Organizer for

# CHRONIC PATIENTS

**Guide: Prof. Anirudha Joshi**

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# Overview

Aim of project

Primary Study

Secondary Study

Ideation

Final Concept

Interface

User Testing and Feedback

Future Possibilities

# Aim of Project

- Facilitate healthcare to chronic patients.

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- Facilitate healthcare to chronic patients.
- Helping them to meet up to the health schedule.

# Aim of Project

- Facilitate healthcare to chronic patients.
- Helping them to meet up to the health schedule.
- Organize themselves so they can lead a stress free life.

# Aim of Project

## WHY?

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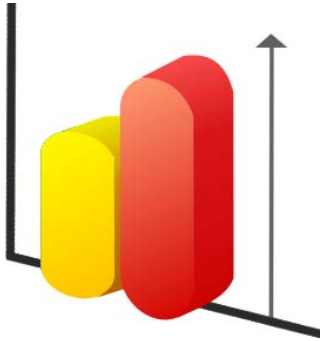
- Chronic conditions will not go away. A challenge!

# Aim of Project

## WHY?



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- A dramatic increase in chronic conditions necessitates facilitation of the stakeholders of the health sector.

# Aim of Project

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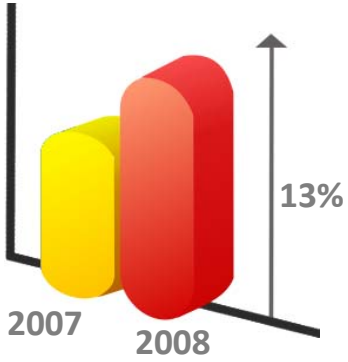


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According to April 2008 Market Research by ORG IMS, the healthcare sector has increased by 13% since 2007. 20% of this is contributed by chronic medication.

# Aim of Project

## WHY?

- Chronic conditions will not go away. A challenge!
- A dramatic increase in chronic conditions necessitates facilitation of the stakeholders of the health sector.
- Innovative treatments and high value drugs, equipment and gadgets prove as probable drivers of sales.

# Primary Study

- **Disease**

An abnormal condition that impairs bodily functions and can be deadly.

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**Specific Symptoms** **Degrees of Pain** **Distress** **Dysfunction**

# Primary Study

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long-lasting or recurrent condition.

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Any condition lasting more than three months can be termed as “Chronic”.

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- Long term medication
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- Update doctor on every stage and of every symptom
- Regular checkups to keep tab on condition

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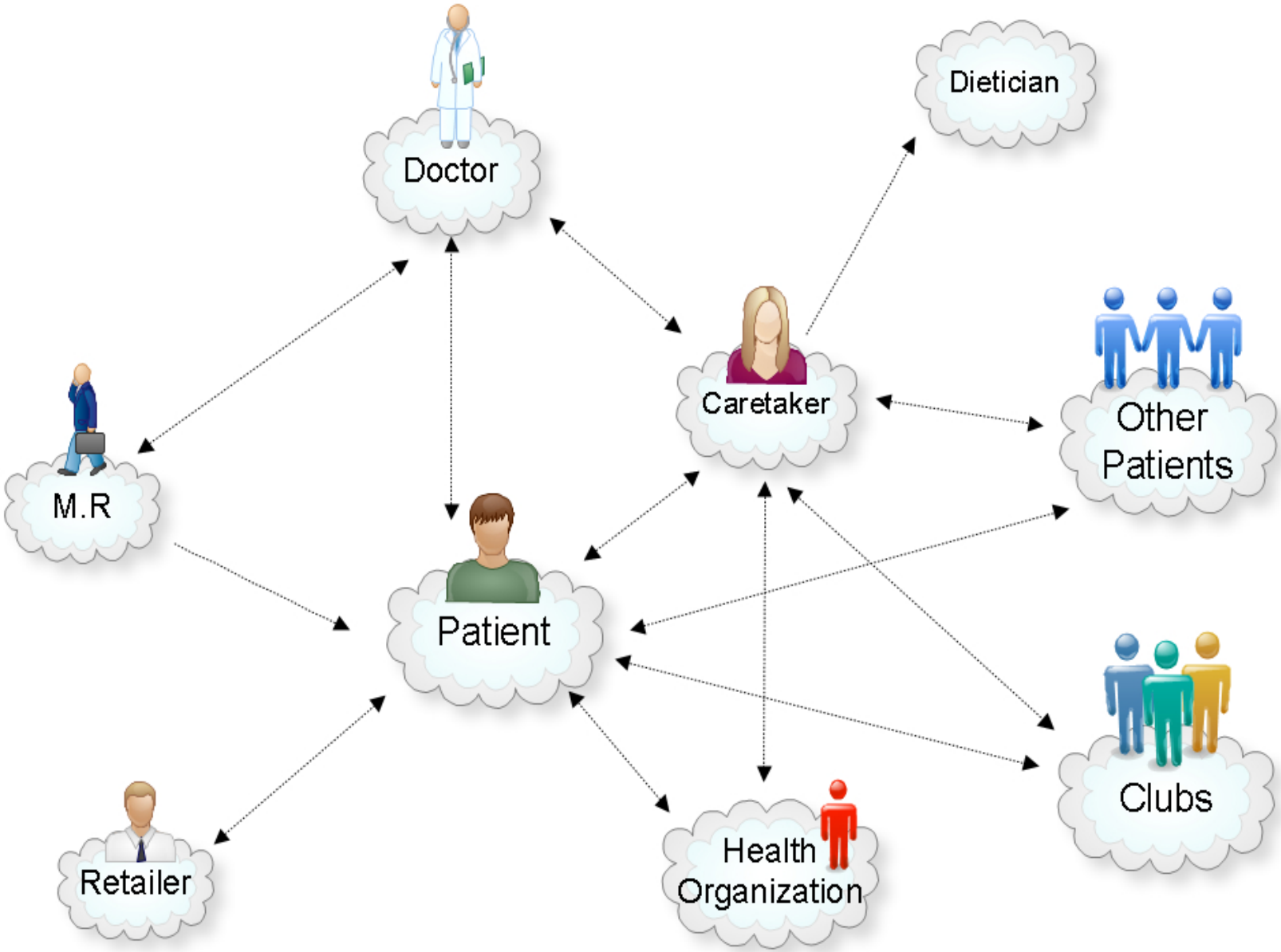
# Who is a chronic Patient?

- Manage reports for any kind of reference in diagnosis
- Stick to daily routine of medication
- Inform about his chronic condition to doctors other than consultant or surgeon, who prescribes another medication.

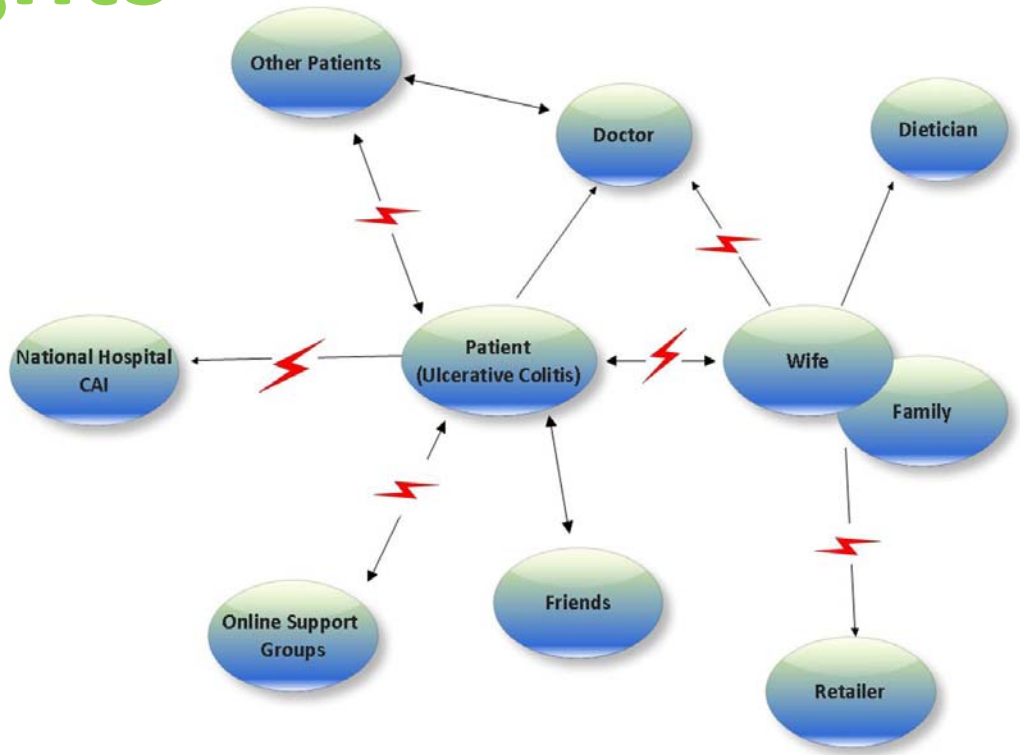
# User Studies

- Stakeholders of the Health sector
- Contextual inquires
- Analysis


Doctor
Dietician
Caretaker
Other Patients
M.R
Patient
Clubs
Retailer
Health Organization

# Primary Study

## Insights



# Primary Study

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- Patient relies on caretaker for reminder of appointments.

  Forget appointments.

# Primary Study

## Insights

- Medicines are expensive.  Bulk Buying at wholesale rate.
- Patient relies on caretaker for reminder of appointments. Forget appointments.
- Do not follow any reminder system. May become late for appointments.

# Primary Study

## Insights

- Patients have rarely interacted with other patients of similar diagnosis.

# Primary Study

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- Patients have rarely interacted with other patients of similar diagnosis.

- Not aware of any support group.

- Fear of travel to far off places, sudden emergencies that may not be handled properly by unknown people.

# Primary Study

## Insights

- Forget Medicines even if  they are ready on table.

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# Primary Study

## Insights

- Forget Medicines even if they are ready on table.
- Embarrassing to share problems with others, especially in colitis or renal problems.
- Dealing with depression.

# User Goals

# Patient Goals

| | |
|---|---|
| **Organization** | ▸ Have organized reports of easy retrieval and reference. |

# Primary Study

## Patient Goals

| | |
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| **Schedule** | ▸ Remember and reach ever appointment on time and not waste the healthcare stakeholders time. |

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| **Treatment** | ▸ Be regular in taking medication and be able to update doctor regularly of condition. |

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| **Treatment** | ▸ Be regular in taking medication and be able to update doctor regularly of condition. |
| **Awareness** | ▸ Be updated of various new developments related to his disease. |

# Primary Study

## Caretaker Goals

**Organization**

- Facilitating all patient goals.

