Virtual Patients Group update: 6/24/09

A. Recently:
1. You, M.D. exhibit – The asthma scenario was tested in the Shands Atrium from June 5-June 12th. Overall, 42 people stopped by the exhibit. Initial data analysis by Joe has the knowledge of asthma increase from (pre = 3.88 to post = 5.24 – 1-7 scale). Enormous debugging, but by the end it worked well. The asthma scenario was tested at Pugh Hall on June 24th with ten 5th graders as part of UF’s Professional Outreach Program by the Young Achiever Organization. We were approached by Dr. Albert Robinson during the Shands atrium run and he got us connected. Overall it ran well though speech recognition in the noisy hall was problematic.
2. I bought virtualpatientsgroup.com. This will redirect to verg.cise.ufl.edu. Brent bought virtualpeoplefactory.com. This will redirect to vpf.cise.ufl.edu. Please publicize. Buy business cards?
3. Andrew has submitted a journal paper on IPSViz and will be submitting the medical education paper soon.
4. Brent had his paper on VPF accepted at the Intelligent Virtual Agents Conference as a short paper. Joon had his poster on automatic emotion tagging from text accepted at IVA. Brent will be presenting both works in September in Amsterdam.
5. Brent got married and will be honeymooning with his wife Liz in California.
6. VPF data is now being stored encrypted offsite at Jungledisk.com (in case a computer crashes, etc.) we will have data backed up daily.
8. Graduations: Andrew Raij, Ph.D., John Quarles, Ph.D., Lois Cao, M.S.

B. This Week:
1. You, M.D. exhibit – data analysis, put together video for Dave Conley (MOSI), figure out additional scenarios (any MDs want to help create one in your specialty?), create development to-do list.
2. We have gotten space in CG-68, the simulation room run by Sem Lampotang that’s connected to the Harrell Center. We will be installing the VP and NERVE system there on June 29th. (Aaron Kotranza)
3. Andrew Raij has moved to Memphis to being his postdoc at the University of Memphis with Santosh Kumar. He will still be involved with the VP project in his spare time. He will focus on supporting IPSViz and helping with writing.
4. Shiva and Ethan creating “Post Operative Hemorrhage” and “Failure to Thrive” scripts.
5. Set up VP group meeting @ UF in July. (UCF and MCG will travel)
6. MCG Study - NERVE vs. UC-Davis web eye app comparison study with neurological students

C. Requests
UCF wants to have two locations on the VPF screen for multimedia (e.g. a patient on the right, and a MRI image on the left). Also these locations would display more than images and include video and Flash animations. Currently: discussing with Brent when he comes back from honeymoon. Probably will discuss at the group meeting.
Brent wants to have SPs use VPF to both learn how to be an SP and to capture people with different cultures. Can UF, MCG, and UCF accommodate?
D. Publications
   a. Recent Publications:

Conference

Poster

b. Publications Under Review:

c. Upcoming publications:

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<td>Journal of Graduate Medical Education</td>
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E. Development
   a. Application Development

Breast Exam
Created real-time visualizations of pressure and coverage. Learning Study and Self-Exam study.

Prostate Exam (Kotranza, Su) – Build a prostate exam MRH.

Eye-Exam (NERVE) (Kotranza, Cendan, Ritz, Miller) – At UF, integrated into Neuroscience course with Louis Ritz. Estimated time July 20-31. Will have CN3, CN4, and CN6. Will AAR “H” and VSP with double vision. For January, Ritz suggested building CN3-7, adding swallowing and touch again cheek, head against hand, shoulders during shrug, gag reflex) to possibly get all 12 nerves. Could be R01?

(Lind) At MCG, neurology students will come this Thursday to do the study (NERVE vs. UC-Davis web system).

Conscious Sedation (Lampotang, Hwang, Gravenstein, Quarles) – connecting IPS with the Human Patient Simulator (HPS) to practice conscious sedation. This enables people to talk to the VP and have the HPS respond (e.g. blink your eyes) and also to perform actions to the HPS and it affect the VP (e.g. injecting a sedative and having the VP fall asleep or have her lips turn blue when her BP drops). Currently: planning stage. Anticipation of an Oct. R21 submission.

