WESTERN UNIVERSITY
FACULTY OF ENGINEERING
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

SE 3352A – SOFTWARE REQUIREMENTS AND ANALYSIS

Assignment 1: Developing the Software Requirements Specifications SRS

Due Date: November 17, 2017

Self Start – the Marcotte Physiotherapy On-line Clinic – Vision

Goal:

Build a software system that bring the treatment of the physiotherapist into the home and provide clinicians tools to improve the traditional approaches of the patient's progression assessment.

Objectives:

The following list describes the objects that support the above goal:

1. Develop a Web-based application to be 24/7 available to the patients of Marcotte Physiotherapy Clinic and their physicians and administration stuff.
2. Manage user profiles and accounts to facilitate the online interactions.
3. Patient injury would be assessed and diagnosed through physical examination visits or through Web forms interactions.
4. Specific rehabilitation plans are formulated by the physiotherapist and made available online to the associated patients accounts.
5. Rehabilitation plans would be delivered in text format and /or multimedia contents.
6. Provide online progress assessments using web forms submissions.
7. Based on the exercises outcomes, feedback-based rehabilitation plans would be revised and delivered.
8. Ability for the patients to create their own user accounts or by the help of the system administrator.
9. The system will keep track of the patient's history including the injury, diagnoses, treatments and progression outputs.
10. Provide secure authentication system to protect the privacy of the patients and to guarantee the confidentiality of their data.

System Features:

FEAT1: The system should be available and accessible by any web browser running in any computer showing in its main page a welcome and attractive message in addition to a full description for the on-line patient services.

FEAT2: In the system main page and without prior registration, the system must provide the patients who wish to contact the clinic for the first time, whether to request for an appointment or to fill out and submit an online form explaining their injury.

FEAT3: The system should allow the patient to book appointments with the physiotherapist on-line with a self confirmation message.

FEAT4: The system must provide an online form (online introduction form) helping the patients to explain and submit their injury information through different level and type of questions including the ability to upload static photos of the patient.

FEAT5: The system administrator must be allowed to customize (add, change, or delete) the questions of the introduction form without the need to change the system codes.

FEAT6: The patients must be allowed to create an account online. Since no treatments are provided until there is a complete profile is created for the patient.

FEAT7: The patients must be allowed to change his/her password, or ask the system administrator to rest the forgotten password.

FEAT8: The system should maintain basic personal information for the patients. This includes:

- Name (Family name, Given name)
- Gender
- Date of birth
- Address including city, region, and postal code
- Telephone number
- Health card number
- Marital status
- Occupation
- Others

FEAT9: The physiotherapist must be allowed to create the clinic-defined standard rehabilitation plans (for the common injuries) that include exercises and self-assessment activities.

FEAT10: The physiotherapist must be allowed to create a single exercise so that it can be combined with other exercises to form a custom rehabilitation plans.

FEAT11: The system should maintain the following information for each rehabilitation plan:

- Unique identification code
- Name
- Description
- Author name
- Overall rehabilitation Goal
- List and order of exercises
- A timeframe to complete the plan
- Assessment tests

FEAT12: The physiotherapist must be able to assign set of exercises to the custom rehabilitation plans.

FEAT13: The physiotherapist must be able to assign set of assessment tests to the custom rehabilitation plan.

FEAT14: The system should maintain the following information for each exercise:

- Unique identification code
- Name
- Description
- Author name
- Objectives
- Action Steps
- Location
- Frequency & Duration
- Target Date
- Multimedia URL

FEAT15: The system should maintain the following information for each assessment test:

- Unique identification code
- Name
- Description
- Author name
- Assessment tools (e.g., Rating/ranking questions, Multiple choice questions)
- Assessment Rubric

FEAT16: The physiotherapist should be allowed to assign one or more rehabilitation plans to one or more patients.

FEAT17: The physiotherapist should be allowed to generate and print or send a written report summarising the examination findings and treatment plan to the patient.

FEAT18: The patients must be allowed to explore and view their treatment exercises through an easy to follow menu options, text-based guidance and/or simple animations.

FEAT19: The patients must be allowed to enter their responses to the assessments tests questions through simple and easy to complete online forms.

FEAT20: The system should be able to record the assessment tests results performed by the patients to assess their treatments.

FEAT21: Based on the assessments tests results and the pre-defined rubrics, the physiotherapist must be able to generate data analysis that reflect the impact of the rehabilitation plans.

FEAT22: The physiotherapist should be allowed to take a decision whether to assign a follow-up session with the patient (to reassess the case and provide an adjusted treatment) or to close the case.

FEAT23: The physiotherapist should be allowed to display/print a summary report for each patient. This report should include: Patient personal information, the diagnosed case, the treatments, calendar of appointments, invoices payments and the final outcomes.

FEAT24: The system needs be installed and hosted by the Marcotte Physiotherapy Clinic central server that is capable to run Node.js framework.

FEAT25: The system must use the HTTPS (Hypertext Transfer Protocol Secure) as its internet communication protocol to generate secure encryption keys between the web server and the clients' browsers.

FEAT26: The system must relay on a certified security certificate as a part of enabling HTTPS for the Marcotte Physiotherapy Clinic website.

FEAT27: The system is shipped with an administrator account, in addition to two users' roles types: Patient's user role (having all patient functionalities) and Physiotherapist's user role (having all physiotherapy functionalities).

FEAT28: The system administrator must be allowed to create user accounts for patients and/or physiotherapist users.

FEAT29: The system administrator must be allowed to reset user passwords and disable or enable the existing user accounts.

FEAT30: The system should be able to accept and process patients' online payments.

Task 1

1. Download the SRS template given in the assignment folder. Open this template and change the team name to add your group name, using File>Properties from the main menu.
2. Change the header and the footer to match your work and information.
3. Determine the overall description of the **Self Start** system in terms of the purpose of this SRS document, and the scope of the **Self Start** system, then update your document accordingly.
4. Update section 1.3 in your SRS if you have specific definitions for technical/non-technical system terms, acronyms or abbreviations.
5. If you rely on any document, policy, or regulation during your work in the developing this SRS, then you need to add a list of references to all of these elements in the section 1.4 in your SRS document.
6. A brief description on the structure and the organization of your SRS need to be given in Section 1.5.

(A sample solution for last year assignment is given to help understand the requirements of each section in the SRS report.)

Task 2

1. Read and get familiar with the vision statement mentioned above.
2. Identify the system actors and all the use cases that represent the components of the **Self Start** system.
3. Based on your understanding of the problem statement and your identification above complete section 2 in your SRS document.
4. Feel free to use any design tool to draw your UC diagram, then paste it to your SRS document. (do not use a scanned hand drawing)
5. Please consult Dr. Ouda if you need any help to resolve any confusion about the system requirements.

Task 3

1. Consider all the use cases you identified in Task 2 and create a set of use cases specification (descriptions) for **Self Start** system. Please follow the UC description format we covered in Unit 2, slide 51.
2. Using these created UC specifications complete all parts in Secion3 in your SRS document.
3. Add N/A for the subsections that you believe it doesn't fit with the problem statement and that you cannot complete.

Hand In

1. Name your SRS document as "*yourTeamName*_SRS_**SelfStart**.docx", and then convert it to PDF format.
2. Make sure all repositories branches are published into the GitHub.
3. Use OWL to submit this PDF file (one file) by the due date mentioned above.
4. Only one submission is needed per each team.