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CS6460 – Educational Technology
Assignment 3

While my previous assignments were surrounding the use of Augmented Reality to expand and evolve on current classroom teacher & student interaction paradigms, I have since found a group of students who are taking both CS6440 Health Informatics alongside this class as I am, and we have decided to work together on a project that fits both classes.

With this change, one of the ideas we have thought of and briefly discussed are around ways to help patients understand and learn about their medical conditions in a way that is accurate and easy for them to find and interact with. Today, the internet gives patients a vast resource to find information about symptoms and medical conditions (for example, disease fact sheets on the National Institute of Health's website), but no guidance to avoid misinformation or self-diagnoses that could lead to negative consequences. A tool could be made to help physicians provide patients with the information they need based on the facts recorded on their medical record. For patients, this information can be delivered in a simple and concise manner, using layman's terms, while still allowing them to explore further and perhaps interact with subject matter experts to clarify details.

Another semi-related idea is a way to help simplify the onboarding process for patients to help them understand the key points as well as their responsibilities and the health care provider's responsibilities easily. The current onboarding process for patients is typically very overwhelming for the patient and likely leads to many patients simply signing documents without giving them much thought (akin to users accepting EULAs without reading them). Patients often take time off their primary responsibilities for healthcare visits and once they are at the provider's office, they may need to meet with a physician within a scheduled time. These and many others are pressures that would stop patients from spending time reading and understanding very long but important documents. From personal experience, I know some clinics attempt to achieve simplification through their appointment booking tools, but these are not widely utilized or standardized. As part of the Meaningful Use guidelines, the simplification of education around these documents could help patients feel more comfortable and trusting of their physicians and allow them to become more engaged on their own health.

While there are tools out in the field aiming to address some of these issues, the majority are built with a focus on medical field employees and not the patients. There may be an opportunity to combine these ideas into a standardized portal that is industry backed and that supplements the current efforts of the Meaningful Use guidelines to improve and promote the use of Electronic Medical Records and Health Information Exchanges.

Going back to my original ideas on AR and VR used in Simulation Learning, another idea could be to leverage these tools and today's graphics computing power to provide medical students with high-resolution, 3D views of the exterior and interior of the human body and even allow the user to see how different systems change as they tweak the health parameters of this virtual patient. Today, there are a few companies that provide software with 3D views of the human body, however, it is not clear whether they allow for more simulation than simply providing a 3D view of human anatomy.

References:

- Yesterday, Today & Tomorrow: NIH Research Timelines. (n.d.). Retrieved January 28, 2018, from https://report.nih.gov/NIHfactsheets/default.aspx
- Ravindranath, M. (2013, April 08). Turning medical jargon into plain language. Retrieved January 27, 2018, from https://www.washingtonpost.com/business/on-small-business/turning-medical-jargon-into-plain-language/2013/04/05/3a248fb2-9e37-11e2-a2db-efc5298a95e1_story.html?utm_term=.ae187f256adc
- Publishing, I. A. (n.d.). Improve Students' Mastery of Course Content. Retrieved January 27, 2018, from https://www.visiblebody.com/teaching-anatomy/higher-education-resources
- 3D4Medical About Us. (n.d.). Retrieved January 28, 2018, from https://3d4medical.com/press-category/3d4medical