Audiology exam (Chuah, Billinghurst) - Joon has been working with Mark Billinghurst at the HITLab NZ at University of Canterbury in Christchurch, New Zealand this summer/(their winter). He will be integrating the VP system into an audiology exam. Students will administer a hearing test to a virtual human. Currently: planning stage. Anticipation: course integration and productization. UC has signed a IP document with UF OTL.

You, M.D. (Cao, Halan, DiPietro, Ferdig, Conley) – Identify additional scenarios before going into MOSI.

Pain Faces (McManamon, Robinson) – Creating better Facegen faces using FACS to create VPs with accurate pain representation.

Dyspepsia – Pharmacy (Beck, Kimberlin, Rossen) – used with 120+ students, over 2600 triggers and 600 responses. Average accuracy 80% (typed).

Handoff (Juan Cendan, Ethan Blackwelder, Lori Filichia) – creating a VPF scenario of the hand-off between physicians for a gastric band patient. Currently: initial script created, being tested by residents. Target: Journal publication (due July 20th).

Chest Pain (Juan Cendan, Ethan Blackwelder) – Ready for testing w/ medical students
Failure to Thrive (Juan Cendan, Ethan Blackwelder) – Under development
Lower Back Pain (Juan Cendan, Shivashankar Halan) – Ready for testing w/ medical students
GI Hemorrhage (Juan Cendan, Shivashankar Halan) – Ready for testing w/ medical students
Post Operative Hemmorage (Juan Cendan, Shivashankar Halan) – Under development
Anesthesia Pre-Operation OSA (Wendling) – Ready for testing w/ medical students

MCG

Depression (Foster) – tested with multiple classes
Bi-Polar Disorder (Foster, Denise, Rossen, Rizzo) – patient is bi-polar. Need to discuss mania/suicide. Will then have a conversation with either spouse (Foster) or law-enforcement (Rizzo)
Grief and Loss (???) – planning
Pediatrics (???) – planning
Breast script (Shah, Blackwood, Lind and Lind) - ???
Chest Pain (Lind) – planning (to be used with nursing and the grief and loss scenario)

UCF

Gallstone case (Feldmen, Cuty-Ruiz, Raij) – 15 year old boy with gallstones. Sent out to 5 faculty members. This case will be used in HB-2 course around spring time.
Breast pedigree (Feldmen, Cuty-Ruiz, Raij) – BRCA case: Dr. Gibson is filling a paper template now. Next week will fill in responses and we will meet to further develop and discuss pedigree options. This case will be used in HB-1 on august 27.

PCOM

Back Pain (Surkunalingam) – Osteopathic-centric focus on back pain. Chiropractic manipulation
Meningitis (Surkunalingam) – Teenager with meningitis. 65 students have tested it.

Goal: 30 scripts by end of summer

c. Technical Development

IPS – Integrate FaceGen, Autoemotion
IPSViz – Integrate into VPF, Create visualizations for educators
VPF – Integrate IPSViz, Create multiple fields for triggers (e.g. user actions such as exams or tests) and responses (e.g. VP’s thoughts), Create support for SPs to use VPF to capture culture.
Webcam VPF – Explore O3D/other 3d via the web approaches.
SecondLife – VPF characters can be exported to SecondLife. No development currently planned.
MRH – build prostate exam
NERVE – install into CG-68, build other CN conditions, Build VSP
VSP – Build NERVE VSP (Kotranza)

d. Studies

Consequences (Rossen, Chuah, Foster, Rizzo) – have students go through multiple scenarios, where they learn the consequences of their actions. In the bi-polar script, not asking about suicide causes the patient to attempt suicide and the student has to break the news to spouse or talk to law enforcement. Planned August.
Constructivist learning (Rossen, Cassell) – have students learn by building their own virtual patients and evaluating fellow students’ interactions with their patient. Planning stage. Perhaps spring 2010?

Learning Study - Student learning using the breast simulator – Project that will involve students doing the a baseline breast vest SP exam then three VP interactions a week apart and a final learning breast vest SP exam. Current Status: planning. Target: All 3rd year students to conduct a breast exam with MRH (Kotranza, Lind).

