Title: Development of Pattern Driven Software Engineering Guidelines and Testing Requirements for Decision Support System in Healthcare

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Co-supervisor:

Summary:
Computer-based decision support system (DSS) has been introduced for several decades in medical applications. In spite of significant accomplishments in the domain of DSS for healthcare, broad adoption and widespread usage in the medical field has not been achieved. This problem arises because there is a lack of understanding and analysing suitable guidelines and requirements for medical-DSS. To address given limitations in medical-DSS, many approaches have been proposed and evaluated, drawing on theoretical frameworks, as well as management, technical and other disciplines and experiences. It has been observed that because of the multiple perspectives involved, that is not any single testing model/system based on appropriate guidelines is adequate to encompass these challenges for medical-DSS. Therefore, there is dire need of developing medical-DSS for people based on software engineering guidelines and testing requirements. This research proposal focuses on analysing and modelling of software engineering patterns as well as evaluating testing requirements for medical systems. Further, proposed patterns and elements will be incorporated to develop medical DSS for healthcare.

Tasks
• T1 – Technological background study;
• T2 – Review the State-of-the-art;
• T3 – Requirements Analysis;
• T4 – Design and construction, including integration;
• T5 – Testing and evaluation;
• T6 – The writing of the dissertation.

Expected Result
In this research work the following deliverables are expected:
• A validated computational tool;
• A publication describing the method and the validation results.

Timeline

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