Workflow Modeling Simulation In Second Life: A Case Study

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Introduction

- It is imperative for health informatics students to develop workflow modeling skills
  - Good practice
  - Needed in implementation of EHRs
Introduction

- Workflow modeling
  - Guides the development of health information systems to more closely fit clinicians workflow
  - Increases likelihood of successful implementation
Workflow Definition

“… the sequence of steps, decisions, and handoffs carried out by the process’s actors between the initial event and the final results.”

- Workflow describes
  - Who
  - Does what
  - When

- Describes the flow of work

(Sharp & McDermott, 2009, p175)
Workflow Modeling Activity

- Collect data about the flow of work
- Often involves direct observation
- Sequence work processes
- Identify persons directly involved in work
- Pinpoint handoffs
**Example of Workflow Diagram**

### Fall risk assessment_jjbrixey

- **Resident**
  - Admit to Living Center → Assessed for fall risk → Compiles fall risk assessment form → Decides if client at risk for fall

- **Staff Nurse**
  - Implement fall risk protocol → Send fall risk reports

- **Director of Nursing**
  - Receives fall risk reports → Completes statistics from reports → Submits summary fall risk assessment statistics → Receives fall risk reports

- **Physician**
  - Receives fall risk assessment report

- **Board of Directors**
Course Assignment: Step 1

- Your team task will be to develop a workflow diagram. This diagram should depict roles (actors), responsibilities, and routes.

- “Roles are the actors or process performers who participate in the process;
- Responsibilities are the individual tasks that each actor is responsible for and
- Routes are the workflows and decisions that connect the task together, and therefore define the path that an individual work item will take through the process”
Course Assignment: Step 2

- Next, describe the workflow model.
  - Model the current process
  - Assess the enablers of the as-is process
  - Record strengths and weaknesses of current as-is process
  - Identify points where improvement is possible
  - Document relevant aspects of the culture, core competencies, and management systems (you may use your own clinical experiences for this part as we don’t have a real organization to assess)
Challenges in Modeling

- Challenging activity for student to complete in a fast-paced clinical setting
- Reading a text-based case study
- How to improve the quality of student experience for completing workflow activity?
Second Life

- 3D virtual reality of user created content
- Can be used to simulate a clinical environment
- Removes time pressure and variation among healthcare organizations
- Removes cognitive imagination required to interpret a text description
- Interactive
Methods

- Second Life
- Camtasia Studio
- Visio
- Develop and test a simulation
- Secure a virtual resident actor
Jayhawk Community Living Center
Cast of Actors

Ellipse Wigglesworth
DON

Windy Howley
Staff Nurse

Choctaw Ninetails
New Resident
Workflow Simulation in SL

- Directions to students
  - You will observe Windy Howley, RN conduct a fall risk assessment for a new resident at Jayhawk Community Living Center.
  - You will be given the opportunity to ask questions of both Windy and Ellipse Wrigglesworth, DoN of JCLC.
  - The simulation will be recorded.
  - The recording will be posted in the course management software.
Workflow Video
Conclusions

- Students receive iterative constructive feedback from faculty
- Replicates working with end users
- Improved quality of students depiction of workflow
- Students report the SL simulation as a rich positive learning experience.
Future Work in Second Life

- Continue to develop authentic simulations
- Refine recording skills using Camtasia Studio
- Refine editing and publishing skills using Camtasia Studio
- Implement an evaluation plan to measure the outcomes of the virtual experience
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References

- Sharp, A. & McDermott, P. (2009). Workflow modeling tools for process improvement and application development
Questions
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