# Primary Study

## Caretaker Goals

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| **Schedule** | ▸ Bring the patient as close as possible to his previous physical, mental, social and economic condition. |

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| **Awareness** | ▸ Interacting with other caretakers for updates. |

# Primary Study

## Doctor Goals

**Organization**

- Easy access to all reports

# Primary Study

## Doctor Goals

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| **Organization** | ▸ Easy access to all reports |
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| **Treatment** | ▸ Determining whether his diagnosis is correct by doing group analysis |

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| **Organization** | ► Easy access to all reports |
| **Schedule** | ► Manage patient follow-ups efficiently. |
| **Treatment** | ► Determining whether his diagnosis is correct by doing group analysis |
| **Awareness** | ► Updates on new technologies available to provide better facility to his patients. |

# Primary Study

## Retailer Goals

**Organization**

- Manage his customer database for easy retrieval

# Primary Study

## Retailer Goals

| | |
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| **Organization** | ▸ Manage his customer database for easy retrieval |
| **Schedule** | ▸ Be able to quickly provide medication on time. |

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| **Treatment** | ▸ Provide medication at a better price with value added service for retaining his clients. |

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| **Treatment** | ▸ Provide medication at a better price with value added service for retaining his clients. |
| **Awareness** | ▸ Be able to inform the patient on news related to the disease and drugs. |

# Mind Map

# Reminder system for chronic patients

- Treatment / Space
  - Hospital
  - Nursing Homes
  - Home
  - Clinics
  - Travelling
- Medicine related
  - Effects
  - Side Effects
- Health Awareness
  - Diet
  - Exercise
  - Weather related symptoms
  - other symptoms
  - medicine related
- Available Resources
- Awareness
  - Conferences
    - For doctors
    - For patients
  - Patient meetings
  - Lectures
  - Newsletters
  - Health programs
    - Hygiene
    - diet
    - spiritual programs
  - Patient to patient interaction
- Chronic Disease

maintainence level differs from short term to life long

- Stakeholders
  - Doctors
  - Patients
  - Family / caretaker
  - Pharma companies
  - NGO's
  - Health Organizations
  - Retail
  - Helplines
- Management
  - Medical equipments
  - Prescription
  - Medical records
  - Doctor patient interaction
  - patient patient interaction

# Secondary Study

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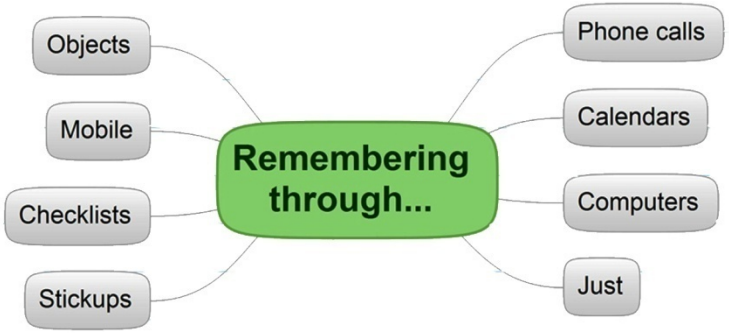
## How does one Remember Tasks?

# Secondary Study



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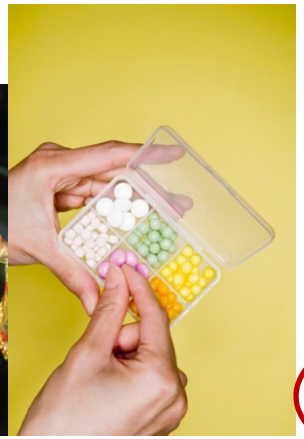
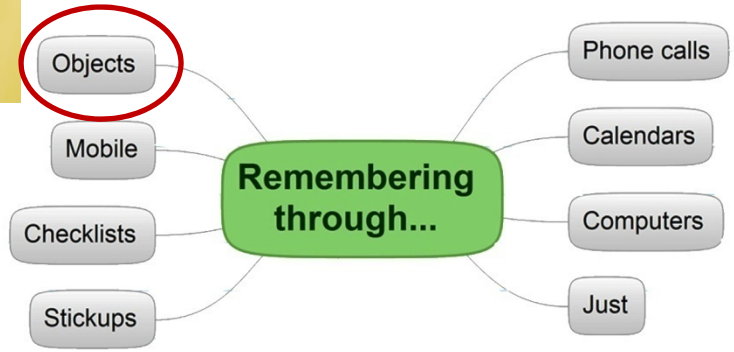


Seeing the object itself to remember task

Tying knots to remember that a task is pending.



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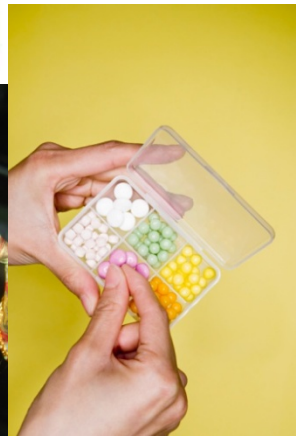
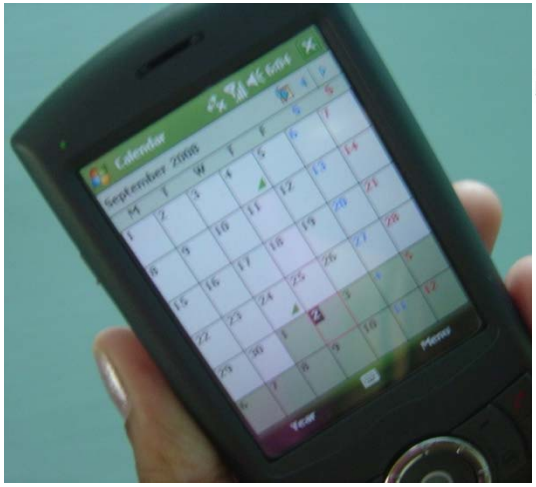
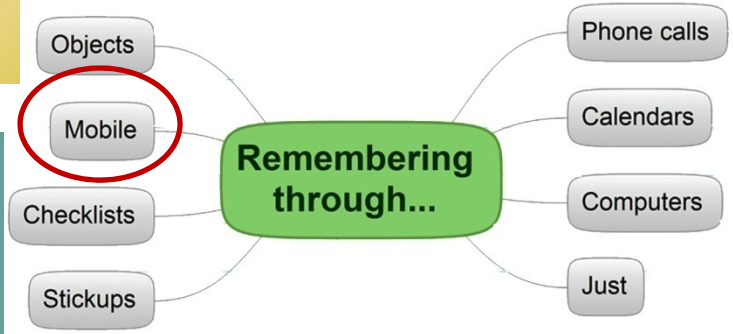
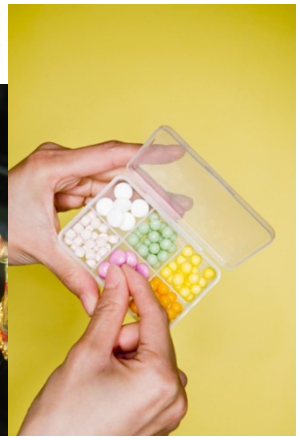


