

# VICTA Mobile

By Group 22

# Overview

# Introduction

- VICTA is a tool designed to teach and train medical students
- Different scenarios are presented where the students can enter their solution to each scenario
- Solutions will be sent for feedback
- Learn without the need of physical patients
- Always accessible
- Similar to real life situations, as different symptoms can mean different solutions



# Software Design Decisions

# Software design decisions

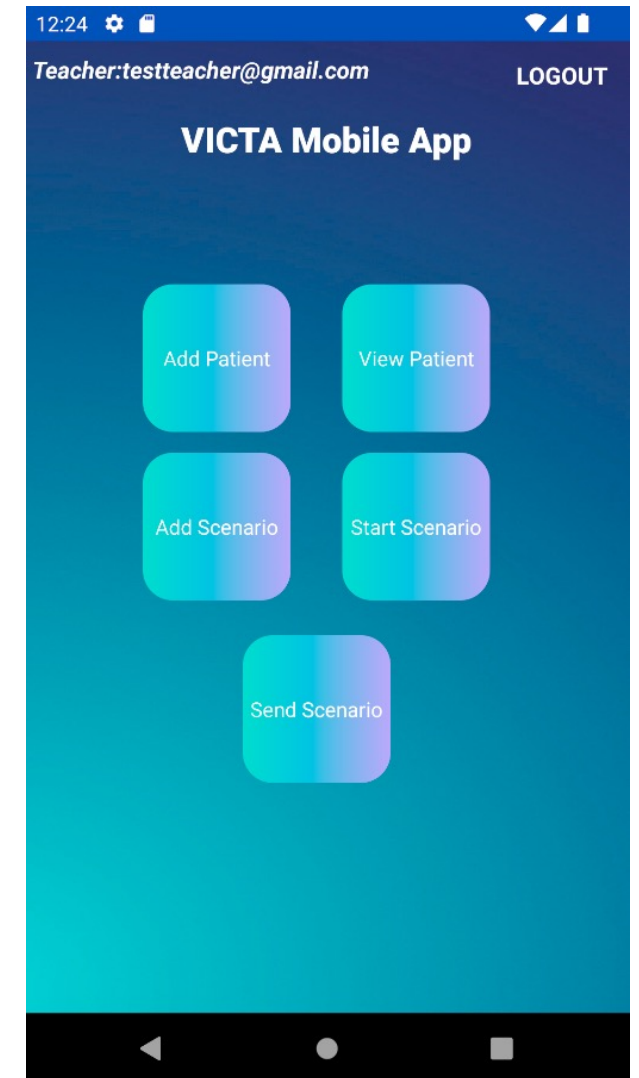
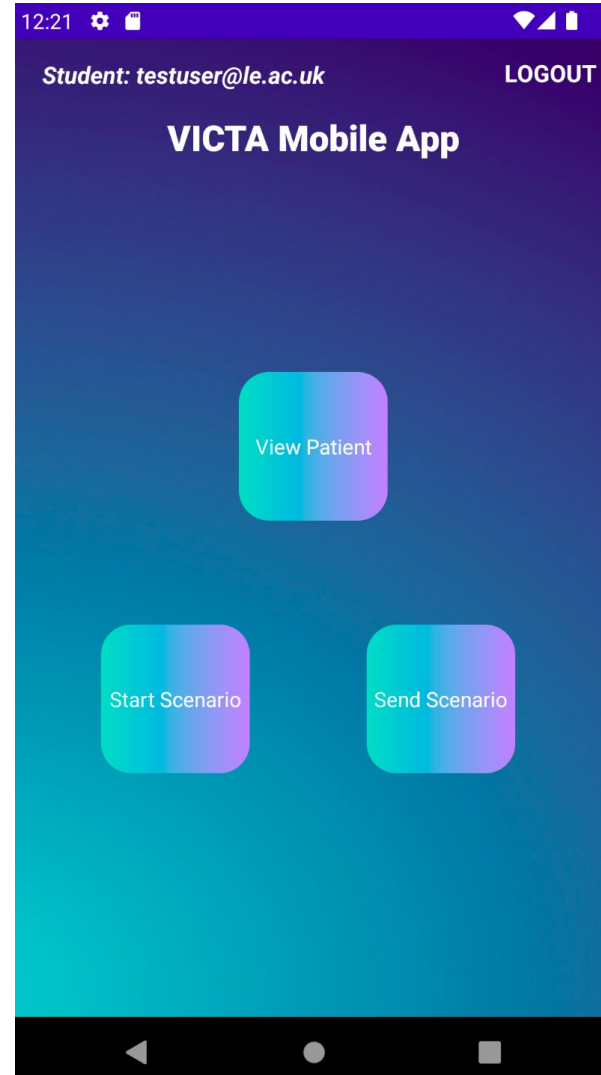
Colour theme

