Remote Monitoring and Discrete Data Capture of Joint Pain and other Parameters via the NokiaN900 Device: Enhancing Patient/Physician Interaction

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HUMAN JOINT SYSTEM - HOMUNCULUS

AUTHORS GREATFULLY ACKNOWLEDGE Dr Catherine for permitting us to use the human homunculus GUI.

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Agenda

Introduction

Design of GUI and workflow.

Architecture

Implementation.

Testing

Conclusion
INTRODUCTION

1. Entities- Doctor and Patient
2. Device- Mobile
3. Communication - SMS
Design

Three Modules

- Patient assessment
- Doctors assessment
- SMS
Design - Patient assessment

Select joint → Input Details → Joint assessment → Send SMS
Design - Doctors assessment

Select joints → Input Details → Joint assessment → Store into database
Design - SMS Module

Process Involved

- SMS
- Process SMS content
- Store into database
System Features

- Provides skeletal interface for selecting joints.
- Provides different attributes for assessment of joints.
- Tenderness
- Swelling
- Limited range of movement (LOM).
- SMS based update to the doctor.
- Provides Graphical analysis to the doctor for patient assessment.
- SQLite Database backend support.
Implementation

1. Qt for Front End GUI
1. Sqlite for Backend
Doctors view
Patient view
Database Structure

Three tables.

- Values_patient
- Graphdatabase
- Details_Patient
# Patient’s Details Stored

<table>
<thead>
<tr>
<th>Patient id (primary key)</th>
<th>First name</th>
<th>Last name</th>
<th>Phone number</th>
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Graph

x-axis = date : y-axis = severity value
CONCLUSION AND FUTURE WORK

• innovative application

• Highlights the Nokia N900 cell phone’s ability to capture the patient's subjective assessment of severity of joint pain and the doctor's objective evaluation of the patient’s affected joints.

• Experiment in real healthcare environment

• Try on other OS platform such as Windows 7