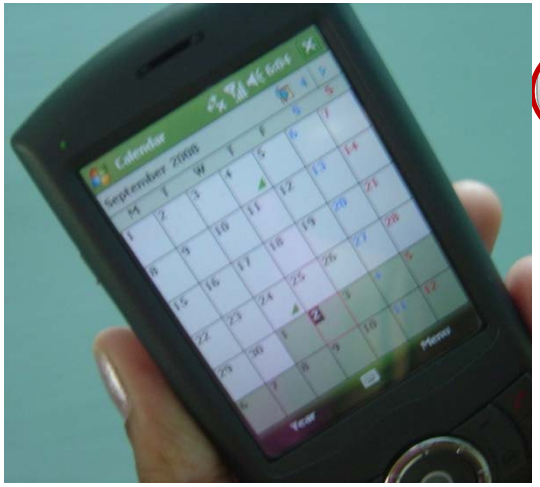


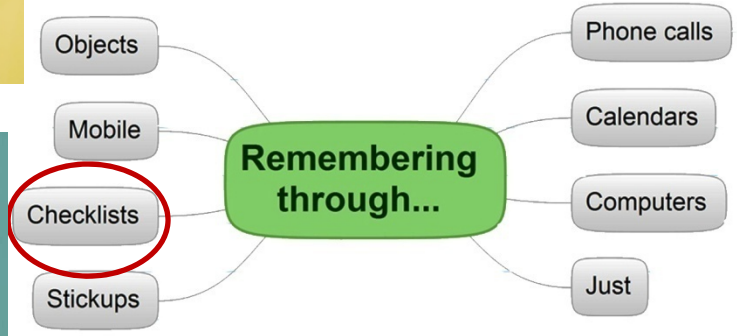


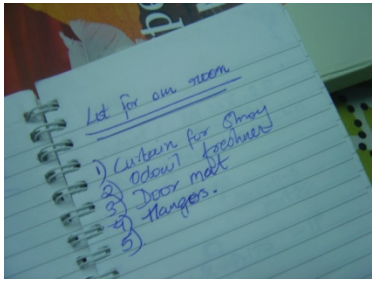

Tasks saved on mobiles
Alarms set
Calendar

# Secondary Study



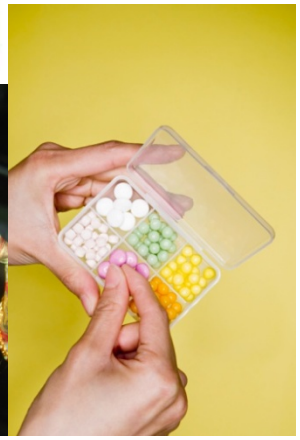


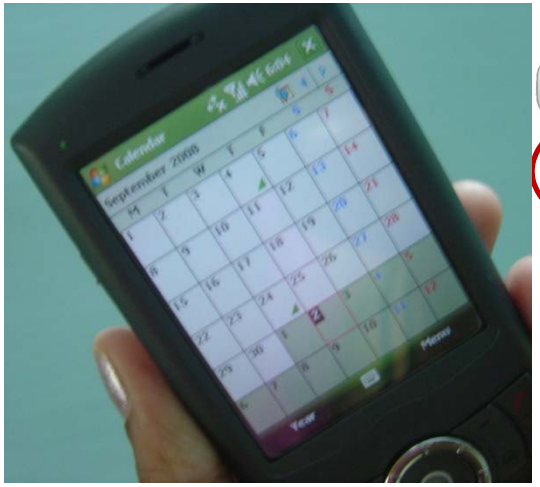


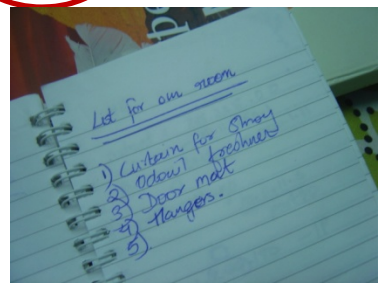



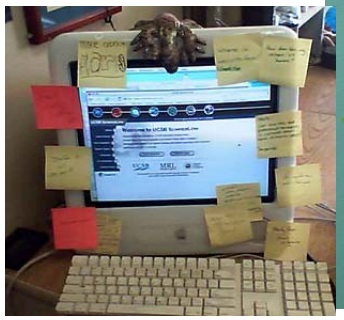
Checklist of items to buy

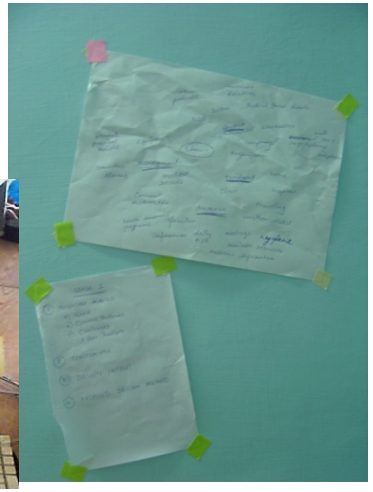
# Secondary Study









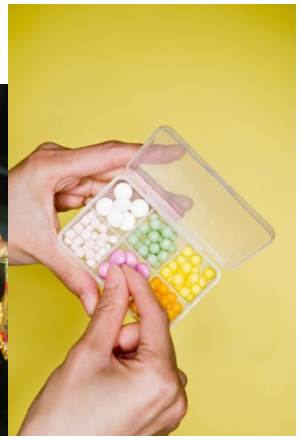


Post its

Pin important

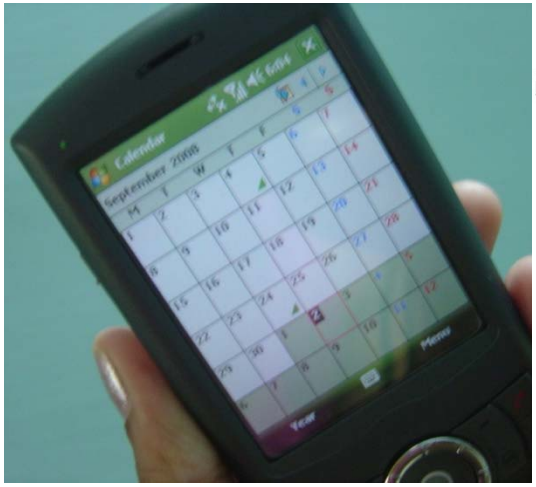
notes on wall

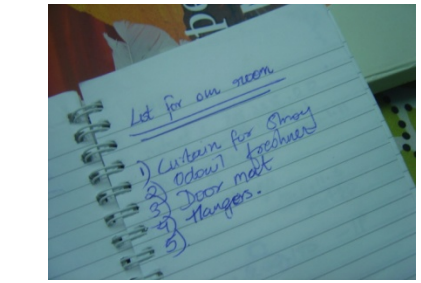
# Secondary Study

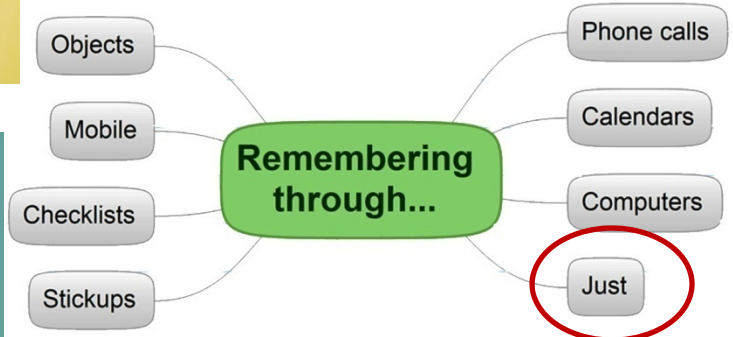


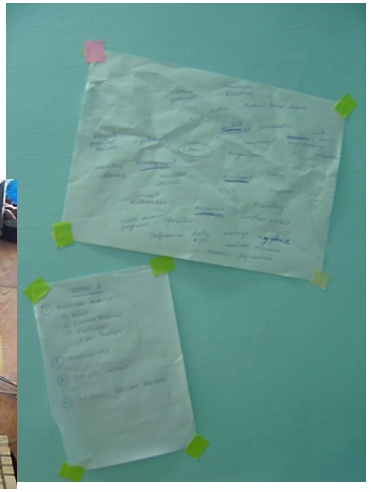
*"I simply remember."*

*"Its all inside my head."*







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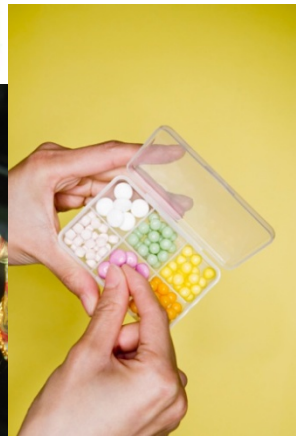
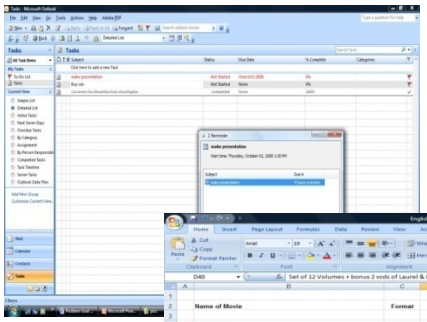
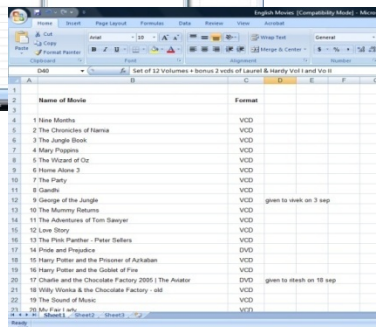
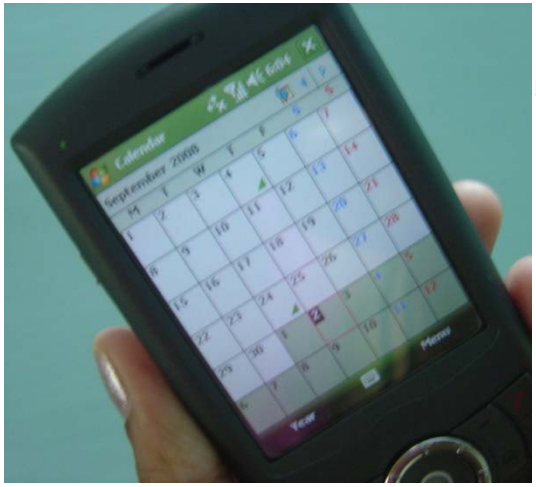