Format and content

Templates

Interactive exploration

Simple and straight forward



# Software design

- Home page
- Add patient
- View patient
- Add scenario
- Start scenario
- Email



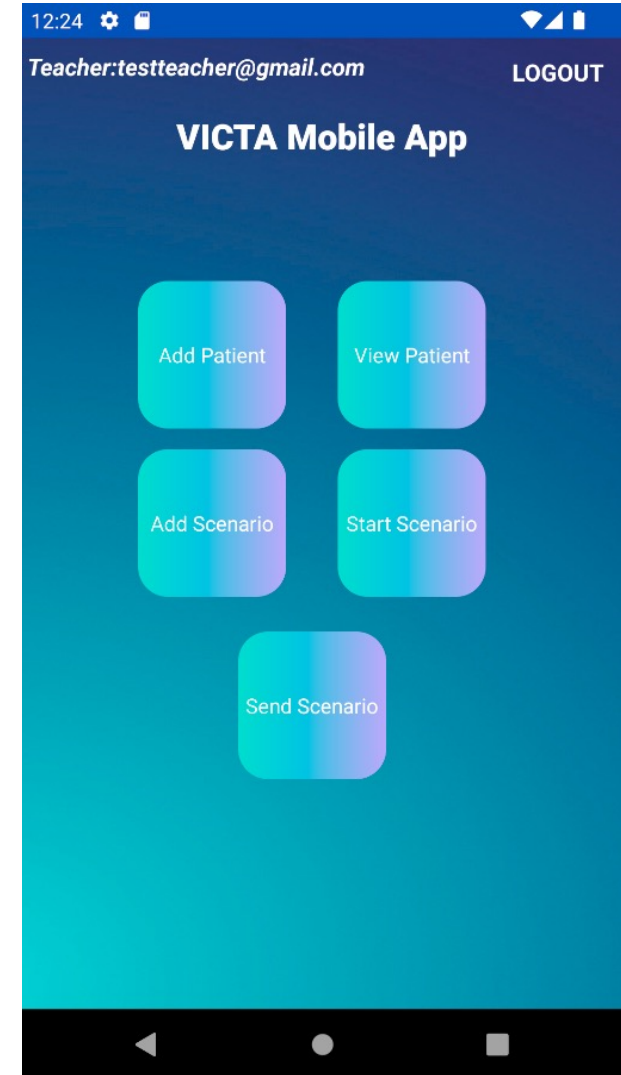
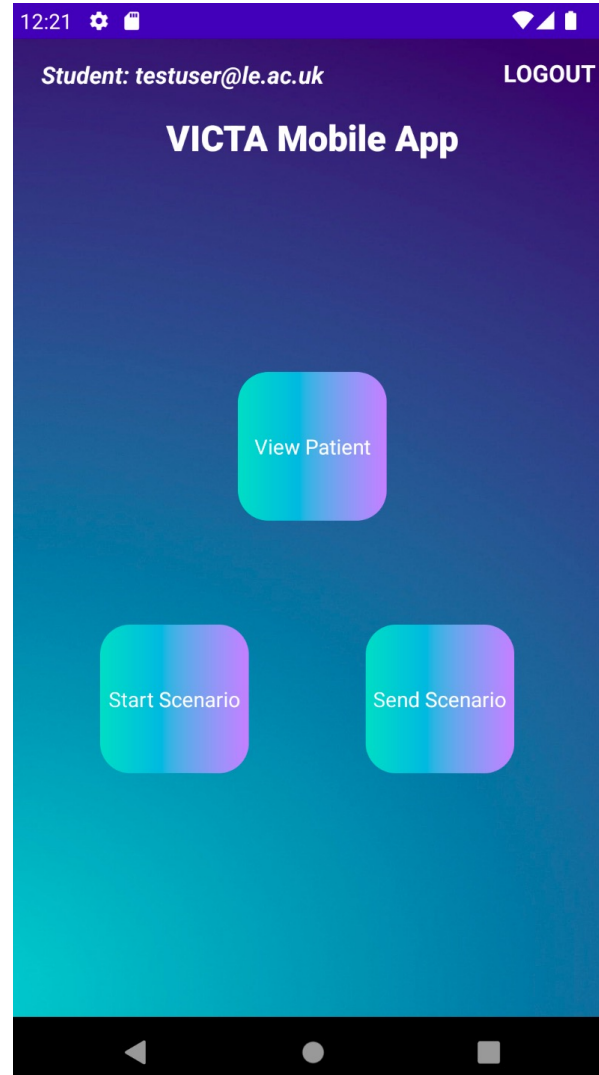
<https://victa-online-db-default-rtdb.europe-west1.firebaseio.com/>

