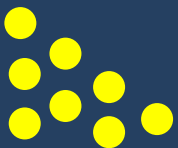# Faculty of Computer Engineering

BSc. Software Engineering & BSc. Computer Science

DR. Nana K. Annan

Email: nk.annan@wiuc-ghana.edu.gh

Tel: +233 244424578 / 268752196

Project

ENGINEERING ENTERPRISE APPLICATION

PROJECT TOPIC:

NATIONAL INFORMATION SYSTEM

THE PROJECT

- As part of the e-governance project, the government of Ghana has contracted you and your team of developers to develop a National Information System (NIS) software for the country.

- The government through an Information Technology Consultant has found out that government ministries, organisations and agencies have systems which are working in silos.

THE PROJECT

- They don't see the connections between what they do with the information the collect and how other organizations operate.

- In view of this, the government want you to develop an integrated system which will connect all the ministries and its associated organisations and agencies to make access and retrieval of information easy.

THE PROJECT

- According to the TOR, the users of the system include:
  - Citizens:
    - They will provide the core information for the system.
    - They will access the information they have provided for transactions at anytime from anywhere or with any organisation.
    - They should be able to update their information by themselves or by any authorised government organisation.

THE PROJECT

- According to the TOR, the users of the system include:
  - Ministry of Health through the following:
    - Hospitals
    - Birth and Death Registry
    - National Health Insurance Scheme (NHIS)
    - Dispensary Pharmacies

THE PROJECT

- According to the TOR, the users of the system include:
  - Ministry of Education through the following:
    - Ghana Education Service (GES)
    - Tertiary Education Institutions
  - Ministry of Finance
  - Ghana Revenue Authority (GRA)
  - Ghana Immigration Service (GIS)

THE PROJECT

- According to the TOR, the users of the system include:
  - Ministry of Trade and Industry
  - Labour Commission
  - Social Welfare
  - SSNIT

THE PROJECT

- According to the TOR, the users of the system include:
    - Ghana Police Service
    - Electoral Commission (EC)
    - Registrar General

THE PROJECT

- According to the TOR, the users of the system include:
  - Ministry of local government through:
    - Metropolitan Assemblies
    - Municipal Assemblies
    - District Assemblies

THE PROJECT

- According to the TOR, the users of the system include:
  - Ministry of Youth, Sports and Employment
  - Ministry of Foreign Affairs
  - Passport office

THE PROJECT

- According to the TOR, the users of the system include:
  - Statistical Service

THE PROJECT

- According to the TOR, the users of the system include:
  - Other private organisations include:
    - Any institution or organisation that may be required to do a check on any citizen that they may interact with.

THE PROJECT

- As part of the system specification, you are to design a database which obtains all relevant information about a citizen in the past, present and the future.

- The data entry points must be as follows:
  - At birth at the hospital
  - At the District Assemblies
  - Online self service

THE PROJECT

- The system must have centralised database with supporting databases which will serve the various user agencies and organisations.
- The system must be web base with remote access.

YOUR TASK

- Your task is to design and develop a National Information System with a Java Enterprise Beans with RESTful mobile access.

- To do this you are to prepare the following:
  - Data Flow
  - UML
  - Activity Diagram
  - etc.

YOUR TASK

- Prepare a document which explains the various tiers of the application and their roles.

- Sketch and design the interfaces for the various organisations.

MARKS

- The total assessment for this project work is 40marks.

Engineering and Implementation Process

- Design the architecture of the system in terms of tiers.