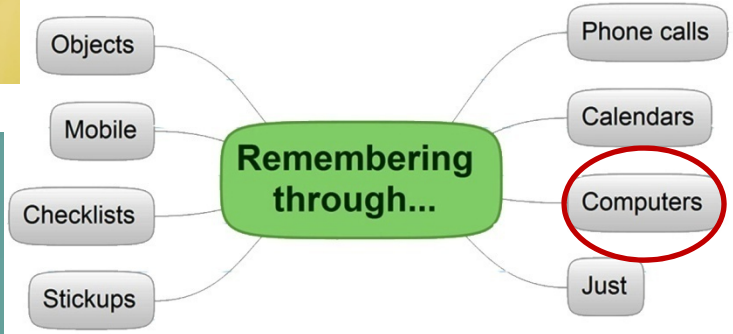
Outlook

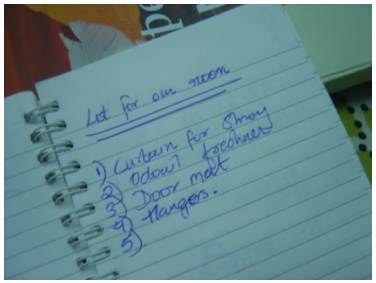
Excel Sheets

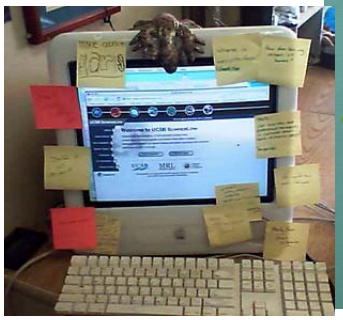


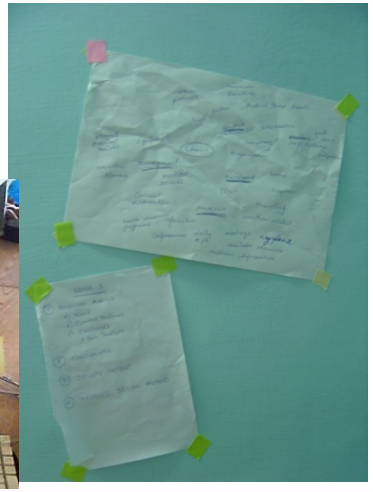




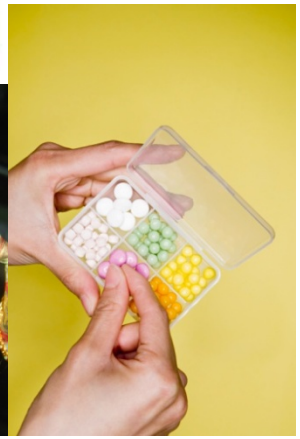


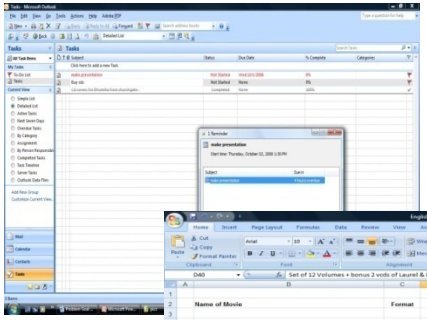



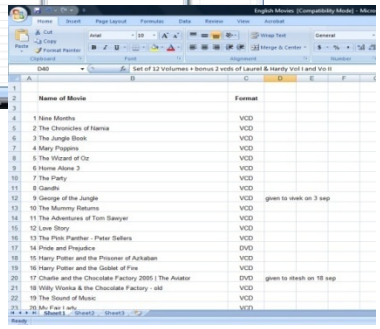



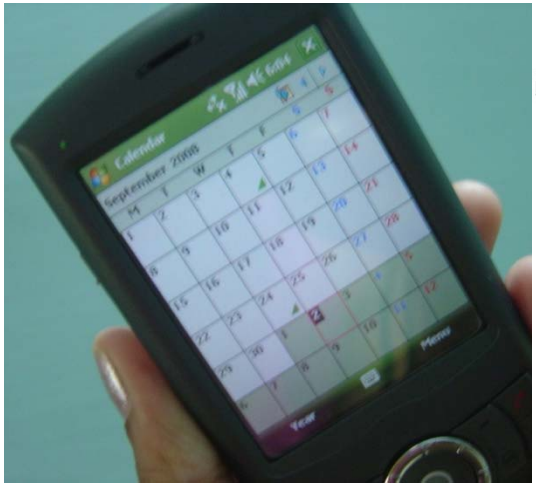


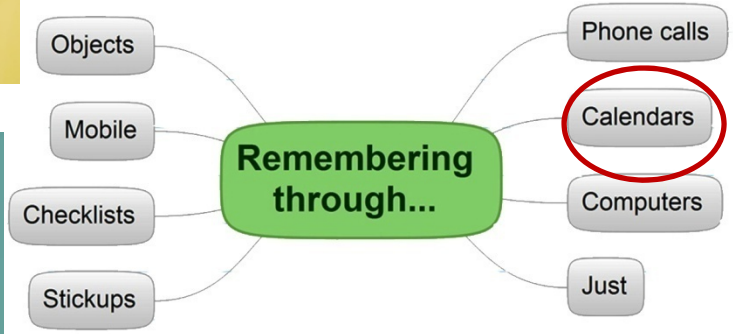
# Secondary Study

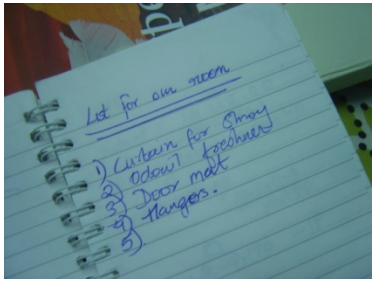


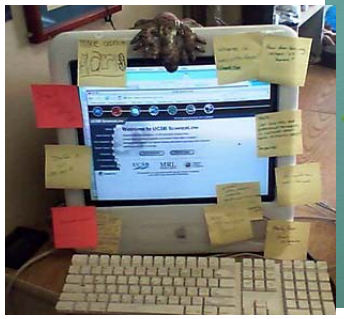


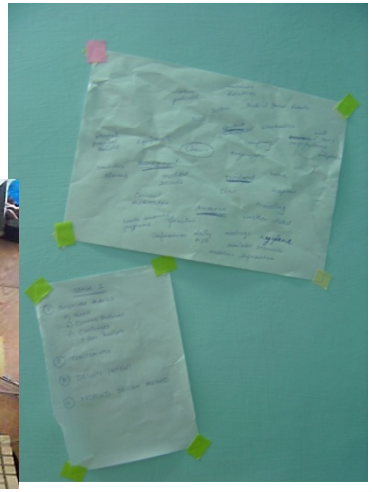




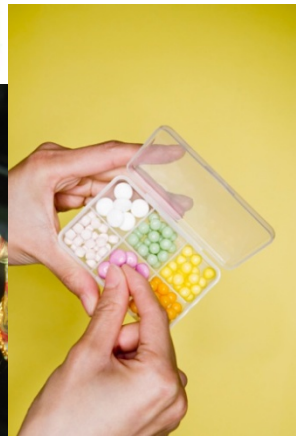


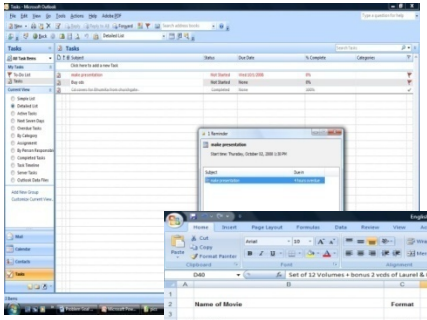



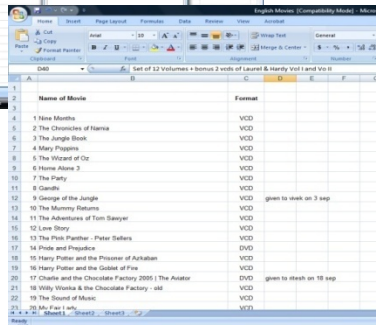





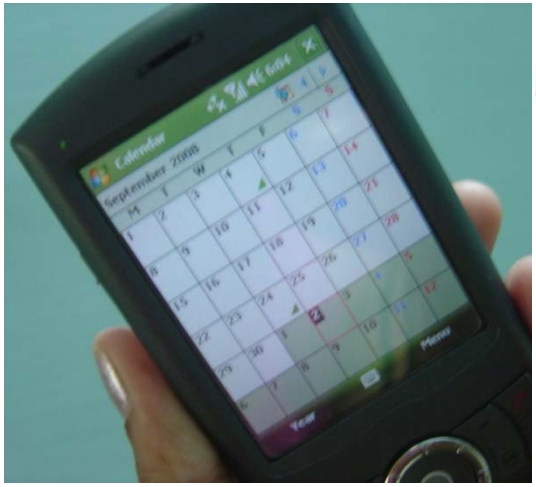
# Secondary Study

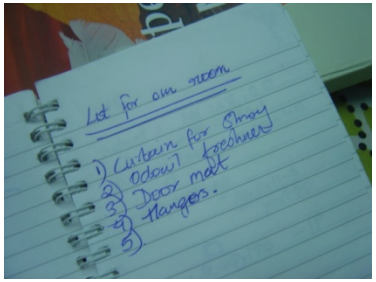


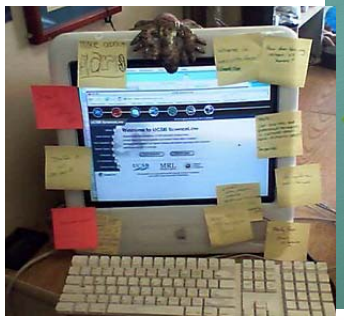


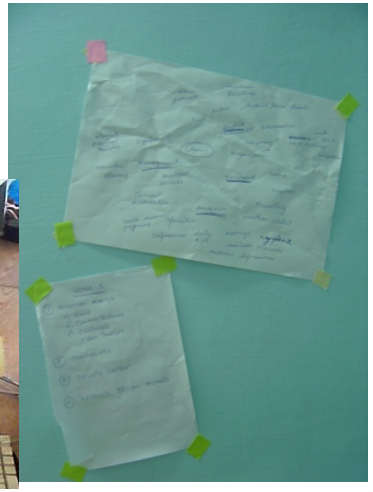


Objects
Mobile
Checklists
Stickups
**Remembering through...**
Phone calls
Calendars
Computers
Just



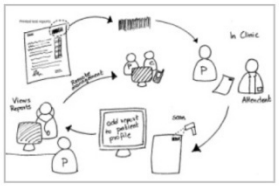


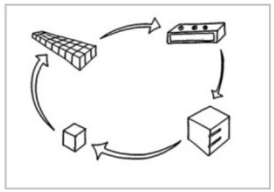



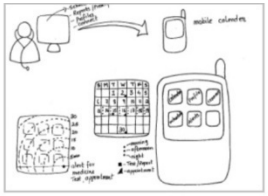


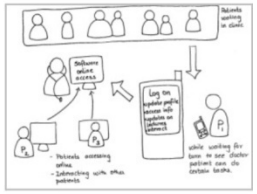
# Ideation

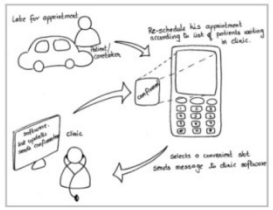
# Ideation











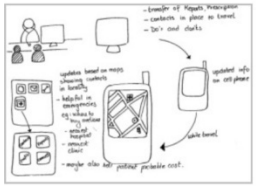
Organization

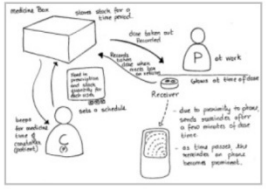
Schedule

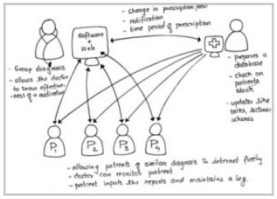
Goals

Awareness

Treatment





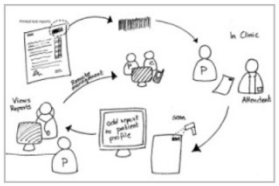


# Ideation

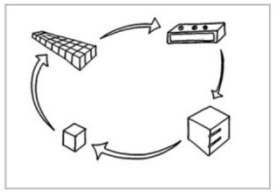
Reminders

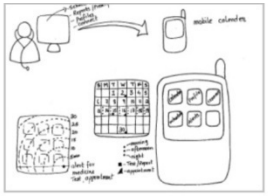
Calendar

Report Scanning

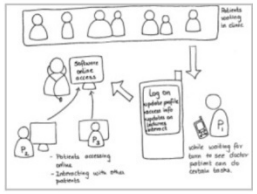


Report Retrival





Waiting time In clinic

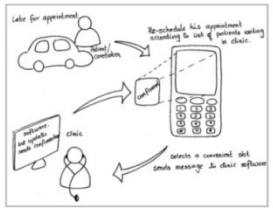


Ease of Access

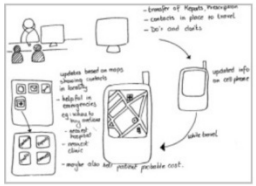
Organization

Schedule

Goals



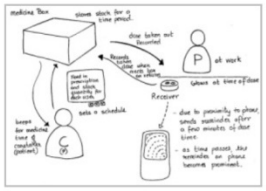
Maps based Awareness



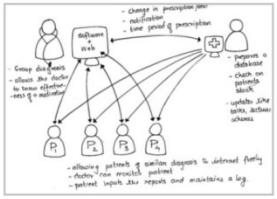
Re-scheduling appointments

Awareness

Treatment



Involving the Retailer



Monthly stock alerts

Social Interaction

# Final Concept

# Final Concept

## Design Focus

A mobile application for chronic patient that will allow him to :

# Final Concept

## Design Focus

A mobile application for chronic patient that will allow him to :

- Set reminders for his medication.

# Final Concept

## Design Focus

A mobile application for chronic patient that will allow him to :

- Set reminders for his medication.
- Schedule his upcoming appointments.

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A mobile application for chronic patient that will allow him to :

- Set reminders for his medication.
- Schedule his upcoming appointments.
- Organize his reports.

# Final Concept

## Design Focus

A mobile application for chronic patient that will allow him to :

- Set reminders for his medication.
- Schedule his upcoming appointments.
- Organize his reports.
- Carry his case history with him. *(emergency)*

# Final Concept

## Design Focus

A mobile application for chronic patient that will allow him to :

- Set reminders for his medication.
- Schedule his upcoming appointments.
- Organize his reports.
- Carry his case history with him. *(emergency)*
- Connect remotely with doctor and send him test results.

# Final Concept

## Product Profile

# Final Concept

## Product Profile

- Aim is to enable smooth hassle free interaction.

Patient to Doctor and Lab to Patient.

Ensure that the patient takes his medication.

# Final Concept

## Product Profile

- Goal Oriented Life Care product
- Premium Product

The patient acquires the product from the healthcare provider.

# Final Concept

## Product Profile

- Goal Oriented Life Care product
- Premium Product
- Mobile

The system is a mobile application that allows the patient to organize himself.

# Final Concept

## Product Profile

- Goal Oriented Life Care product
- Premium Product
- Mobile
- The target audience is chronic patients

35 to 50 yrs, working, busy people

Little experience with using technology

# Final Concept

## Product Profile

- Goal Oriented Life Care product
- Premium Product
- Mobile
- Chronic Patients 35 to 50 yrs
- The product will be used few times a day.

Mainly to remind the patient of his daily medical schedule

# Final Concept

## Product Profile

- Goal Oriented Life Care product
- Premium Product
- Mobile
- Chronic Patients 35 to 50 yrs
- The product will be used few times a day.
- For the niche market.

