

**300566**

## **Introduction to Health Informatics**

### **Assignment 2**

**Type:** Healthcare Service Analysis activity (in student pairs)  
**Topic:** Clinical Information System Design  
**Length:** 2000 words plus Application/Interface Design Diagrams  
**Weighting:** 30%  
**Due:** 11:59pm Friday 14<sup>th</sup> October 2022 (submitted online via vUWS Turnitin)

#### **ASSIGNMENT OUTLINE**

Your team is required to design a **Clinical Information System (CIS)** application that assists patients and/or clinicians in the management of **Medication Adherence** in Australia. Medication adherence is a major clinical problem worldwide. You should carefully research about this problem and consider the types of clinical issues that are relevant for managing medication adherence within the Australian context. Your research about the management of this issue should translate into your design.

In designing this CIS, you should consider the major topics discussed during lectures and workshops such as (but not limited to):

- System architecture/s (e.g. web-based, cloud-based, mobile, etc.) and interface design considerations of this system in addressing the needs of the clinicians, caregivers and patients.
- Various data that will be collected through this system and how these data will be stored and managed for continuous care.
- Use of appropriate clinical terminology system (e.g. SNOMED-CT) and classification system (e.g. ICD-10-AM).
- How this system would communicate data with other information systems (e.g. pathology, GP clinics, hospital systems, and My Health Record) and use of a health-messaging standard (e.g. HL7 V2, V3 or FHIR).
- The decision support given by this system to clinicians, caregivers and patients at various points within the processes.
- Linking this data with other health registries and information systems for data analytics, research, epidemiological studies and policy level decision-making.
- Various ethical, security and privacy considerations in collecting, storing and communicating data.

The design should be conceptually at a high-level with accompanying diagrams illustrating important aspects of the interface design and features. **The level of detail required for describing the design in this assignment should be thought of as being equivalent to a marketing person pitching an idea to a potential investor who would want to invest in developing your CIS.**

The relevance of the design for managing medication adherence should be apparent. **Higher marks will be given to innovative designs that enhance efficiency and safe practices of managing**

**medication adherence through intelligent application features. Describing the characteristics of a general CIS that applies to any clinical problem will receive much lower marks.**

Your report should discuss why you chose the design and explicitly describe the aspects of medication adherence you are catering for through your system. Any resources used to assist you in developing your design should be properly referenced.

## **TEAM CREATION**

In this assignment, students will work in pairs. You can assign yourself to a group on vUWS via the 'Group Project Signup Sheet' menu link. **ONLY SIGN UP TO ONE GROUP.** Once you are in a group, it is each team member's responsibility to contact each other and commence work. You can use various methods to collaborate such as Zoom for videoconferencing and Google Docs for document sharing.

## **POINTS TO NOTE**

- Depth of understanding of medication adherence, and successfully converting those requirements to CIS features is a must.
- Clear high-level descriptions of the system design and good coverage of the major design components are important.
- Accompanying diagrams clearly illustrating important aspects of the interface design and features that match the descriptions should be included. Diagrams should be part of the Word document in the appendix.
- Design innovation that enhances the efficient and safe practice of managing medication adherence through intelligent application features will give you higher marks.
- Structure, format and quality of writing should be at professional level.
- Reference List should cover all resources utilised and properly formatted with in-text referencing.
- At the end of the report there should be a **table** that *indicates each team member's contribution* to the sections of the report and diagrams.

## **SUBMISSION CRITERIA**

You should submit your final report (including application/interface design diagrams in the appendix) through the relevant Turnitin submission link under the 'Assessment' link in vUWS.

**Only one report submission per-group is required (under either student vUWS account).**

## **MARKING CRITERIA**

See below for the marking criteria matrix. Both group members are expected to equally contribute to the project work. Each group member should submit a confidential peer assessment, using the template provided on vUWS, to the special link (not the assignment submission link) provided, before the deadline. Please note, assignments will not be marked unless peer assessment forms are received from both students in each group. Students who do not equally contribute to project work will receive low or zero marks (and FNS grade) for this assignment.

If there is the situation that your project partner is poorly responsive to your contact requests or to ongoing assignment tasks, please commence and continue working on your assignment and keep a record of the parts that you have completed. You should also keep trying to contact your partner to

give him/her the opportunity to join in, and keep a record of any attempts at contacting your partner. You will have the opportunity to feedback your contribution during submission time through the peer assessment forms.

**DO NOT PLAGIARISE** other student group work or any literature/web resources. Facts from resources must be paraphrased in your own words and referenced accordingly. **Plagiarising includes the technique of copying language and ideas from original resources and only changing intermittent words.**

Any evidence of student collusion, copying or any forms of plagiarism will be strictly dealt with according to the Misconduct policy for the University.

Criteria	High Distinction	Distinction	Credit	Pass	Unsatisfactory
Type and variety of research resources used (10%)	Very extensive and varied research resources are used. AND Excellent referencing is given to the resources	Moderately extensive and varied research resources are used. AND Proper referencing is given to the resources	Much of the required research elements are provided. May not be extensive or may lack consistency. OR Basic references provided to the sources	Basic level of research elements are provided. Lacking proper consistency. OR Proper references not provided to the sources	Have not carried out any research in sourcing answers
Demonstration of understanding of research material (15%)	Excellent understanding of the research material provided	Good level of understanding of the research material provided	A reasonable attempt at understanding the research material provided	A basic attempt at understanding the research material provided	Limited or poor understanding of the research material provided
Clear and cohesive high level description of the system design with good coverage of system capabilities (30%)	Very clear and cohesive description of features with accompanying diagrams, and excellent coverage of all relevant features	Clear and cohesive description of features with accompanying diagrams, and good coverage of all relevant features	Overall reasonable attempt at describing systems features although lacking in some detail or coverage of system capabilities	Overall basic attempt at describing systems features although lacking alot in detail or coverage of system capabilities	Descriptions are ad hoc, lacking in detail and are poorly represented by accompanying diagrams
Relevance to the healthcare service (20%)	Highly tailored designed according to the requirements of the healthcare service	Well tailored designed according to the requirements of the healthcare service	Good relevance of process/interface design features to the healthcare service although some features are generally applicable to any service	Basic relevance of process/interface design features to the healthcare service although most/all features are generally applicable to any service	Poor relevance of system features to the healthcare service OR A standard process/ interface that has been "cut and pasted" from existing systems without referencing
Design innovation and intelligent application of features (15%)	Highly innovative design enhancing efficiency and safe practice of the healthcare service	Good innovative design enhancing efficiency and safe practice of the healthcare service	Reasonable design features that are innovative although some features are standard process/ interface components applicable to any IT service	Basic design features and most/all features are standard process/ interface components applicable to any IT service	Poorly innovative or standard design with very limited application to the healthcare service
Structure format and quality of writing (10%)	Outstanding in terms of structure format and quality of writing	Good in terms of structure format and quality of writing	While the structure and quality of the writing is good, could have improved in organising the report in a better way	The structure and quality of the writing is basic, could have improved alot in organising the report in a better way	Students have not made any attempt to structure the report in any formal way OR Some "cut and pasted" information is provided without any flow or referencing

**-END-**