

Competency 1: Technology Planning and Integration

Online Course (re)Design Artifact

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This artifact for *Competency 1: Technology Planning and Integration* forms the capstone project in which the principles of instructional design, online course design, technology supported learning and distance education learned during the course of the M.Ed., were all brought together and implemented to redesign an existing online doctoral level course in a real world, professional context of a Midwestern University. The objective of this section of the presentation is to:

- a. Describe the context of the project and the challenges faced by the faculty
- b. Situate these challenges in the context of online learning as a whole
- c. Outline the specific shortcomings of the course with reference to principles of sound online course design, using the California State University Chico Rubric for Online Instruction as the reference.
- d. Describe the remedial steps taken for redesign of the course to make it more effective and articulate the reasoning behind the choices balancing adult learning theory and interface design with student and client needs, limitations of the Learning Management System, legal issues of content use and access to technological expertise.
- e. Self-evaluate the changes with the Chico rubric.
- f. Reflect on the process of redesign and problems faced
- g. List of references cited in the text

Introduction:

Online course and degree offerings have been steadily growing in popularity because of their relative cost-effectiveness, low infrastructural overheads, increased student reach both by way of numbers and geography, ability to involve faculty and expertise from a variety of locations, easy and instant access to reliable information sources with the digitization of library resources, and the ability to use rich media to present content and concepts. The inherent flexibility of time and place makes it attractive for non-traditional students (working adults), students from remote areas and those with disabilities who cannot easily attend a traditional college due to time, physical and distance constraints (Lynch, 2003).

However, in this shift from class room to online learning, little do the course instructors realize how different the online learning environment is from a traditional face-to-face one and the challenges it presents in terms of creating and sustaining social presence, student participation, engagement, motivation and interaction, maintaining academic rigor and integrity and evaluating learning outcomes. Teachers struggle with the change in teaching paradigm from didactic to that of facilitator and mentor and miss the social context of the classroom where they gain validation from non-verbal cues. They also do not foresee the volume of emails and written communication (feedbacks, comments) they have to handle and cross cultural differences in communication styles,

nor that they may have to schedule non-traditional office hours to accommodate student's needs and time zone differences. Furthermore, used to a 'lesson plan' approach they find themselves hard-pressed to provide meaningful learning and assessment activities to suit a varied class profile and are often second guessing themselves about the soundness of the exercises (Lynch, 2003).

Thus 'offering' an online course is not a matter of just putting resources online – but a much wider undertaking incorporating elements of visual design, instructional design, content management and organization, understanding affordances and limitations of the technology, a bit of human psychology and culture and even attending to nitty-gritty details like file formats and defunct web links. These are things faculty are not equipped to do and typically, there is little or no training or help available for them, resulting in them feeling overwhelmed, working harder and longer than they bargained for (Lynch 2003). This is what the faculty at a Midwestern university offering an online post-professional doctoral course had come to realize when they sought the help of an instructional design and technology consultant to help overcome their problems.

Context of the Project:

The redesign of the Post-Professional Doctor of Physical Therapy course hosted on the Angel Learning Management System for Des Moines University College of Health Sciences was carried out in two phases. Phase I¹, Program Analysis, was done by the author along with a supervising faculty member as part of Learning Design Solutions (a student led enterprise within the department of Curriculum and Instruction) and as such is beyond the scope of the present project. Results of the analyses pertaining to the present project will be referred to where relevant. Phase II was the Implementation wherein some of the most critical observations made in Phase I were contracted to the author as an independent contract. The process involved in the implementation is relevant to *Competency 1: Technology Planning and Integration* and will be discussed in detail.

Des Moines University (DMU) located in the capital city of Iowa, USA, is a medical and health sciences university comprising of three colleges: College of Health Sciences, College of Osteopathic Medicine and College of Podiatric Medicine and Surgery. The University has a total enrollment of over 1800 students pursuing graduate professional degrees. It is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools. Des Moines University offers five Masters level degree programs and four Doctoral Degree Programs of which the Post-Professional Doctor of Physical Therapy (PPDPT) is one of them (<http://www.dmu.edu/about/>). It is the only Doctoral program at DMU and one of the only PPDPT programs in the nation that is offered completely online, thus presenting physical therapists around the world a way to advance their careers while continuing their practice. It aims to build on the existing knowledge of licensed physical therapists by enhancing their clinical competencies and

¹ Phase I Analysis : Program components and design, course organization, content delivery methods, ease of navigation and access, assessment strategies and student support were analyzed in two courses (Orientation and Clinical Medicine 1608) within the program to determine efficiency (in terms of time invested), effectiveness (in terms of desired outcomes) and alignment of course objects with activities and assessments. (Learning Design Solutions Agreement for Services No.000700137, March 2011)

decision-making skills for developing therapeutic plans. The program also emphasizes administrative and management skills and evidenced based practice to provide more effective patient care (<http://www.dmu.edu/ppdpt/>).