# Final Concept

## Scenario

### Introduction to Application

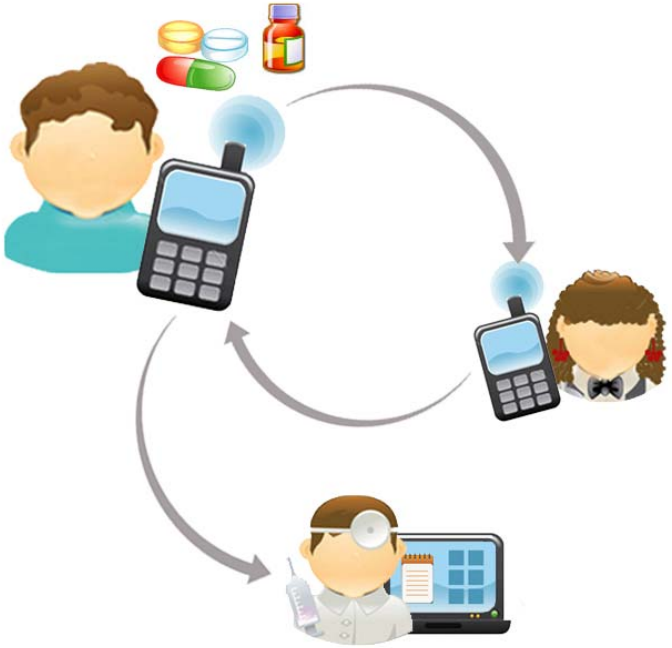
# Final Concept

## Concept Map

- Application with patient

- Application with patient
- Sharing with caretaker

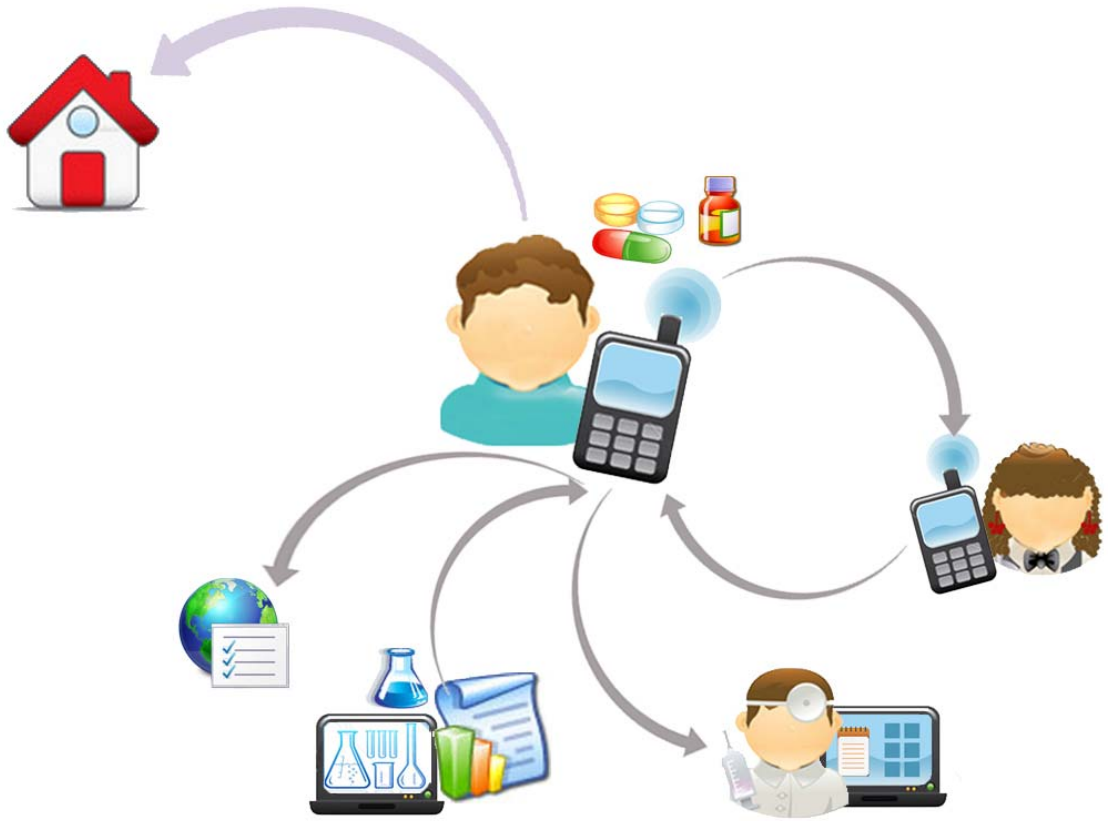
- Application with patient
- Sharing with caretaker
- Send updates to doctor



- Application with patient
- Sharing with caretaker
- Send updates to doctor
- Receive Reports from lab

- Application with patient
- Sharing with caretaker
- Send updates to doctor
- Receive Reports from lab
- Receive remedies by

  keywords and tags on web



- Application with patient
- Sharing with caretaker
- Send updates to doctor
- Receive Reports from lab
- Receive remedies by

  keywords and tags on web

- Used at home

- Application with patient
- Sharing with caretaker
- Send updates to doctor
- Receive Reports from lab
- Receive remedies by

  keywords and tags on web

- Used at home
- While travelling

- Application with patient
- Sharing with caretaker
- Send updates to doctor
- Receive Reports from lab
- Receive remedies by

  keywords and tags on web

- Used at home
- While travelling
- At work

- Application with patient
- Sharing with caretaker
- Send updates to doctor
- Receive Reports from lab
- Receive remedies by

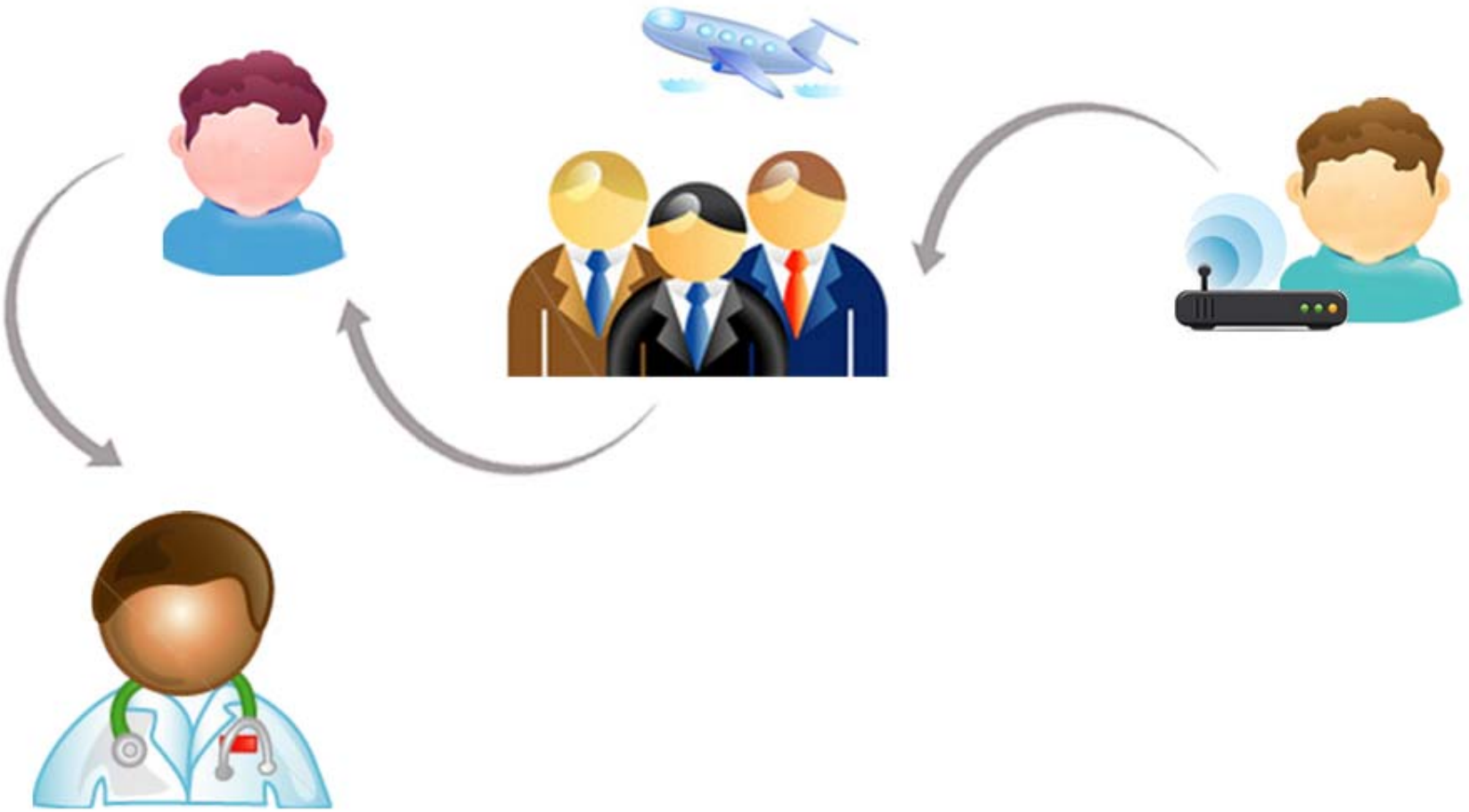
  keywords and tags on web

- Used at home
- While travelling
- At work
- During emergency

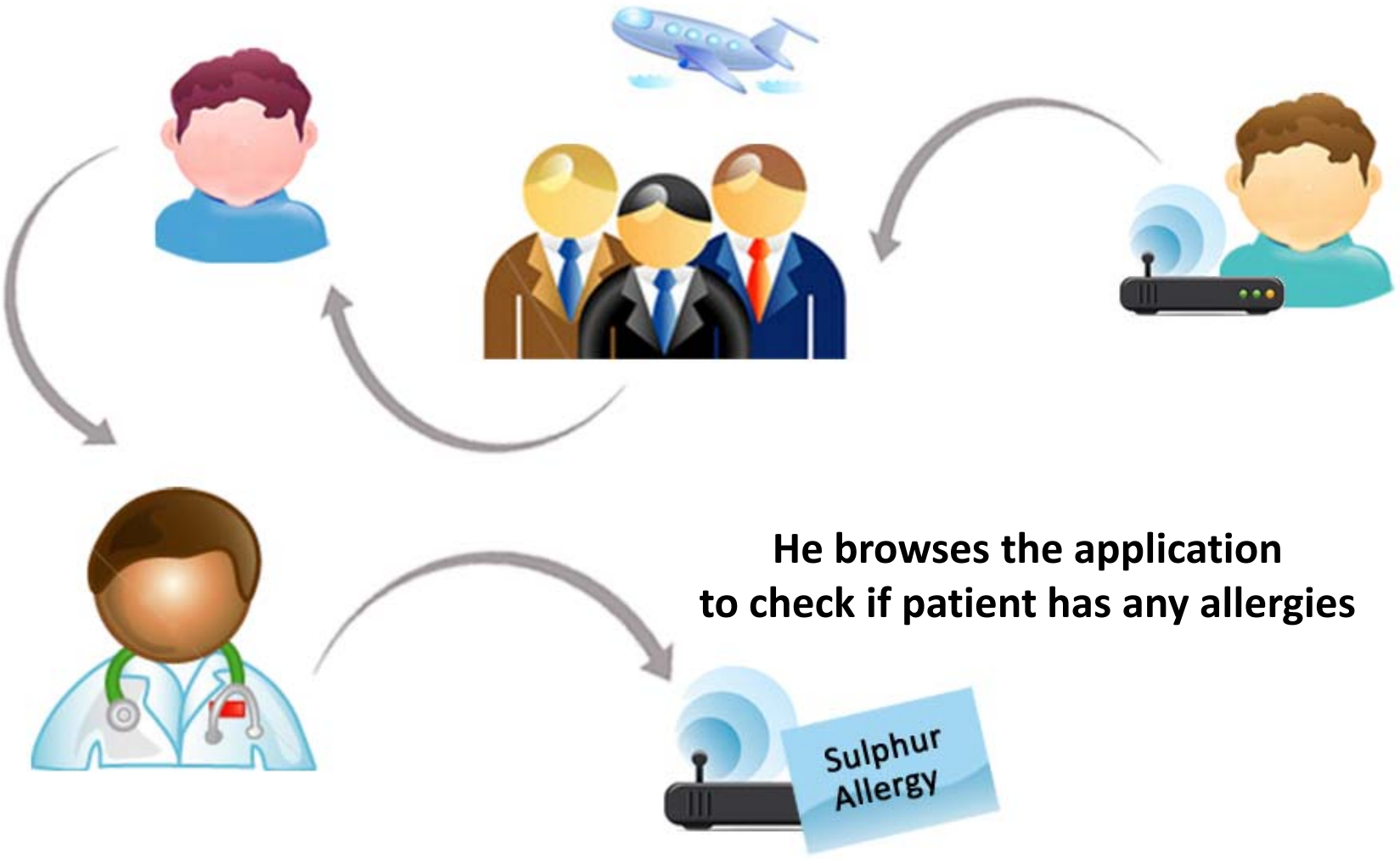
**Lets look at a scenario when the application can help in case of Emergency.**

