INF 354

INFORMATIKA • DEPARTMENT • INFORMATICS
Universiteit van Pretoria
University of Pretoria

PROJECT REQUIREMENTS

Important Notes:

- This is a group project. Your group must have 3 or 5 members. **No individual work will be permitted**.
- This is a summative assessment that aims to evaluate students' abilities to apply multiple components covered in the course.
- This project has two deliverables:
  - Deliverable 1 is due on **18 April**
  - Deliverable 2 is due on **23 May**
- Your group's work must be kept on a private Git repository, such as GitLab or BitBucket. Every team member must reflect as contributors to the project (the presence of your name for a commit serves as evidence that you contributed to the project). ***NOTE:*** *Each member must contribute to this project and have a sufficient portion of commits (under their username) to the master project branch. Non-contributing commits will not contribute to a student's "sufficient portion of commits". Examples of non-contributing commits include, but not limited to, comments, restructuring of code (to an extent), deleting release files, adding release files, etc.*

Background:

People around the world continue to suffer from a myriad of diseases with millions succumbing every year. According to the World Health Organisation (WHO), the number of deaths caused by outbreaks of preventable and treatable diseases could be drastically reduced if information and assistance were readily available. However, in Sub-Saharan Africa this is often not the case.

Information technology has the capacity to help health professionals and advisers reach people that would otherwise not receive any information or education on the diseases affecting their geographical regions. In this project, your group will be required to design and develop a digital tool that can be used to educate users about a specific widespread and risky disease.

General Instructions:

- Choose from one of the following diseases:
  - A specific type of cancer
  - Malaria
  - Ebola
  - Yellow Fever
  - Tuberculosis
  - Cholera
  - Lassa Fever

- Do research and find out as much as you can about the disease you have chosen.
- Design a mobile app that would educate and help users from regions affected by your chosen disease to understand, prevent, monitor, recognise, treat, and/or control the disease. List all functional requirements of the mobile app on a PDF document. This does not need to be very extensive, it should show what the mobile application should be able to do.
- Design an administrative web or desktop application that would enable authorised health administrators to update information and post updates regarding your specific disease so that the content shown on the mobile app is current. Only logged in users should be able to access the functions within this application. List all functional requirements.
- Design a database model that can store all required data in a suitable structure. Your model database model must comprise a minimum of 10 tables.
- Design an API that will allow both your mobile app and the administrative back-end (i.e. the web or desktop application) to access and/or modify data in the database. List all functional requirements of the API on a PDF document. This does not need to be very extensive, it should show what the mobile application should be able to do.
- Build your database in Microsoft SQL Server preloaded with realistic data.
- Build your ASP MVC Web API so that it satisfies all identified requirements.

- Develop an administrative back-end application that satisfies all identified functional requirements using any suitable technology (i.e. Angular or ASP MVC for Web; Electron for Desktop). **Choose one.**
- Develop a mobile app that satisfies all identified functional requirements using any suitable technology (i.e. Ionic or Xamarin)
- Commit all code onto your group's repository as you progress **regularly**.
- Ensure that all accepted code commits have been merged into final API, mobile app, and back-end application versions.

Deliverables:

Deliverable 1 - API and administrative back-end

For deliverable one you have to submit and/or demonstrate the following for assessment:

1. *A presentation of your value proposition. In other words, your group must set the scene for the assessors so that they can understand what the purpose of your solution is, the intended target audience, what components and functions you have planned, etc. Come and sell your solution.*

2. *An entity-relationship diagram (ERD) to depict the design of your database model.*

3. *A basic list of high-level requirements for each of the components of your solution:*

    a. *API*

    b. *Administrative back-end*

    c. *Mobile app*

    d. *This can be in a basic format where you list each requirement and describe it, for example:*

Requirement/Function	Description
…	…
5. View Post Timeline	User can view a reverse chronological sequence of posts uploaded by health advisers.
6. Read More	User can click on a post in the timeline to view the full contents of a particular post uploaded by a health adviser.
…	…
…	…

4. *Screen designs (or Mock Ups) of the views planned for your mobile app.*

5. *A complete and functional API meeting all requirements as set out in the API requirements list.*

6. *A complete and functional Administrative Back-End application meeting all requirements as set out in the Back-End requirements list.*

Important points:

Walk in with the following in hand:

1. Printed copy of all required documents.
2. Printed copy of your screen designs in case power goes out. If you displaying the screen designs from your laptop, make sure to have those open and ready to go.
3. Presentation file is on a flash drive and ready to present.
    a. If you have videos, make sure those work on the presenting laptop before hand
4. If you plan to bring your own laptop to present, ensure that you have enough power to last the presentation.

Presentation duration: 15 min
Question and answer: 15 min
Venue: Brown Lab
Time: Booked on ClickUp (unless otherwise specified)

Please refer to the next page to see the rubric for deliverable 1.

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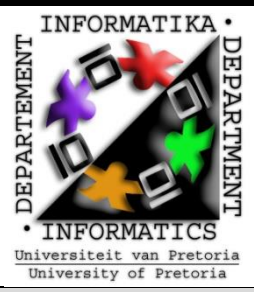

Project:
DELIVERABLE 01
Due: 18 April 2019
(_____/ 100 marks)

Student NR	Surname	Initials	Individual Mark (if different from group)

Checklist	Mark	MAX
1. Presentation of solution / Creativity of proposed solution		**10**
2. Database design		**5**
3. Requirements		**5**
4. Mobile App Mock Ups		**10**
5. API addresses all requirements and works as expected		**35**
6. Administrative back-end addresses all requirements and works as expected.		**35**
TOTAL		**100**

Deliverable 2 – Final solution

For deliverable two you have to submit and/or demonstrate the following for assessment:

1. *A refined API based on the feedback provided in deliverable 1.*
2. *A refined administrative back-end based on the feedback provided in deliverable 1.*
3. *A complete and fully functional mobile app that meets the requirements listed in deliverable 1.*

Please refer to the next page to see the rubric for deliverable 2.

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Project:
DELIVERABLE 02
Due: 23 May 2019
(_____/ 100 marks)

Student NR	Surname	Initials	Individual Mark (if different from group)

Checklist	Mark	MAX
1. API		**25**
2. Administrative back-end		**25**
3. Mobile app		**40**
4. Software quality (code is well-structured with comments, usability of software)		**10**
TOTAL		**100**

*Marks will be adjusted per group member based on repository activity.