



University of Pittsburgh

ID: 3542

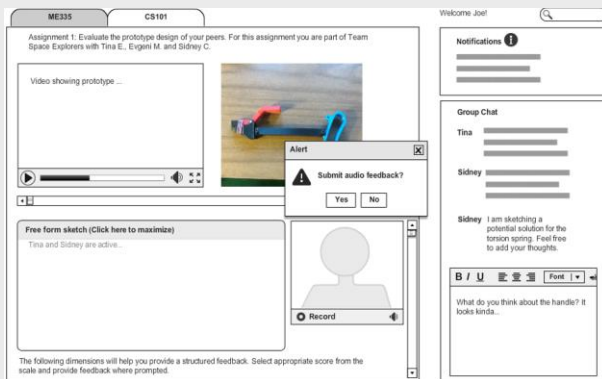
Featured Inventors: Mahender Mandala; Mary Goldberg, PhD; Jonathan Pearlman, PhD



PeerAGE – Peer Assisted Grading and Evaluation

Value Proposition

Engineering instructors/administrators are under increasing pressure to maintain high levels of classroom engagement and student achievement in the face of dwindling resources. Increasing enrollment and focus on more “design and making” based classes have made it difficult for single instructors to actively engage with all the students. PeerAGE is a collaborative peer evaluation system that lowers instructor burden in grading and providing feedback to students on creative engineering assignments while increasing active learning by using students to participate in the assessment. Unlike other peer-evaluation systems, PeerAGE utilizes latest technologies to provide a workspace that is at once familiar and easy to use for instructors in the field of engineering design and other project based classes.



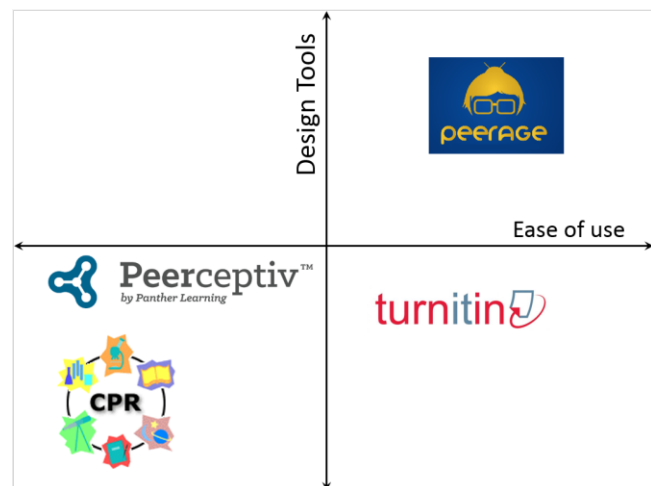
PeerAGE review page – multiple artifacts reviewed on the same screen with collaborative tools for reviewers

Market Opportunity

The primary market for this innovation is the engineering classrooms, the current state of art is instructor driven grading – there is a lack of available tools to enhance their work. There are ~7200 engineering institutions in the world (Total Available Market – yielding \$7.2M annually). Roughly ~1074 school in the US is our Served Available Market (Yielding \$3.2M annually). We are targeting ~100 institutions in the US in the next 3 years (Target Market, yielding \$300,000 annually).

Competitive Landscape

Commercial competition have limited/non-existent market share in Engineering Programs. They are focused on writing assessment – PeerAGE has collaborative peer review tools and features allowing for seamless display of multiple file formats.



Technology

PeerAGE is a web based peer evaluation tool, where students are recruited to provide feedback to their peers using a rubric devised by the instructors. Unlike other tools, PeerAGE allows for reviewing design and other project artifacts natively – allowing for easier classroom implementation in engineering classes.

Stage of Development

PeerAGE is under development and we plan to pilot a prototype in spring, 2016.