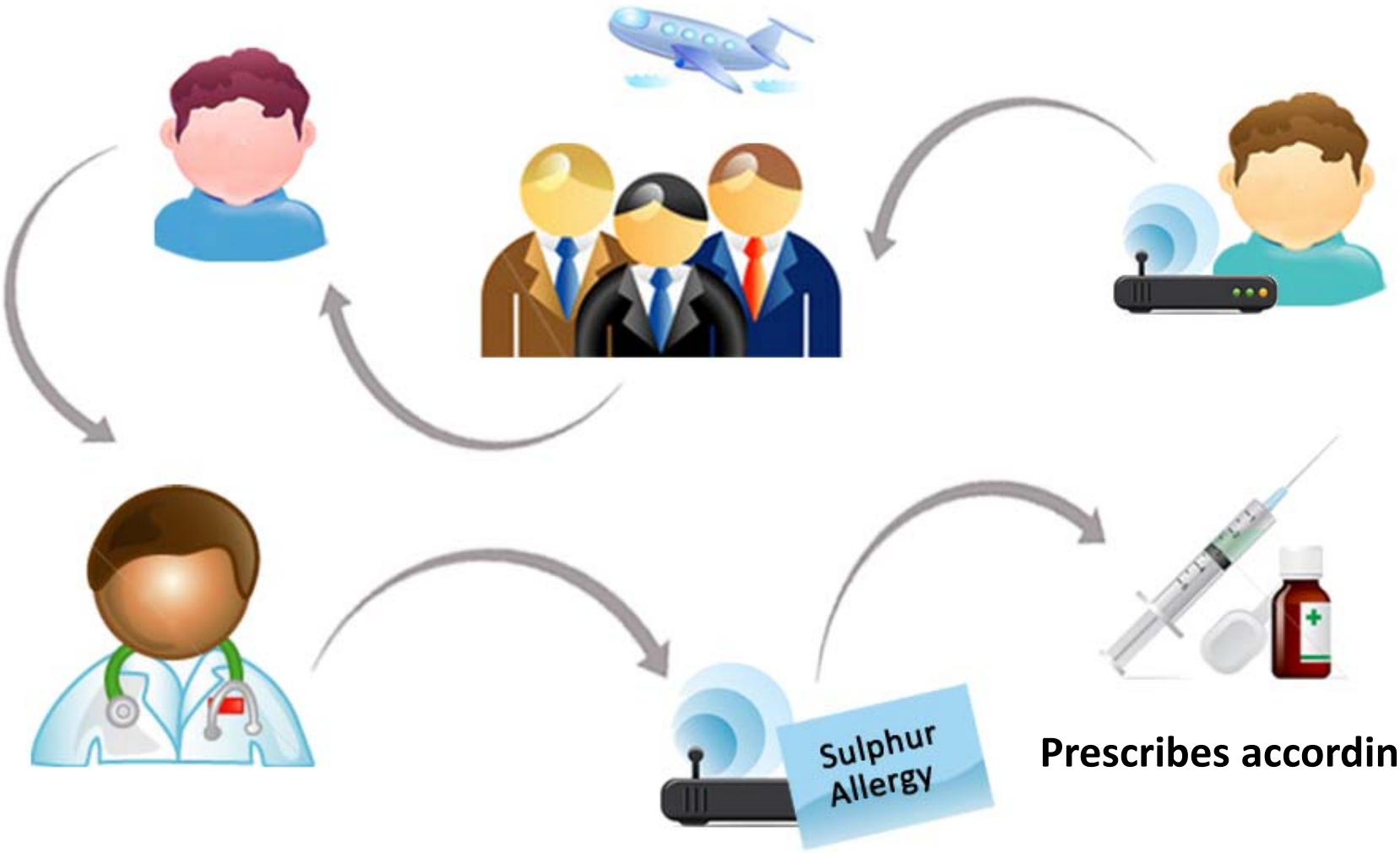
**Patient goes for a business trip out of town.**

**He falls ill.**



**A local doctor checks on him**


He browses the application
to check if patient has any allergies
Sulphur
Allergy




**Prescribes accordingly.**

# Final Concept

## Walk through

Patient: Rohit Vaze, Ulcerative Colitis
Caretaker: Neha Vaze

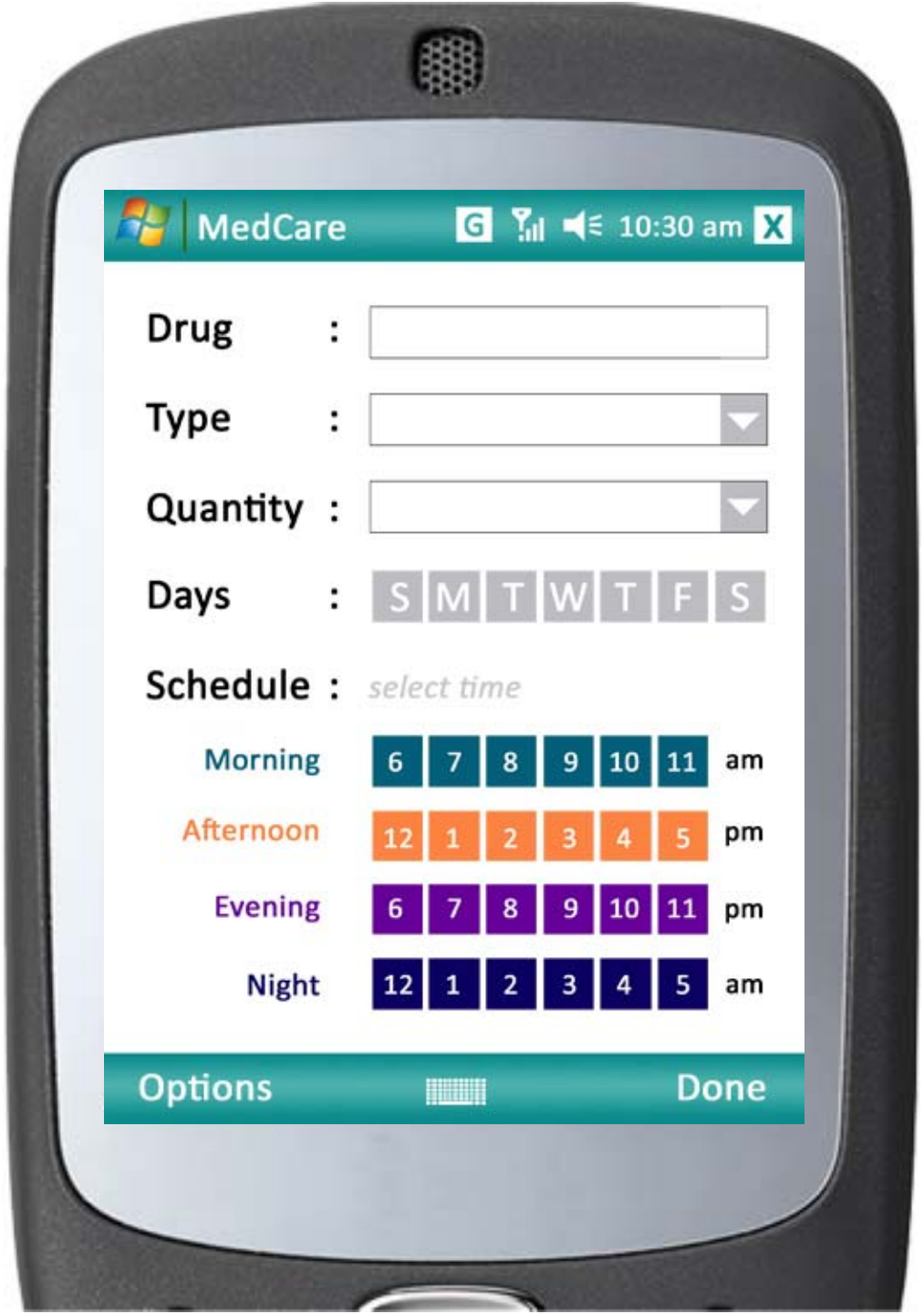
**Icon.**

**Main Screen of application**

**Selects reminder**

**Clicks on new**

**Fills in the details**



MedCare
10:30 am
Drug : Augmentin
Type : Tablet
Quantity : 1
Days : S M T W T F S
Schedule : select time
Morning 6 7 8 10 11 am
Afternoon 12 1 2 3 4 5 pm
Evening 6 7 8 9 10 11 pm
Night 12 1 2 3 4 5 am
Options
Done