- ▶ Patients
- ▶ ScenarioSummary
- ▶ Scenarios
- ▶ Users

# Demo of key features

# Access roles (Authorization)

- There are 3 roles (user types) Student, Teacher or Admin.
- An admin manages the student & teacher role.
- Shortcoming: Internet connection is required to use the app





# Role of an admin

- Configure database rules when required.
- Manage user accounts.
- Give access to other admins

Firestore

Project Overview

Build

- Authentication
- Firestore Database
- Realtime Database
- Storage
- Hosting
- Functions
- Machine Learning

Release and monitor

Crashlytics, Performance, Test Lab ...

Analytics

Dashboard, Realtime, Events, Conve...

VICTA Online DB

## Realtime Database

Data Rules Backups Usage

<https://victa-online-db-default-rtdb.europe-west1.firebaseio.com>

<https://victa-online-db-default-rtdb.europe-west1.firebaseio.com>

- Patients
- ScenarioSummary
- Scenarios
- Users
  - 9GwpPHwD0oWnvYGBIG4jfQTYhh1
  - J5EeXqI8UGMaPMskVda2sI0bnq53
  - J8hhcqjrBfczQIF3opf4nj0vs1v2
  - Rdbyhu0mtuhGBEN8s9ZcmyD09hM2
  - Xmqft3rMuXRrqEUYATu6FKt3z1
  - cgNdxim6ligIUZAiP4ZUCJ6XuHZ2
  - fqDBhr8MIHMvYmlagQQMXyMUfzh1
  - yfX0Zb9HcZQEgCuEApUIm5nt0KH2
    - email: "testteacher@gmail.com"
    - fName: "Teacher"
    - isTeacher: true
    - lName: "Teacher"
    - password: "test123"
    - uniName: "Uni of leicester"
    - yearOfStudy: "5"

