A Mobile Phone Based Medicine In-take Reminder and Monitor

ABSTRACT:

Out-patient medication administration has been identified as the most error prone procedure amidst the entire medication process. Most of these errors were made when patients bought different prescribed and over-the-counter (OTC) medicines from several drug stores and use them at home without little or no guidance.

Common causes of these errors include:

(1) Irregular medicine in-takes due to the patient’s busy or erratic lifestyles,

(2) Complicated in-take schedules due to many medicines and doses taken by the patient,

(3) Adverse drug reactions caused by un-reconciled prescriptions obtained from different sources,

(4) lack of knowledge about proper use of medicines,

(5) Lack of consultation with healthcare providers when confusion arises and

(6) Lack of monitoring mechanisms to keep track of patient’s medicine in-take.
In this project, we introduce Wedjat, a smart phone application designed to help patients avoiding these mistakes.

**EXISTING SYSTEM:**

Recently, telemedicine, especially tele-monitoring techniques, has been investigated as a cost-effective approach to control quality of care (QoC) in out-patient medication administration. By sending in-take reminders to the patient (even producing the proper medicine from a medicine dispenser) and then recording patient’s responses, Health Maintenance Organizations (HMO) hope to reduce cost of service while improving quality of care. Communication between HMOs and patients is established through wired or wireless Internet connections. Although these efforts represent progress in the right direction, the medicine dispensers thus made are bulky, expensive and prone to dispensing errors.

**PROPOSED SYSTEM:**

A handy alternative solution can be provided by installing a medication reminder and monitor on a smart mobile phone and then using it along with a traditional mechanical “pillbox”. Such a solution will be cheaper (excluding the

Incurred cost of the smart phone) and may result in deeper penetration into the consumer market.
We introduce Wedjat, a smart phone application designed to help patients to avoid medicine administration errors.

**SYSTEM ARCHITECTURE:**
MODULES:

- Issue Medicine
- Medicine Identification
- Medicine in Take Record
- Stock Check

MODULES DESCRIPTION:

Issue Medicine

Issue medicine in-take reminders — Wedjat will issue an alert approximately 5 – 15 minutes (preset by user) before the scheduled time to take certain medicine(s).
The alert will be issued repetitively until it is cancelled by the user. Scheduling of in-take alerts is performed by a real-time process/resource scheduling algorithm that can satisfy time constraints according to medicine in-take directions and drug-drug/drug-food interactions. This function is integrated with the calendar and planner applications installed on most smart phones.

Medicine Identification

Provide medicine identification and in-take directions— Wedjat has a built-in database containing crucial information about the medicines (including their photo images, in-take directions and precautions) and the healthcare providers (including
physicians, pharmacists and HMOs) relevant to its user. All these data can be retrieved with the touch of a button while Wedjat is in use.

**Medicine in Take Record**

Maintain medicine in-take records — Wedjat will record the time at which its user cancels an in-take alert and regard that at the time that specific medicine(s) was taken. These medicine in-take records can be stored onboard, synchronize with the database on a host machine and/or uploaded onto a Personal Health Record (PHR) system.

**Stock Check**

Once the stock of the medicine taken is over then the health organization can intimate the user to produce medicine online so that the medicine can be delivered at the door step. The side effects due to medicine intake can be produced and sent to the PHR system depending on which the dosage or medicine can be changed.

**SYSTEM REQUIREMENTS:**
HARDWARE REQUIREMENTS:

- System: Pentium IV 2.4 GHz.
- Hard Disk: 40 GB.
- Floppy Drive: 1.44 Mb.
- Monitor: 15 VGA Colour.
- Mouse: Logitech.
- Ram: 512 Mb.
- MOBILE: ANDROID

SOFTWARE REQUIREMENTS:

- Operating system: Windows XP/7.
- Coding Language: Java 1.7
- Tool Kit: Android 2.3 ABOVE
- IDE: Eclipse