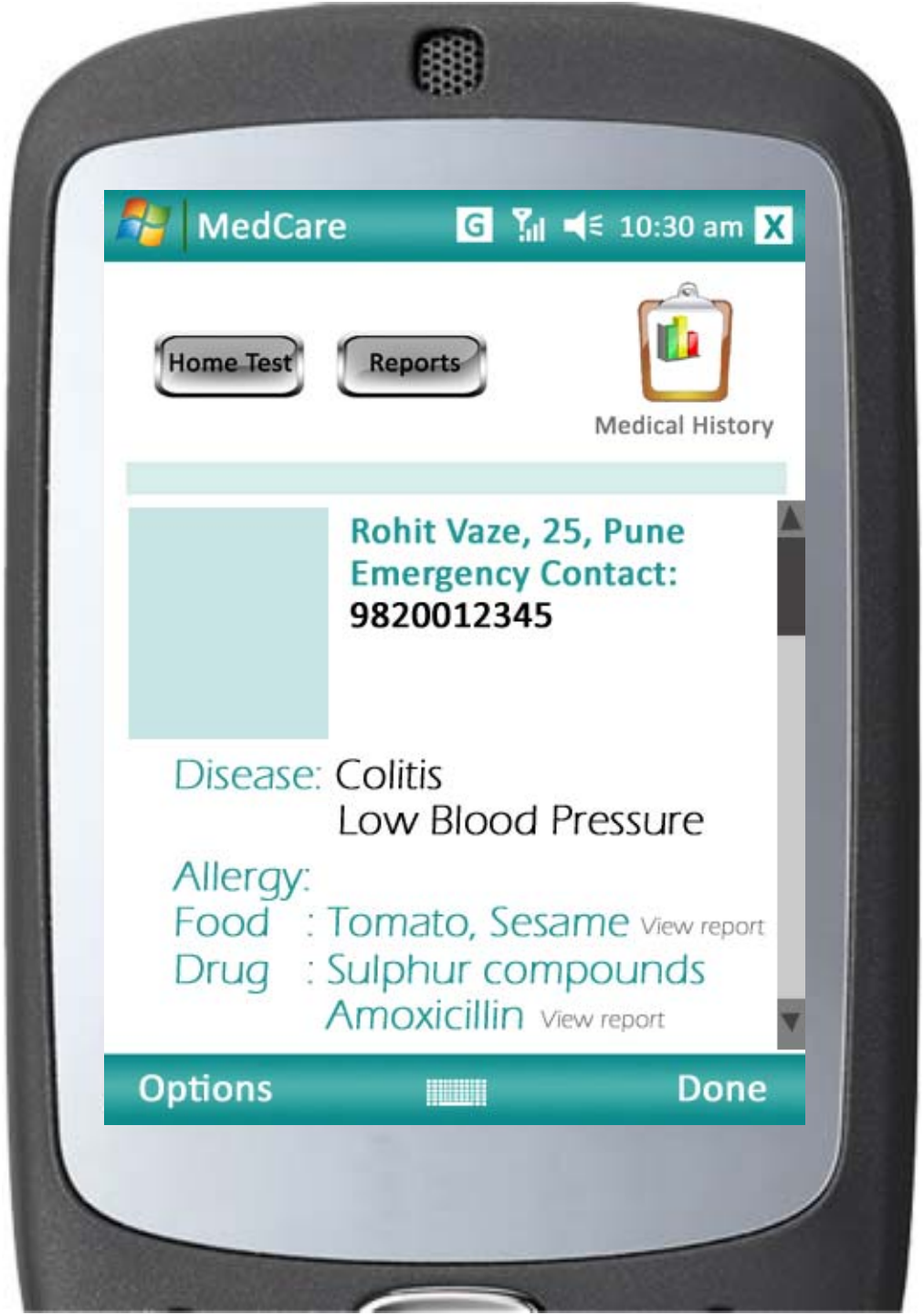
**Saves**

MedCare
10:30 am
Drug : Augmentin
Type : Tablet
Quantity : 1
Days : S M T W T F S
Schedule : select time
Morning 6 7 8 10 11 am
Afternoon 12 1 2 3 4 5 pm
Evening 6 7 8 9 10 11 pm
12 1 2 3 4 5 am
Save & New
Exit
Options
Done

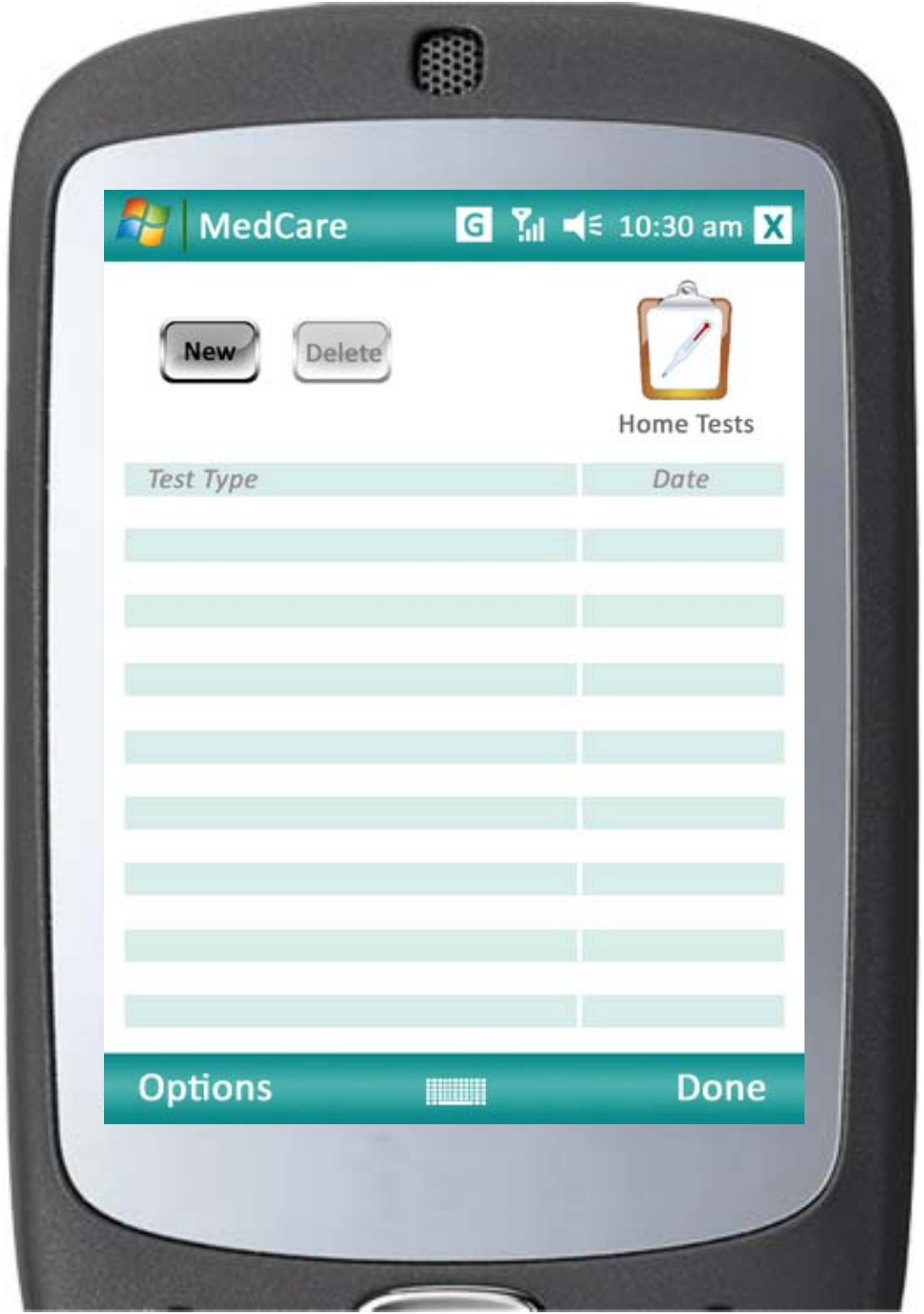
**Exits and sees the list of reminders**

**Selects tests.**

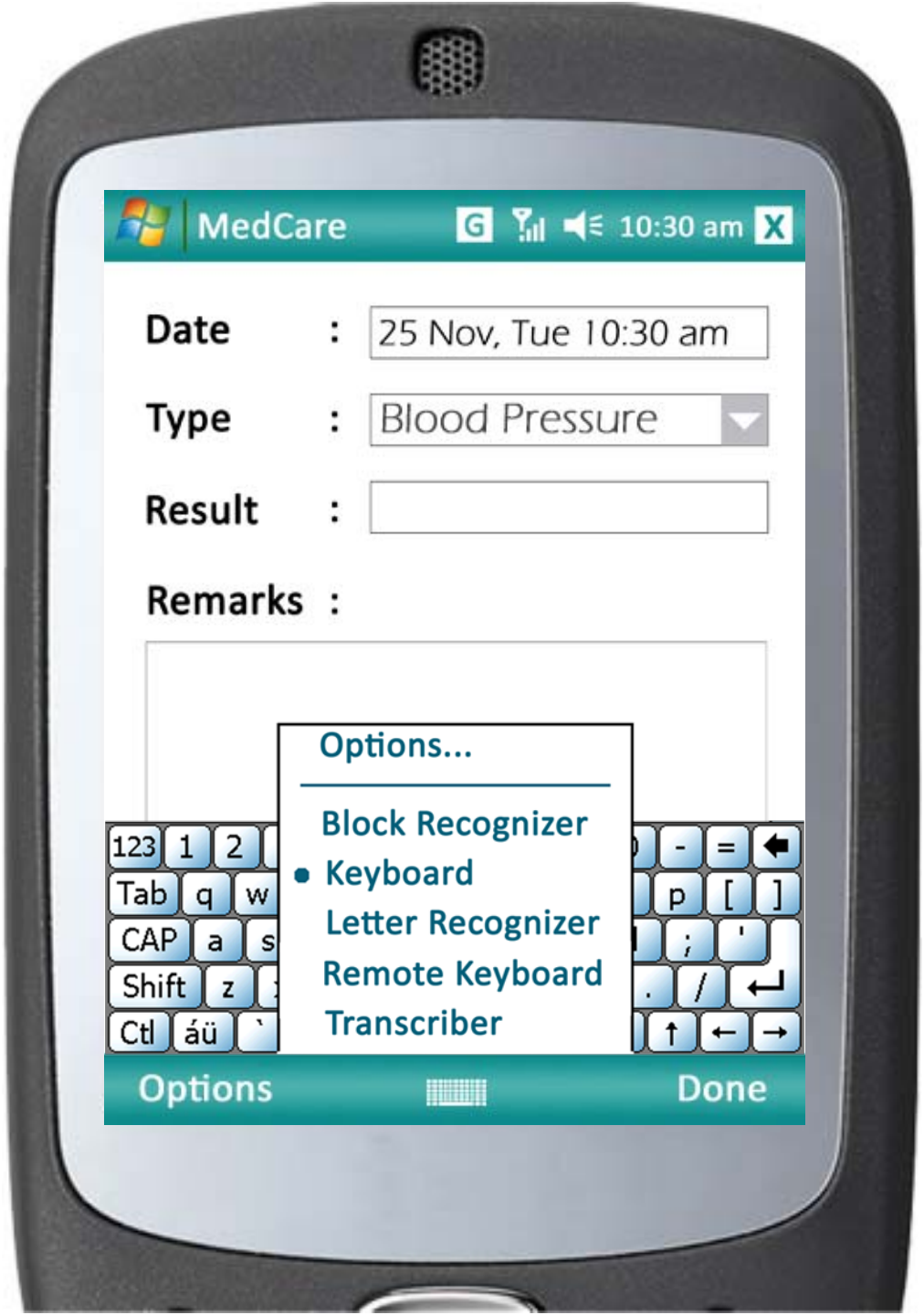
**Views profile.**
**Data like**
**Disease**
**Allergies**
**Medication**
**Blood Group**
**Doc. Details**
**etc**