Engineering and Implementation Process

- Citizen Database
  - List all necessary information needed
  - Design the entry form
  - Create tables, fields etc

Engineering and Implementation Process

- Citizen Database Tables
  1. General Information
  2. Birth
  3. Death
  4. Fathers Family information
  5. Mothers Family information
  6. Educational information
  7. Employment information
  8. Religious information

Engineering and Implementation Process

- Citizen Database Tables
  9. Residential information
  10. Criminal information
  11. Health information
  12. Dispensary information
  13. Marital information
  14. Passport information
  15. DVLA information
  16. Volunteerism information

Engineering and Implementation Process

- Citizen Database Tables
    - 17. NHIS information
    - 18. Valid voters information

General Information Table

1. First Name
2. Family Name
3. Other Names
4. Fathers Name
5. Fathers occupation
6. Mothers Name
7. Mothers occupation
8. Gender
9. Height
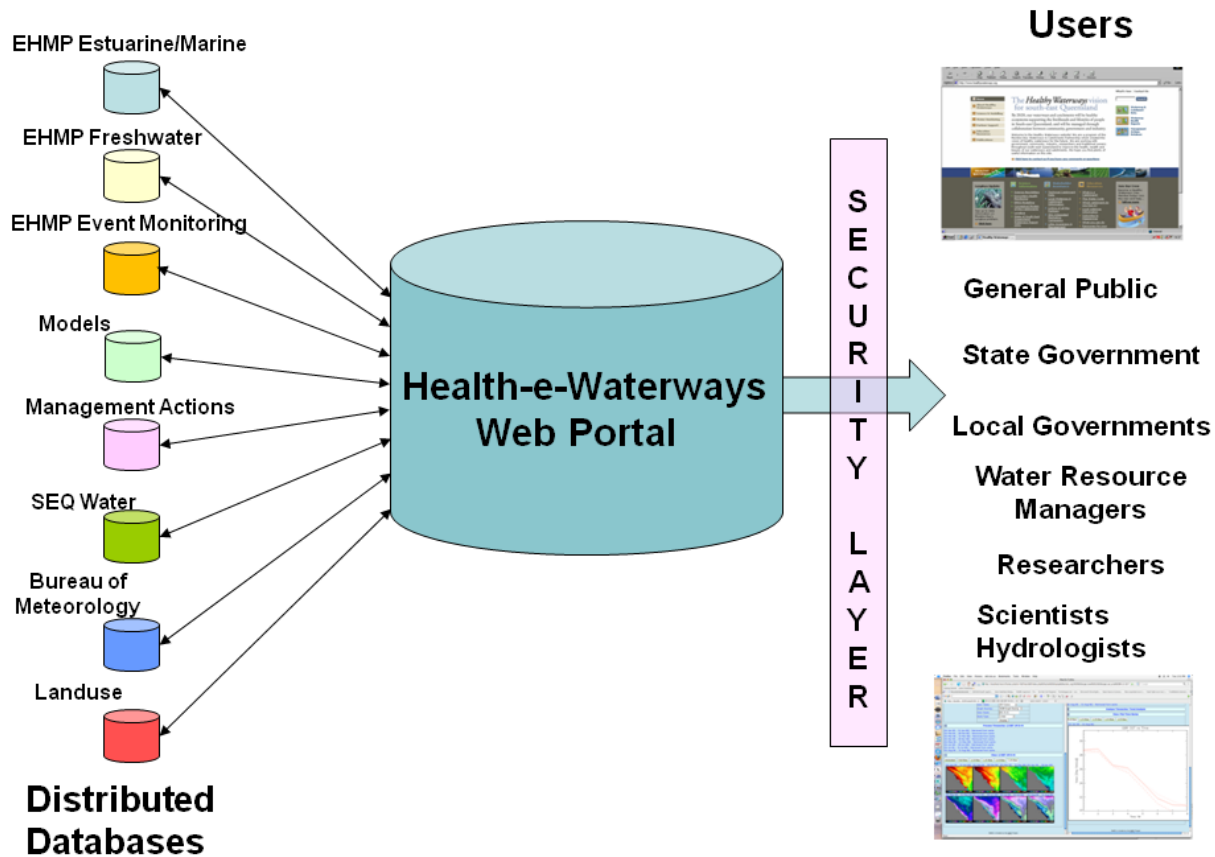10. Complexion

Birth information table

1. Place of Birth
2. DOB
3. Hospital of Birth
4. District of Birth
5. Time of Birth
6. Gender

Death information table

- Place of Death
- DOD
- Time of Death
- Hospital of Death
- District of Death
- Gender

Architecture

Examples

Thank you