Student Profile:

Since its inception in 2003, enrollments to the online PPDPT program have been from countries as varied as Canada, Europe, India and Philippines and even from the U.S. Military. They are all practicing physical therapists who rely on their earnings to pay tuition and have very busy professional and personal lives. Approximately 35% - 45% of those enrolled were non-native English speakers. On an average, they have 150 students enrolled. Each instructor has 2 sections of 20 students each. In 2010, when this project was undertaken, they had only 2 or 3 full time faculty sharing the workload with some courses being facilitated by visiting faculty and adjuncts (Meeting minutes, October 4 2010).

Program Features:

The strength of the program is that it is offered online giving the students the option to complete course work at their convenience. Each course has a specific start and stop date and specific due dates for assignments. However, it is flexible in that students can enroll any time and with the exception of the Orientation course that is required at the start of the program, courses can be taken in whatever order they choose. The PPDPT degree is granted on successful completion of 24 credits spread over 11 courses, each course being 8 weeks in length. The curriculum and assignments are designed for collaborative project work, online discussions and case studies that can find immediate application to the student's own clinical context (<http://www.dmu.edu/ppdpt/program-strengths/>). Thus, the course provides the framework for 'situated learning' giving students the opportunity to make sense of and implement what they learn in their particular context and collaboratively grow their expertise and knowledge by sharing professional experiences, insights and resources with their class colleagues from around the world.

Needs Assessment

A systematic needs assessment was carried out to gather information about the nature of the problems faced by the faculty that prompted them to seek help. This was done by arranging on-site meetings involving first the faculty only and then subsequently other program staff and IT staff of DMU to provide inputs on questions arising after a detailed examination of the structure and tools of the Angel Learning Management System.

Faculty Concerns about the Program:

Such a program needs very sound online course design and delivery. However, in meetings with the faculty, it was clear that they had several concerns about time and workload management, appropriateness and effectiveness of current pedagogical and assessment strategies, issues with student participation, academic integrity and creating a congenial environment for group work.

Workload

The instructors were feeling the pressure of dealing with a student profile much different than what their previous experience had been (undergraduate/graduate versus self-driven

professionals). They realized they had to stay away from assessing content knowledge and lay emphasis on analysis and application such as asking students to formulate individualized plans applicable to their patients and clinics. However, it was turning out to be an enormous task grading customized plans of 40 students so much so that the Director of the program was afraid that she may lose her faculty (Meeting minutes, October 4 2010 and October 18 2010).

Rigor

At the same time, the instructors wanted to make sure that the program had enough rigor and had built in a variety of individual and group assignments (quizzes, readings, individually graded small group discussions, case studies, individual paper, research poster project followed by analysis and critique of peers posters) – basically an assignment every week besides the readings and quizzes. They wondered though if it was necessary to have a submission every week – and if not – how much is sufficient rigor? Were they asking for too much? The questions reminded me of a comment by Lynch (2003, p. 24)

“Perhaps we should ask ourselves if, in our attempt to ensure academic rigor, we have made the online classes more rigorous and thus at a disadvantage”

Student Participation and Collaboration

The course was asynchronous and student-instructor interaction took the shape of one-on-one emails, comments on discussions and an hour long synchronous chat session every week. On an average, a quarter to a third of the class participated in these chat sessions. The bigger problem they were facing was with group work and creating an environment of mutual respect. Teams were assigned based on similarities in their current practice or around their preferred work schedule. However, the instructors often had to deal with conflicts and complaints of over dominance of a certain group member or non-participation of another, which affected the morale and work of the others. They needed strategies to address these issues and create the support where students would know clearly what to do if they have problems with teamwork (Meeting minutes, October 18 2010).

Academic Dishonesty

Another issue plaguing the instructors was Plagiarism. The Orientation course had a very good interactive unit on plagiarism as well as other writing resources and academic honesty was stressed in the writing policies and code of conduct too. Moreover, in the Orientation course, the students had an assignment to review an article and submit a summary to the program ‘Turnitin’ which detected plagiarized language and its source. All research papers in subsequent courses also had to be submitted via the Turnitin drop box by the students. Despite this, cases of plagiarism abounded. The instructors were at a loss to understand whether it was a factor of differences in cultural attitude and language, a factor of the content material itself or a problem with students not going through it at all. They needed an honest evaluation and redesign of the plagiarism module and a new assessment activity for it (Meeting minutes, October 18 2010).

