SYLLABUS

Design for the Real World: BeatRockers @ the Lavelle School

Fall 2016 – Thursdays 6:30-9:00
Course Credits: 3
721 Broadway, Tisch School For the Arts

Class meets at ITP unless otherwise noted.

Instructors

1) Diana Castro diana.castro@nyu.edu (NYU Tandon School of Engineering).
2) Claire Kearney-Volpe- claire.kv@nyu.edu (NYU Interactive Telecommunications Program, Tisch School of the Arts).

Description

In this multidisciplinary course, students will work collaboratively to research, design, and develop a system of client-centered data-management, musical interfaces and interactive learning tools for the Beat Rocker beat boxing program at the Lavelle School for the Blind. The Beat Rocker Program incorporates a unique beat-boxing/speech therapy curriculum and children that are engaged in the program excel in both areas. Students in the class are expected to gain practical experience in user research/testing, human-centered design and the prototyping process.

Expectations

- Demonstrate an understanding of and implement iterative & human-centered design research and prototyping processes (including client consultation, design/prototyping and user testing).
- Learn to assess the client population at the Lavelle school and identify a need for rehab, educational and music technologies; learn how to communicate meaningfully with clients/end-users and the network of stakeholders (speech therapists, teachers and families).
- Acquire an awareness of experiences for people with low vision or blindness and other accompanying disabilities.
● Demonstrate understanding of various technologies used by people with low-vision or blindness.
● Demonstrate the ability to communicate and work within a group to develop a prototype.
● Demonstrate critical and creative thinking in researching solutions to clinical problem.
● Develop a prototype device.
● Develop extensive documentation for your part of the project.

Assignments

In addition to class participation and readings this class includes three phases and three milestone deliverables:

Research
Projects will require students to conduct intensive user and secondary research into their project, including individual contextual factors, existing literature, devices and software. Students will be asked to produce a 3-page research paper (during mid-terms), including an historical overview, technological interventions (specs and innovations) and social impacts.

Prototyping/Testing – Student groups will work build a prototype, perform user testing and document their process. Groups must be able to provide multiple iterations on their prototypes reflecting the user testing results. A progress review will be held on _____. Projects can be physical or computer based depending on the need. Information regarding the associated documentation will be provided. Final presentations will be on ________.

Final Presentation/Critique – TBD

Grading
30% -Individual Grade:  Slack and blog posts (20%) and in-class participation (10%)

70% -Group Grade: Project Development and Delivery
Research Phase
Written 3-page research paper about your contributions to the project, taking into consideration the historical context, technology (specs and innovations) and social impacts of the subject.

Development Phase
Students will give a 10-minute presentation during their project development. This will happen part way into the second half of class and serve as a kind of progress report

Final Prototype Project
1) Group presentation(s) to instructors during the final 2 classes
2) Project website
   A. Must be updated weekly during the second half of the class
   B. Should reflect ongoing work

Group work
-Students must present documentation reflecting the prototype development process
-Groups will add their documentation to a page on the class website as soon as the groups are formed. We will create the pages in class.

Attendance
Arriving more than 5 minutes after class start, whether at the Ability Lab or at site visits, is “late.” Two “lates” equal one absence. Each absence from class will result in a deduction of 2 points from the final course grade.

Class participation
Engage in discussion with each other (in-person and on Slack), invited speakers and at on-site visits. And of course, except for note taking, all laptops closed. There will be time to use laptops during class, and there will be time to close them because it has been scientifically proven that "laptop multitasking hinders classroom learning for both users and nearby peers".

Class Schedule (subject to change)
I started this table to see the timeline, key dates and subjects.
Class 1

**Lesson:** Intro to course;
- History of the Lavelle school
- Population Served
- Intro to the BeatRocker Programming (w/ presentation from Kaila and James)

**Reading for next class:**
3) *Chapter 3, Understanding and Managing Vision Deficits*

Class 2

**Lesson:** Intro to congenital low-vision and Blindness;
- History (low-vision and blindness through the ages: social and legislative aspects, and technological interventions)
- Present (general overview of commonly used tech, positives and negatives and the cutting edge)

**Assignment:**
2) Write down any questions that come up for you from the following readings.

Class 3

Site Visit to Lavelle School

**Reading for next class:**
Chapter 5 - Designing Meaningful and Engaging Environments.
Chapter 6 - The Student as Maker.
Chapter 7 - The Teacher as Builder.

Class 4

**Lesson:** Human Centered Design.

- User research & beatrockers curriculum integration
- Design thinking
- Ideation
- Visual design
- Learnability
- Accessability

**Reading for next class:**
1) Lean UX: Applying Lean Principles to Improve User Experience

Class 5

**Lesson:** Technological trends in Music Education & Music Experience Design.

- Experiences vs. Lessons
- Web and Mobile Apps
- Music as interdisciplinary.
- Musical Engagement
- Technologies designed to facilitate experiences.
- Making and Crafting Pedagogies.
- Initial Experience States (blank slate, virtual paper, remix, filling time or space, sound or silence, kinaesthetic).
- Interaction Modes (mouse & click, mobile multi-touch, musical construction kits, sensors and movement).

**Reading for next class:** TBD

Class 5 Meaningful engagement
- music making and flow
- strategies for sustained engagement
- designing engaging environments
- the student as maker
Reading for next class: TBD

Class 6
Lesson: • Implementation
  ● Information Architectures & Flowcharts
  ● layout & wireframes
  ● Rapid Prototyping
  ● toolkits
  ● design deliverables

Reading for next class: TBD

Class 7
Mid-Term Presentations.

Reading for next class: TBD

Class 8
Lesson: • Evaluation & Empirical Research
  ● data analysis
  ● usability testing
  ● information visualization
  ● Iteration process

Reading for next class: TBD

Class 9
Lesson: Field trip

Reading for next class: TBD
Class 10
Project Development I

Class 11
Project Development II

Class 12
Project Development III

Class 13
Final Presentations, Part I

Class 14
Final Presentations, Part II

General Resources:
http://ocfs.ny.gov/main/cb/
https://www.baruch.cuny.edu/ccvip/videos.html#tech101
Apply for funding! http://entrepreneur.nyu.edu/resource/prototyping-fund/

Accommodations
If you are student with a disability who is requesting accommodations, please contact New York University’s Moses Center for Students with Disabilities at 212-998-4980 or mosescsd@nyu.edu. You must be registered with CSD to receive accommodations. Information about the Moses Center can be found at www.nyu.edu/csd. The Moses Center is located at 726 Broadway on the 2nd floor.