in the market.

It has become evident that something needs to be done to prevent the dispensation of unauthorized dosages of medication. To do that digitalizing the prescription seems like the most logical solution.

[(PDF) Medication Errors in a Private Hospital of Bangladesh (researchgate.net)](https://www.researchgate.net/publication/260173190_Medication_Errors_in_a_Private_Hospital_of_Bangladesh)

**METHODOLOGY**

The problem of unreadable prescriptions need to be solved and the dispensation of wrong medication doses need to be stopped. The best solution is to develop a web application and an android app to digitalize the whole medication prescribing system. We will design a database that will have patient’s detailed medical history, and also a list of all DGDA (The Directorate General of Drug Administration) approved medicines with their pricing. We will design two different user interfaces (Doctor’s profile and Patient’s profile). In the doctor’s profile, while typing the patient’s medication on the prescription, the doctor will be able to search the medicine in the database and select the correct medication. In the patient profile, we will provide option for the patient to print their prescription and set alarms for daily reminder of medication time. We will notify the patient with alarm when they should further consult with the doctor. We will provide an option to book appointments with the doctor. We will provide option for the patient to leave genuine reviews of the doctor. We will provide search option for the patient’s to find specialized doctors near them. We will provide option for the patient to be able to contact emergency services. We will try to design a QR code system that will allow the patient to get their medicine list just by scanning a QR code. We will use HTML, Django, XAMPP.