# Autocomplete Search

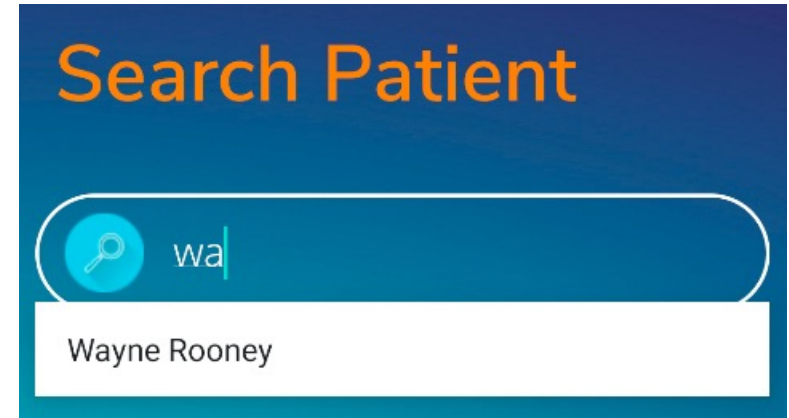
- Used AJAX calls which allows web requests to be completed asynchronously
- Minimal app data is stored on the user's device!

In 'View Patient' →



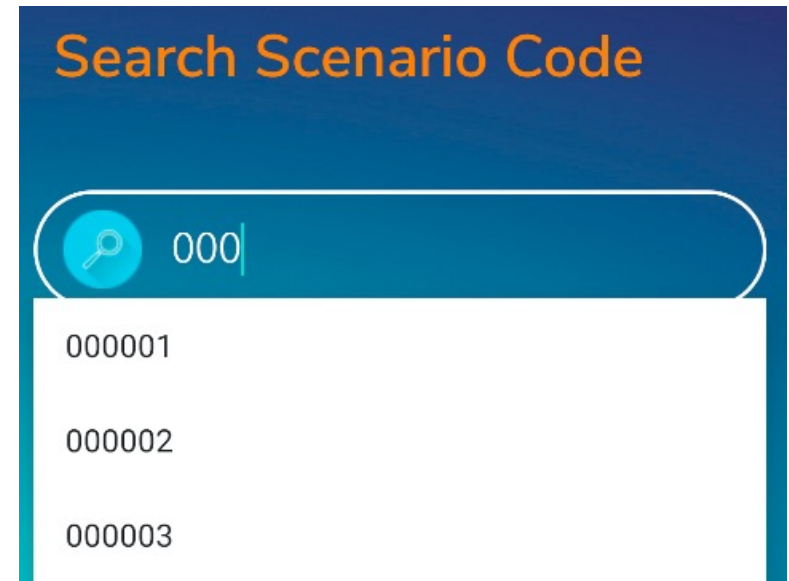
A screenshot of a mobile application interface for viewing a patient. At the top, there is a search bar with the text 'wayne' entered. To the right of the search bar is a 'Back' button. Below the search bar, the patient's details are displayed: 'Name : Wayne Rooney' and 'DOB : 11/12/2001'.

In 'Add Scenario' →



A screenshot of a mobile application interface for adding a scenario. The title 'Search Patient' is displayed in orange. Below the title is a search bar with a magnifying glass icon and the text 'wa' entered. Below the search bar, a dropdown menu shows the suggestion 'Wayne Rooney'.

