LiveBook Virtual-Patient Case Editor

PROJECT DESCRIPTION

Virtual-patient simulators play an important role in modern medical education. These simulators provide a safe environment for learning, give contextual feedback to learners, and allow the learner to move beyond the time and space constraints of traditional face-to-face medical instruction. We have developed an interactive simulation system, LiveBook, which interacts in natural language with health-science students, enacting their clinical roles. LiveBook provides detailed feedback on the student's performance, after a case has been studied. The first LiveBook cases are currently being piloted in the area of Pediatrics, but the system is applicable to all areas of medicine.

Currently, LiveBook cases are specified in JSON, and edited as such. The objective of this summer research project is to (a) interview health educators and collect requirements on what the most appropriate format would be to develop these cases, and (b) develop an editor to match these specifications. We have already explored two different types of editors (Topic Maps and a special-purpose graphical editor); the intern will use the existing code bases, if appropriate, and evolve them to meet the needs of health educators from medicine, occupational therapy and possibly nursing. Depending on availability of experts, she will also develop an additional layer on the case specification, to indicate the professional disciplines of various actors, thus enabling interdisciplinary team simulations.

The eventual contribution of this project will be to simplify the adoption of LiveBook, to broaden its case knowledge base, and to systematize the specification of cases which will also ensure higher-quality cases.

The student will work closely with a MSc student who is the primary developer and designer of LiveBook. Her work (documents and code) will be regularly integrated and tested with his code base and through the process, she will become familiar with all activities of the software-engineering lifecycle. At the same time, she will get experience with qualitative-studies methodologies, through the process of conducting and transcribing interviews and eliciting software requirements.

FACULTY-DEPARTMENT
Science- Computing Science

DESIRED FIELD OF (STUDENT) STUDY
Computing Science- experience in Software Engineering, Visualization, JavaScript

INTERNERSHIP LOCATION
University of Alberta Main Campus - Edmonton

Contact: Brendan Cavanagh, Internship Coordinator (Inbound)  
University of Alberta International  
intern@ualberta.ca
<table>
<thead>
<tr>
<th>NUMBER OF INTERNSHIP POSITIONS</th>
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<tbody>
<tr>
<td>INTERNSHIP START DATE</td>
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<td>INTERNSHIP END DATE</td>
<td>12 weeks</td>
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<td>ARE THE DATES FLEXIBLE?</td>
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