Self-Exam – Teaching patients how to perform self exams with an ethnically-variable virtual instructor on hand to provide information and assist. Will compare against Mammacare (Lind, Park, Wier)

NERVE comparison with UC-Davis web applet - At MCG, neurology students will be coming this Thursday to do the study (NERVE vs. UC-Davis web system). (Lind)

F. Funding
   a. Upcoming Proposal Writing
      Breast exam (Lind, Brown) – Internal EDI grant to assess the value of a breast exam simulator in residents
      Conscious Sedation – NIH R21 (?) Due Oct. 16th (Quarles, Lampotang, Lok)

   b. Proposals Under Review
      NIH R25 – Teaching cultural tailoring for medical students and patients (Lok, Lind, Johnsen, Cendan, Cuty-Ruiz)

   c. Current Grants
      Association of Surgical Education, CESERT Grant, 2008-2010 – MRH evaluation
      NSF Career Award and REU Supplement, 2007-2012 – Bias with VPs
      NSF Medium (MRH development), 2008-2012
      NIH R01/R56, 2008-2012 – Pain faces with virtual humans for bias evaluation
      NIH R03, 2008-2010 – NERVE

   d. Completed Grants
      Keele University – Contract, 2007
      Medical College of Georgia – Contract, 2006-2007
      University of Florida – College of Medicine Education Center (COMEC) R&D Grant, 2004, 2005
G. Personnel
   a. Core Team – 32 people

University of Florida (12 people)
(CISE) Benjamin Lok, Ph.D., Post-docs (Yong Ho Hwang, Ph.D.), Graduate students (Aaron Kotranza, Brent Rossen, Joon Hao Chuah, Mallory McManamon), Staff (Shivashankar Halan, Ethan Blackwelder)
(Medicine) Juan Cendan, M.D.
(Clinical and Health Psychology) Mike Robinson, Ph.D.
(Education) Rick Ferdig, Ph.D., Graduate students (Joseph DiPietro)

University of Georgia (4 people)
(Engineering) Kyle Johnsen, Ph.D., Graduate students (Qian Ma, Tyler Niles, Animesh Thakre)

University of Central Florida (4 people)
(Medicine) Laura Cuty-Ruiz, Ph.D., Moshe Feldmen, Ph.D, Staff (Mike and Dan)

Medical College of Georgia (11 people)
(Medicine) D. Scott Lind, M.D., Peggy Wagner, Ph.D., Angela Gucwa, M.D., Adriana Foster, M.D., Brenda Rosson R.N., Medical students (Hevil Shah, Candelario Laserna, Ashita Gehlot, Steven Blackwood, Alyssa Wier, Chandni Kalaria)

b. Active Collaborators – 20 people

(UF) Li-Ming Su (Prostate exam), Bayard Miller (NERVE), Sem Lampotang, Nik Gravenstein (Conscious Sedation), Adam Wendling (Anesthesia Pre-Op Apnea), Lori Filichia (Handoff), Louis Ritz (NERVE), Lois Cao (You, M.D.), Diane Beck (Pharmacy)

(University of Memphis) Andrew Raij (IPSViz)

(University of Texas – San Antonio) John Quarles (conscious sedation)

(MCG) John Beatty, Patrick Fox, Chen Lin, Jessi Rubin, Shilpa Brown (Breast exam)

(University of Southern California) - Skip Rizzo (Consequences)

(Northwestern University) - Carla Pugh (Breast exam)

(University of Canterbury) – Mark Billinghurst (Audiology exam)

(Museum of Science and Industry) – Dave Conley (You, M.D.)

(Philadelphia College of Osteopathic Medicine) – Surkunalingam (VPF Scripts)

c. Lapsed Collaborators – 37 people

(UF) Amy Stevens, Marc Cohen, Carole Kimberlin, Robert Dickerson, Xiyong Wang, Harold Rodriguez, Anna Vittone, Joshua Horton, Rebecca Wells, Cyrus Harrison, Jonathan Hernandez, Rebecca Pauly, Margaret Duerson


(Keele) Luke Bracegirdle, Steven Chapman

d. Potential Collaborators

(Northwestern) Justine Cassell (constructivist learning)

(UF) Bridgett Rahim-Williams (AIDS/HIV education)

(UF) Chuck Levy (PTSD and MTBI for vets)

H. Important Webpages

Wiki (http://vpf.cise.ufl.edu/wiki), Forum (http://vpf.cise.ufl.edu/forum/)

Video: http://verg.cise.ufl.edu/vp/video/vp_video.wmv

Webcam with a VP: http://vpf.cise.ufl.edu/VirtualPeopleFactory/webcam/webcam.html