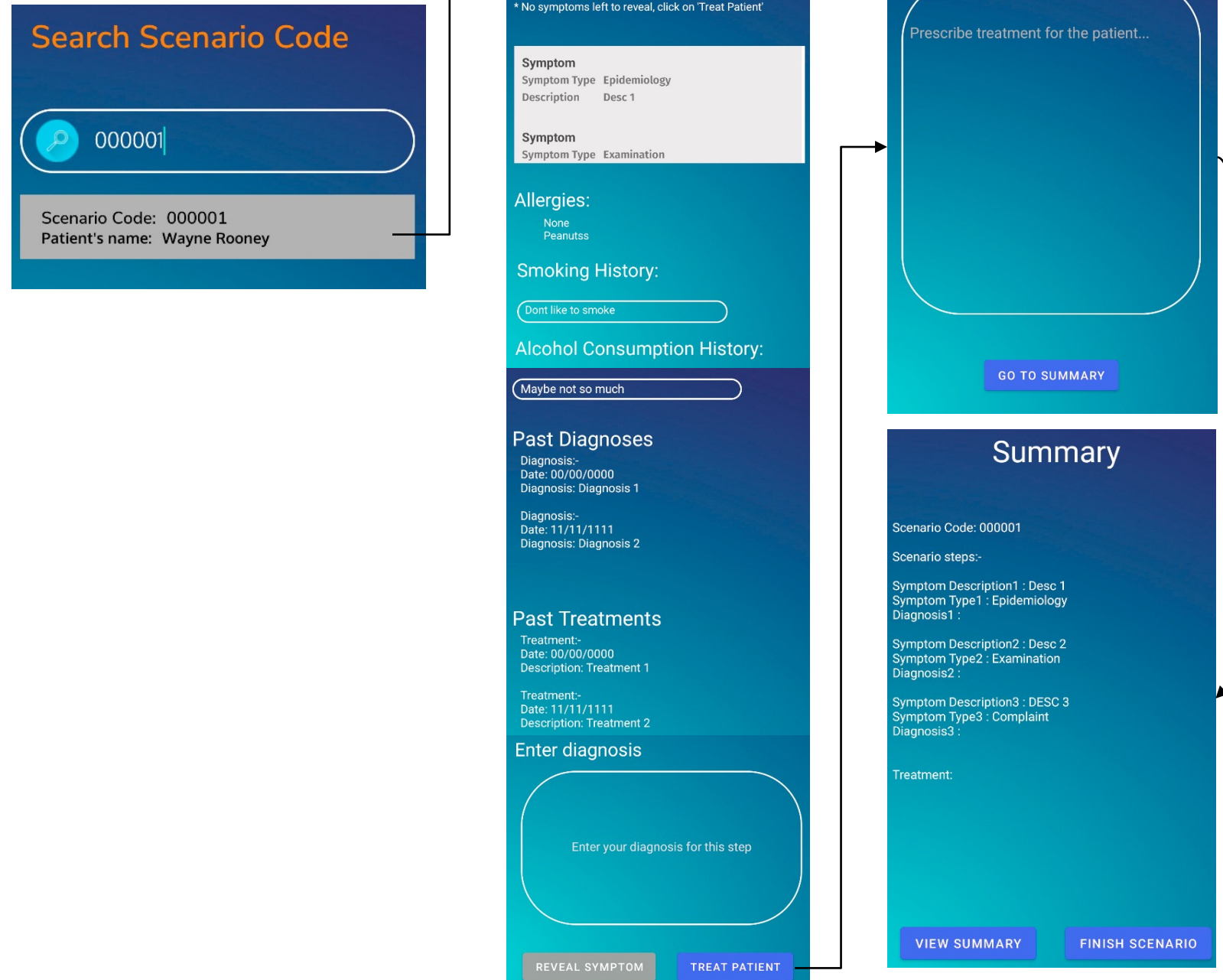
In 'Start Scenario' →



A screenshot of a mobile application interface for starting a scenario. The title 'Search Scenario Code' is displayed in orange. Below the title is a search bar with a magnifying glass icon and the text '000' entered. Below the search bar, a dropdown menu shows three suggestions: '000001', '000002', and '000003'.

# Scenarios

- A teacher provides scenario code and patient's name
- The students access the scenario
- They attempt the scenario and prescribe a treatment.
- User can view their scenario journey in summary



