An Open Learning Design, Data Analytics and Visualization Framework for E-Learning

Project Goal:
To serve MOOC instructors, instructional designers, institutional curriculum leaders and learning scientists by developing an open framework for e-learning.

Achievements (Phase 1, Milestone 1,2,3)
- 3 Journal papers
- 4 Conference papers
- 4 Theses
- 6 Projects
- 1 Patent
- 1 Technical Report
- 1 Poster

Project Core Members
- [List of core members]

An overview of the documents course and studied
1. CONTACT: Introduction to teen Programming
   - Presented at the 2013 IEEE EMBS Annual International Conference
2. CONTACT: Introduction to teen Programming
   - Presented at the 2013 IEEE EMBS Annual International Conference
3. CONTACT: Data and Signal Processing
   - Presented at the 2013 IEEE EMBS Annual International Conference
4. CONTACT: Information and Communication
   - Presented at the 2013 IEEE EMBS Annual International Conference
5. CONTACT: Information and Communication
   - Presented at the 2013 IEEE EMBS Annual International Conference
6. CONTACT: Information and Communication
   - Presented at the 2013 IEEE EMBS Annual International Conference

Learning Sequence Analysis
- The projection view [4] identifies learner groups based on their sequence similarity throughout the whole course period; the pattern view [5] presents the mixed sequential patterns within a selected learner group. The sequence view shows the non-linear consecutive events between weeks (a) and inside a selected week (b); the individual view (c) helps explore individual learning sequence and find similar individuals. The screenshot functions to record states found and its return to process exploration.

Plan for Phase 2
- Students
- Teachers
- Instruction Designers
- Learning Technologies
- Institutional Leaders
- Researchers, Learning Scientists, Data Scientists

Learning Design Studio for Higher Education (LDSHE)
- An overview of the documents course and studied

The new design interface of the LDS
- Course Level Design
- Learning Unit Level Design
- Session Level Design

Issues
- Existing platforms:
  - Pros: High quality material made with LE resources, >10k users from Hong Kong and mainland.
  - Cons: Low learning design and as well as learning analytics.

New visualization features
- A printable version of course designs to support teachers’ course delivery.

The Designer’s Dashboard that facilitates teachers’ self-monitoring and self-reflection during the design process

List of System Improvements
- Defined learning theory-based task types
- Improved user interface for learning design
- Implemented designer dashboard & print-ready variant of design
- Added construction of reusable patterns
- Added tool for assigning learning tasks to sessions
- Added option to share designs with other users (public design)