POLITÉCNICO DE LEIRIA
ESCOLA SUPERIOR DE SAÚDE
POLITÉCNICO DE LEIRIA
ESCOLA SUPERIOR DE TECNOLOGIA E GESTÃO

DEI Departamento Engenharia Informática

Morro do Lena, Alto Vieiro · Apart. 4163·2401 – 951 Leiria
Tel.: +351·244 820 300 · Fax.: +351·244 820 310
E-mail: estg@ipleiria.pt · http://www.estg.ipleiria.pt

Project II

and

Software Development Methodologies

2017 / 2018

Healthcare Information Sciences – 2nd Year

Assignment

1. Project

1.1 Project 1: TeenPower – Online Social Community for Patients with Diabetes

Several disease-specific information exchanges now exist on online social networking sites. These new sources of knowledge, support, and engagement have become important for patients living with chronic disease, yet the quality and content of the information provided in these digital arenas are poorly understood. The main objective of the project is the development of a technological solution (mobile or web) to promote healthy behaviors and therapeutic management in Diabetic patients through increased and interactive contact between adolescent and multidisciplinary health team.

For this solution three user access levels were specified: patient, health professional, and administrator. The solution should allow the user to periodically record her/his clinical data. It must have a thematic forum of interaction between users and health professionals. It should send periodic notifications with the new messages in the forum and private messages sent by the health professional, as well as weekly reports of the data evolution.

Professors Pedro Sousa and Rui Rijo will be identified as representatives of the client.

1.2 Project 2 :BLS – Online simulator for basic life support

Simulation technology is widely used in medical education. Linking educational outcomes achieved in a controlled environment to patient care improvement is a constant challenge. A simulation-based educational program may improve quality of care provided by health

professional during real life support events. There is a growing body of evidence indicating that simulation can be a useful adjunct to traditional methods of procedural training.

For this solution (mobile or web) two user access levels were specified: health professional/student, and administrator. The solution should have a thematic forum of interaction between users and send periodic notifications with the new messages. The platform should present a virtual case with a critical situation that the user must solve following the standard basic life support algorithm. The platform should give feedback according to the results achieved by the user regarding the compliance to the algorithm.

Professors Pedro Sousa and Rui Rijo will be identified as representatives of the client.

1.3 Project 3: Cry4Help – Support Students victims of violent academic practice

The negative impact of events of violent academic practice, whether physical or mental, in the health of Students is a known phenomenon. In order to characterize the phenomenon the goal is the development of an Android mobile application (or Web) that allows the anonymously report situations of violent practice and, if the Student wishes, to request help, anonymously or in an identified manner. The student can request to send a private message to a health professional or a teacher.

It must have a thematic forum of interaction between students, health professionals and teachers. It should send periodic notifications with the new messages in the forum and private messages sent by a health professional.

Professors Pedro Sousa and Rui Rijo will be identified as representatives of the client.

1.4 Project 4: Good Health Habits – Help children learning good health habits

Children love gaming either in the web or using a mobile app. The basic rules of good health like eating vegetables, brushing teeth, take bath daily, cut nails, etc, are important, but children (6-7 years old) usually looks them as boring and as an obligation. The key idea is to develop a game, for example, a quiz, that helps children understand which are the basic good habits and motivate them to accomplish tasks associated with these good habits.

You must use strategies to achieve this goals, like using badges, leaderboards and points.

Professors Pedro Sousa and Rui Rijo will be identified as representatives of the client.

2. Goals

The goal of this assignment is the development of a healthcare information system that addresses the needs of each project. Therefore, it is necessary to execute a software development

process (SDP) that considers the analysis, design, test and implementation. The features to develop must address the requirements and challenges proposed by the organization.

2.1 Analysis

- Use case diagrams: use case identification, actors and relations
- Domain model
- Use case descriptions: main path and alternative paths
- Robustness diagrams: one diagram per use case

2.2 Design

- Sequence diagrams: one diagram per use case
- Class Diagram

2.3 Implementation

- Unit tests
- Source code
- Architecture diagram: installation and components

3. Teamwork

- The project must be developed by teams composed of 3 elements
- Each team must assign one member to one module
- Each team must be communicated through Moodle replying to the thread created for this purpose **until 18h59m of 9/03/2018** with the following elements: project number, team member name and number. For example:

Project 1: TeenPower – Online Social Community for Patients with Diabetes

Team Member	
Wolfgang Amadeus Mozart	2080505
Johann Sebastian Bach	2080507
Igor Fyodorovich Stravinsky	2080513

4. Rules

This section describes the rules and restrictions of this assignment, deadlines, delivery, evaluation and final remarks.

4.1 Deliverables

- Each feature must have one student as responsible
- The integration of features is a decisive factor in the success of this assignment
- All phases are mandatory
- Software Development Methodologies
    - Report with Analysis + Design (see sections 2.1 and 2.2)
    - Implementation (see section 2.3)
- Project II
    - Delivery 1 – Analysis (see section 2.1)
    - Delivery 2 – Design (see section 2.2)
    - Implementation (see section 2.3)
    - Presentation

4.2 Delivery deadlines and form of delivery

- Software Development Methodologies: the contents produced for this assignment must be delivered in one date
- Project II: the contents produced for this assignment must be delivered in two phases and presented in a public session, according to the dates defined in the evaluation calendar
- The contents produced for this assignment must be delivered **in a single file** at ead.ipleiria.pt platform.

4.3 Evaluation

- Software Development Methodologies
    - The grade of this work, represents 50% of the final grade of Software Development Methodologies
- Project II
    - Phase 1 – 32,5%
    - Phase 2 – 32,5%
    - Public presentation – 35%

4.4 Final remarks

A project gathers a set of knowledge bases. The project of this course is closely related to the contents of other courses. Therefore, key issues of previously acquired knowledge will be necessary for these courses.

Good work!