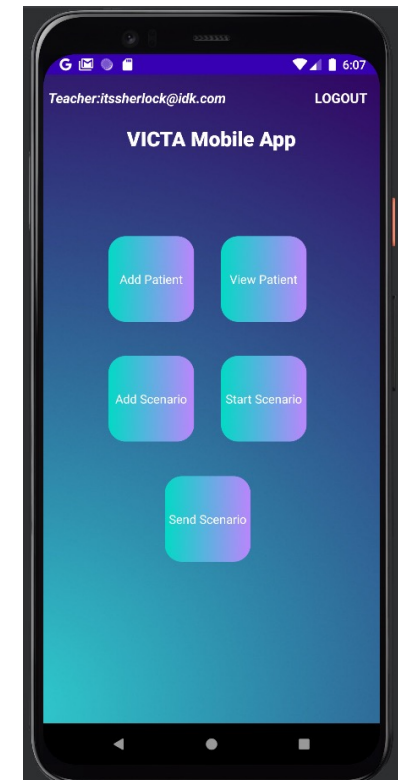
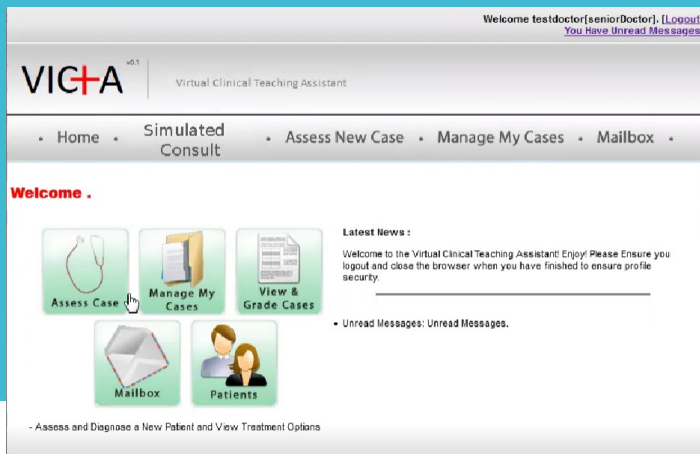
Realist plans to take this  
project onwards

# Goals

- Teach the clinical reasoning process to medical students
- Gives students the opportunity to develop their skills without the need for real patients
- It can be used to supplement existing student placements in real hospitals

# Creating the Mobile App version

- Based on the existing web version implement a similar solution which can operate independently on mobile applications
- High priority goals:
  - Login system
  - Accessibility of database
  - Communication with teachers



# What we achieved

- Student Login
- Teacher Login
- Email
- Patient management
- Scenarios / Access Cases

The image displays three overlapping mobile application screens. The background screen is titled 'Create Patient' and features a 'General Information' section with fields for Name, DOB, Gender, Marital Status, Registration Date, ID Type And No., Address, Hospital, Next of kin, and Next of kin address. A 'NEXT' button is at the bottom. The middle screen is titled 'Email Form' and includes fields for Email, Subject, and Body, along with a 'Select Scenario' dropdown menu. The foreground screen is titled 'Scenario' and shows a table for 'Symptom(s)' with columns for Symptom Type and Description. Below the table are sections for 'Allergies:', 'Smoking History:', 'Alcohol Consumption History:', and 'Past Diagnoses:'. The 'Allergies' section lists 'None' and 'Peanutss'. The 'Smoking History' section has a button labeled 'Dont like to smoke'. The 'Alcohol Consumption History' section has a button labeled 'Maybe not so much'. The 'Past Diagnoses' section is partially visible at the bottom.

**Create Patient**

**General Information**

Name: e.g. John Smith

DOB: 1/5/2022

Gender: Select Gender

Marital Status: Single or Married

Registration Date: DD/MM/YYYY

ID Type And No.: Enter what ID and No.

Address: Address line 1,2

Hospital: Name and Address

Next of kin: Enter a family member

Next of kin address: Enter family member address

**Next**

**Email Form**

Email

Subject

Body

Select Scenario

**Scenario**

Symptom(s)

\* 2 symptom(s) yet to be revealed

Symptom	Symptom Type	Epidemiology
Description	Desc 1	

**Allergies:**

None

Peanutss

**Smoking History:**

Dont like to smoke

**Alcohol Consumption History:**

Maybe not so much

**Past Diagnoses:**

# Future additions

- Implement Pubmed – search of medical terms
- Patient medical record
- Connect access case to medical database
- Likely diagnosis algorithm