**Selects new home test**

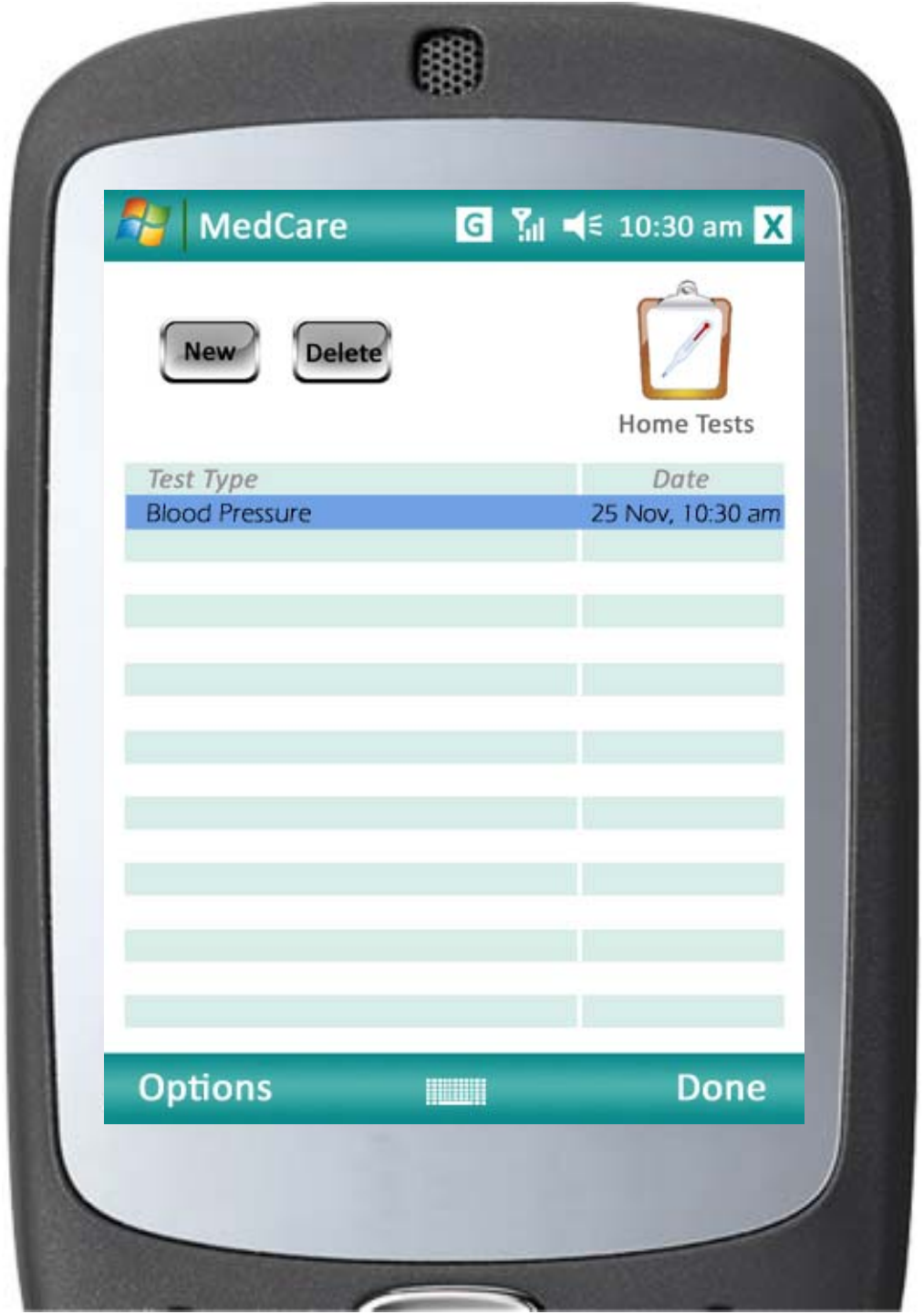


**Writes in the details**



**Comes in the list of tests done.**

*Consecutive Tests*



**Goes into reports and sees that a test result is still not updated.**

**Clicks on update and sees that the system has downloaded the test.**

**Opens the file to view the report.**

He clicks on Sync to sync his phone with his wife. Now he can share the dynamic diary with Neha.

He has a problem while changing his illostomy bag. He searches for remedies.

**Gives in keywords to search.**

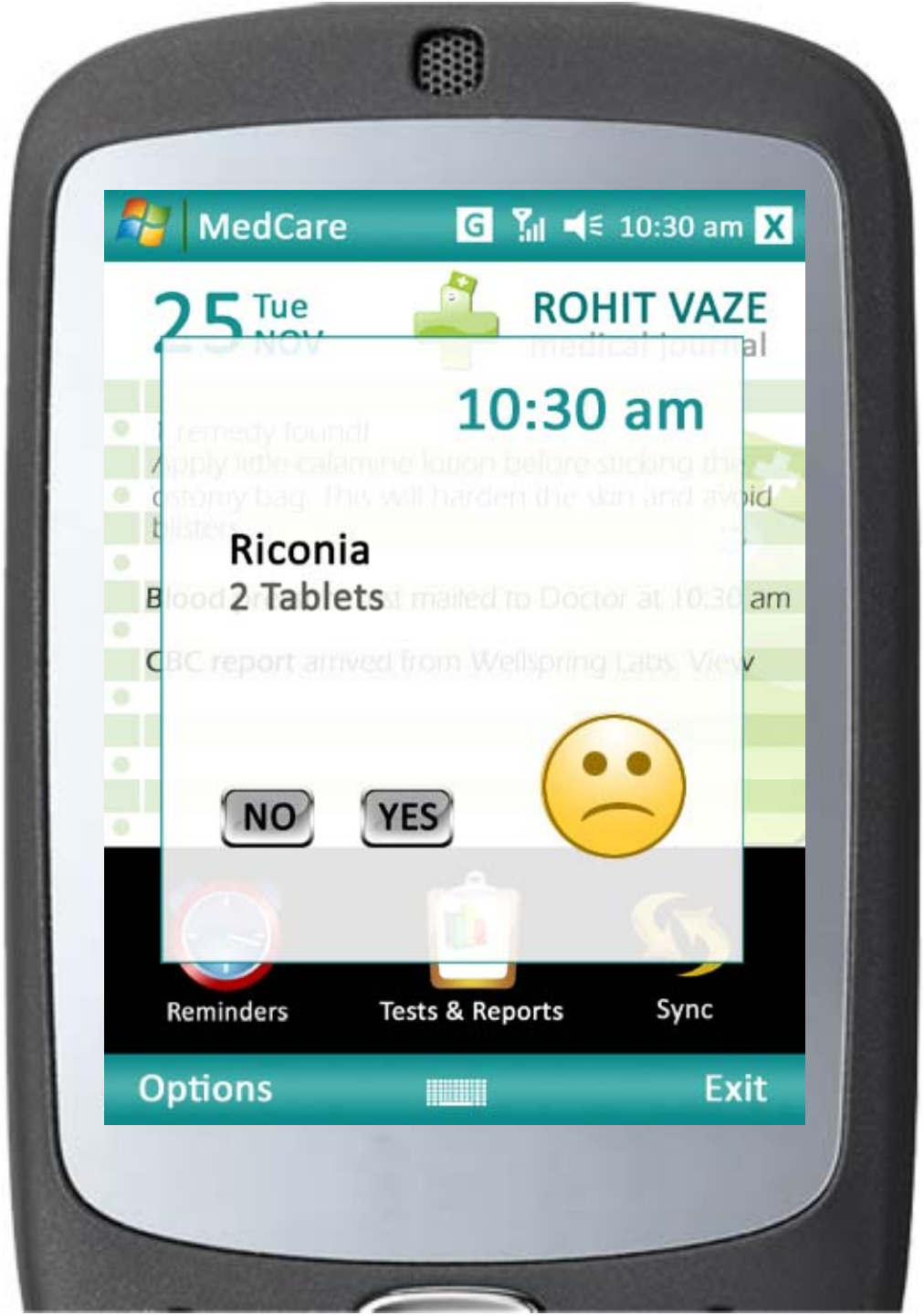
**System shows a patient entry.**

**The dynamic diary also records what activity the application has been through at what time.**

**It sounds alarms for his reminders**

**If he snoozes then the visual emotion changes.**

**If he does not have his medicines for a long time after his alarm rings, the caretaker gets an update on her diary.**



**It gives her the option of writing back to Rohit to remind him of taking his medicines or it will have an impact on his health.**

MedCare
10:30 am
25 Tue NOV
ROHIT VAZE
medical journal
That's how Rohit and Neha can connect with each other.
Reminders
Tests & Reports
Sync
Options
Exit

# User Testing & Feedback

# User Testing & Feedback

Why? To understand the usability issues of interface.

The testing was task based and not time based.

MedCare.exe

3 tasks were given to a user.

# User Testing & Feedback

**Task 1:** Setting a new reminder

Your doctor has prescribed to you one tablet of Augmentin. You are supposed to take this tablet everyday at 9:00 am. You have to set this reminder in the application.

# User Testing & Feedback

**Task 2:** Saving a test done at home and mail to doctor

You are advised to note down your blood pressure and weight for 2 weeks and email it to your doctor. You have to input today's blood pressure and weight and email it.

# User Testing & Feedback

**Task 3:** View test that has come from lab.

You have done a Complete Blood Count (CBC) report yesterday evening. Your Lab in charge told you that he will send it to you by 9 in the morning. You have to view the reports and update them.

# User Testing & Feedback

"Where is the Medical Reports Button?"

# User Testing & Feedback

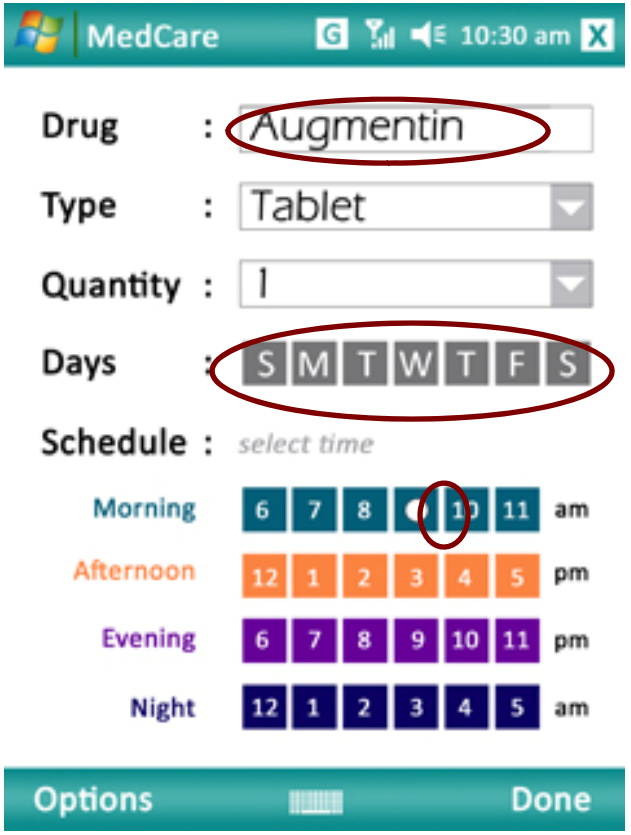
- How do I select all days?

  *A check box stating all days*

- How do I select a time on half hour basis.

- What if I want to add 2 drugs at the same time?

  *Options and Save & New*



# User Testing & Feedback

- What about the dose of the Drug?

*Option of Auto drop down of drugs with their different doses.*

# Future Possibilities

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- Target Market can shift from Niche to General, allowing Acute therapy and Hospital therapy caregivers to use the application.

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- Target Market can shift from Niche to General, allowing Acute therapy and Hospital therapy caregivers to use the application.

- Assist healthcare providers in hospitals by integrating it in hospital therapy.

# Future Possibilities

- Target Market can shift from Niche to General, allowing Acute therapy and Hospital therapy caregivers to use the application.

- Assist healthcare providers in hospitals by integrating it in hospital therapy.

- May also lead to rural areas and be made available in Indian languages with simpler interface.

# THANK YOU.

HEMRUCHI SHAH | 07633803 | Final Presentation | IDC 2008