IP Landscape

University of Pittsburgh Copyright (2015)
Invention Disclosure – Processing (2015)

Funding

NSF I-Corp for Learning Grant # 1547954 - \$50,000 (2015)

NSF First Gear (Pitt Internal) - \$3,000

FEATURED INVENTORS:

Mahender Mandala

Mahender Mandala is a PhD Candidate in the Department of Rehabilitation Science and Technology, exploring student critiquing skills in engineering design classes. His research interest includes, product design and development, and engineering education. Mr. Mandala was the Entrepreneurial Lead for the I-Corp for Learning program for this project and has been instrumental in the design and development of PeerAGE.

Education

Ph.D. Rehabilitation Science, University of Pittsburgh (2016)

M.S. Mechanical Engineering, University of Kansas (2011)

B.Engg. Mechanical Engineering, Osmania University (2008)

Publications

1. Mahender Mandala, Mary Goldberg, Jonathan Pearlman. Combining veterans and teachers in a unique service learning experience. International Journal for Service Learning in Engineering, Humanitarian Engineering and Social Entrepreneurship. 381-405 (2014). <http://library.queensu.ca/ojs/index.php/ijlse/article/view/5559>
2. Mahender Mandala, Jonathan Pearlman, Olof Berner, Padmaja Kankipati, Rory Cooper. Design and Development of the Single Motor Propelled Drive-Train (SiMPL-D). In Proceedings of the ASME 2013 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference. Portland, OR (2013). <http://proceedings.asmedigitalcollection.asme.org/proceeding.aspx?articleid=1830736>

Mary Goldberg, PhD

Mary Goldberg, PhD serves as the Education & Outreach Project Director at the Human Engineering Research Laboratories and is also an Assistant Professor in the Department of Rehabilitation Science and Technology at the University of Pittsburgh. She has a background in education with a concentration in rehabilitation science; psychology; and Spanish. She has served as Co-PI on several training programs in the field of assistive technology for undergraduates, veterans, and graduate students, with a particular emphasis on students with disabilities. Dr. Goldberg received her PhD in Administrative and Policy Studies of Education with a focus on online learning in assistive technology and her additional research interests include program evaluation, STEM education, and international capacity building in assistive technology.

Education

Ph.D. Education, University of Pittsburgh (2013)

M.Ed. Education, University of Pittsburgh (2007)

B.S. Psychology & Spanish, University of Pittsburgh (2001)

Publications

1. Goldberg, M., Cooper, R., Milleville, M., Barry, A., Sporer, M. "Ensuring Success for Veterans with Disabilities in STEM Degree Programs: Recommendations from a Workshop and Case Study of an Evidence-Based Transition Program." Journal of STEM Education, Vol 16, Issue 1, June 2015.
2. Mandala, M.*, Goldberg, M., Pearlman, J. "Combining Veterans and Teachers in a Unique Service Learning Experience." International Journal for Service Learning in Engineering Special Edition, pp. 381-405, Fall 2014. <http://library.queensu.ca/ojs/index.php/ijlse/article/view/5559/5326>
3. Goldberg, M., Karimi, H.; Pearlman, J. "Interactive, mobile, AGile and novel education (IMAGINE): a conceptual framework to support students with mobility challenges in higher education." Disability and Rehabilitation: Assistive Technology, e-pub ahead of print: <http://informahealthcare.com/eprint/yrWtNy9gfqTXM3QFUG6m/full>
4. Goldberg, M., Ding, D., Cooper, R. "Using Experiential Learning to Inspire, Educate, and Empower Underrepresented Undergraduates and Veterans Transitioning to Higher Education" Proceedings of American Society of Engineering Education Conference, Vancouver, June 2011.

Innovation Institute

Carolyn Weber
Technology Licensing Associate
(412) 383-7140
cweber@innovation.pitt.edu

Innovation Institute

200 Gardner Steel Conference Center
Thackeray & O'Hara Streets
Pittsburgh, PA 15260
(412) 648-2200
www.innovation.pitt.edu