23	Jane Surname	2009-04-21	PTB	Normal
24	Jane Surname	2009-04-21	PTB	Normal
25	Jane Surname	2009-04-21	PTB	Normal
26	Jane Surname	2009-04-21	PTB	Normal
27	Jane Surname	2009-04-21	PTB	Normal
37	Jane Surname	2009-04-22	Arthritis Rheumatoid	Normal
38	Jane Surname	2009-04-22	Arthritis Rheumatoid	Normal
39	Jane Surname	2009-04-22	Arthritis Rheumatoid	Normal
53	Jane Surname	2009-04-22	Asthmatic Bronchitis	Normal
62	Jane Surname	2009-04-22	Abortion Septic	Normal
63	Jane Surname	2009-04-22	Abortion Septic	Normal
64	Jane Surname	2009-04-22	Abortion Septic	Normal
65	Jane Surname	2009-04-22	Abortion Septic	Normal
66	Jane Surname	2009-04-22	Abortion Septic	Normal
67	Jane Surname	2009-04-22	Abortion Septic	Normal
68	Jane Surname	2009-04-22	Abortion Septic	Normal
69	Jane Surname	2009-04-22	Abortion Septic	Normal
70	Jane Surname	2009-04-22	Abortion Septic	Normal
90	Jane Surname	2009-05-04	Myocardial Infarction	Normal
91	Jane Surname	2009-05-04	Myocardial Infarction	Normal
97	Jane Surname	2014-09-26	Myocardial Infarction	Normal
98	Jane Surname	2014-09-03	Asthmatic Bronchitis	Normal

Community Clinic  
GALS Screen  
Neurological Examination  
Valsalva

EPIDEMIOLOGY:

COMPLAINTS:

PATIENT EXAMINATIONS 1:

PATIENT EXAMINATIONS 2:

LAB DATA:

(RESET DIAGNOSIS/RESTART)

Currently Selected Epidemiology / Symptoms: AttributeGenderFemale

10 Most Likely Diagnosis:

- Pulmonary Embolism (44.99999999999999)
- PTB (44.99999999999999)
- Pneumonia (44.99999999999999)
- Bronchiectasis (36)
- Bronchitis Acute (36)
- Empyema (36)
- Pericardial Effusion (36)
- Cancer Of Breast (36)
- Fracture Ribs (36)
- Bronchial Asthma (36)

Five most likely Diagnosis: RED indicates most likely

Organs

Pulmonary Embolism

PTB

Pneumonia

Bronchiectasis

Prostate

Adrenaline

Eye

Esophagus

Welcome testdoctor/seniorDoctor/Logout

Amlodipine - Google Scholar — Mozilla Firefox

https://scholar.google.co.uk/scholar?q=Amlodipine

Amlodipine

Scholar About 139,000 results (0.07 sec) YEAR

Amlodipine

D Murdoch, RC Heel - Drugs, 1991 - Springer

... After oral administration **amlodipine** is slowly and almost completely absorbed; peak plasma concentrations are attained within 6 to 12 hours. **Amlodipine** has a relatively high oral bioavailability of 60 to 65%, which is not influenced by food. Moreover, **amlodipine** appears to ...

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Amlodipine

M Hara, AJ Wagstaff - Drugs, 1995 - Springer

... **Amlodipine** belongs to the dihydropyridine class of calcium channel blockers. Both short and long term studies indicate that **amlodipine** effectively lowers mild to moderately elevated blood pressure and ... **Amlodipine** may offer potential in patients with congestive heart failure. ...

☆ Save 99 Cite Cited by 189 Related articles All 9 versions

Amlodipine

WG Hayer - Clinical drug investigation, 1997 - Springer

Conversely the extended duration of action of **amlodipine** results from slow elimination from the ... Because of its vascular selectivity, **amlodipine** does not exert a cardiodepressant effect at ... Clinically, **amlodipine** has been used successfully to treat a variety of cardiovascular ...

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GALS Screen