Increase in interactivity and visual appeal:

Most of the content material, including the Welcome messages in the Orientation course were in the form of power points or narrated power points. The faculty had no expertise nor the time and support to design them otherwise. Furthermore, they felt that the online course design

was very plain and lacked visual impact. They recognized the need for more interactivity in content delivery as well as creating a visual appeal and feel for the course as a whole.

Orientation Course Analysis:

For budgetary reasons, it was decided that the redesign be undertaken for the Orientation course which served as the window to the program. It was important in setting the tone for the rest of the courses and in preparing students to successfully negotiate the program by providing basic program information (faculty roles, contacts, helpdesk, software links) and tutorials to familiarize themselves with the Angel Learning Management System, library resources and search engines as well as discussion board and course mails. The course also contained tutorials and quizzes on Evidence Based Practice, which is the standard of research based physical therapy practice that they uphold, as well as information and resources on plagiarism.

Analysis of the Orientation Course:

A systematic analysis of the content files of each lesson folder in the Orientation course using principles of online instructional design, adult learning and visual design revealed that there were major problems with course organization, navigation and ease of use, content design and delivery, scaffolding, assessment of some content, overall visual design and a complete lack of interactivity and human presence. Efficiency of navigation and file access was impaired due to outdated links, technological incompatibility and inconsistency in file format which served to disrupt the flow of instruction and cause frustration to the students. Some important course content like Evidenced Based Learning were not clearly justified to the adult learners and information on Plagiarism, though present, was just another folder amongst many and not stressed adequately by language, placement or related assessment (DMU-PPDPT Program Analysis Report, May 2011). It was evident that the course needed major re-haul in its content organization along with appropriate visual design to create clarity, attention allocation and emphasis (Harms, Niederhauser, Davis, Roblyer, & Gilbert, 2006) and strategies for creating social presence.

Course Redesign

Presentation of Shortcomings:

The California State University Chico Rubric for Online Instruction details comprehensive benchmarks for evaluating online courses on 6 key elements such as Online Organization and Design, Instructional Design and Delivery, Learner Support and Resources, Innovative Teaching with Technology etc. (http://www.csuchico.edu/roi/the_rubric.shtml). This rubric serves as a very useful self-evaluation tool wherein each element of an online course can be evaluated on a three point scale as Baseline, Effective or Exemplary. The shortcomings of the PPDPT Orientation program and subsequent redesign will be presented as a checklist using relevant criteria adapted from the Chico rubric, to create a 'before' and 'after'. For instance, the course elements that were analyzed will be given the relevant grading from Baseline to Exemplary, giving an idea of the strengths and weaknesses of the course before the redesign. Clicking on the criteria would take the examiner to a detailed write up illustrated with screen shots and video screen captures which will elaborate on the problem item and how it negatively impacts online instruction (Before), and then

detail the solution offered along with designer reasoning behind it (After). The exercise will end with another checklist that will show where the course stands after redesign. An example is given below (Table1) and one course element (Aesthetic Design of Homepage) has been elaborated in the manner described above to help convey an idea of how it will look and work on the portfolio.






Element of online course	Condition/Benchmark	Baseline	Effective	Exemplary
Online Organization and Design				
Course Organization and Structure	Course is well organized. Course components and structure is easy to understand			
	Course is Easy to Navigate			
Course Syllabus	The syllabus clearly identified what role the online environment would play in the course.			
Aesthetic Design	Aesthetic design presents and communicates course information clearly			
Consistency	Webpages are visually and functionally consistent throughout the course			

Table 1: Results of analysis of PPDPT Orientation Course using evaluation criteria adapted from Rubric for Online Instruction (<http://www.csuchico.edu/celt/roi/index.shtml>).

Aesthetic Design: (example of homepage)

We live in a media-driven world where visuals play an important role in conveying information by use of color, images, placement, text, size etc. that subconsciously leave an impression on us such as ‘boring’, ‘interesting’, ‘childish’ or ‘professional’. In an online course, where the computer screen serves as the portal of entry into the course, the homepage design is of paramount importance in creating the first visual impact on the student and drawing him in. If it is a novice user, it is going to make all the difference between making him feel welcome or isolated.

In this context, the PPDPT Orientation course on Angel had a very plain, text predominant homepage with a welcome message and a few inbuilt functional modules (called ‘nuggets’) for course mail, syllabus and live chat. The banner of Des Moines University with its logo was the only ‘visual’ that conveyed contextual information and that was also a very pixelated picture,

probably being a low-resolution file being ‘stretched’ banner length (Fig 1). The color scheme on the homepage shown below were after the redesign process had begun and the ‘new skin’ had been implemented. Before this, it was just default colors as on the log-in page (Fig 2). While it’s a simple, no-nonsense page, it is missing out on some key functions that a homepage performs.

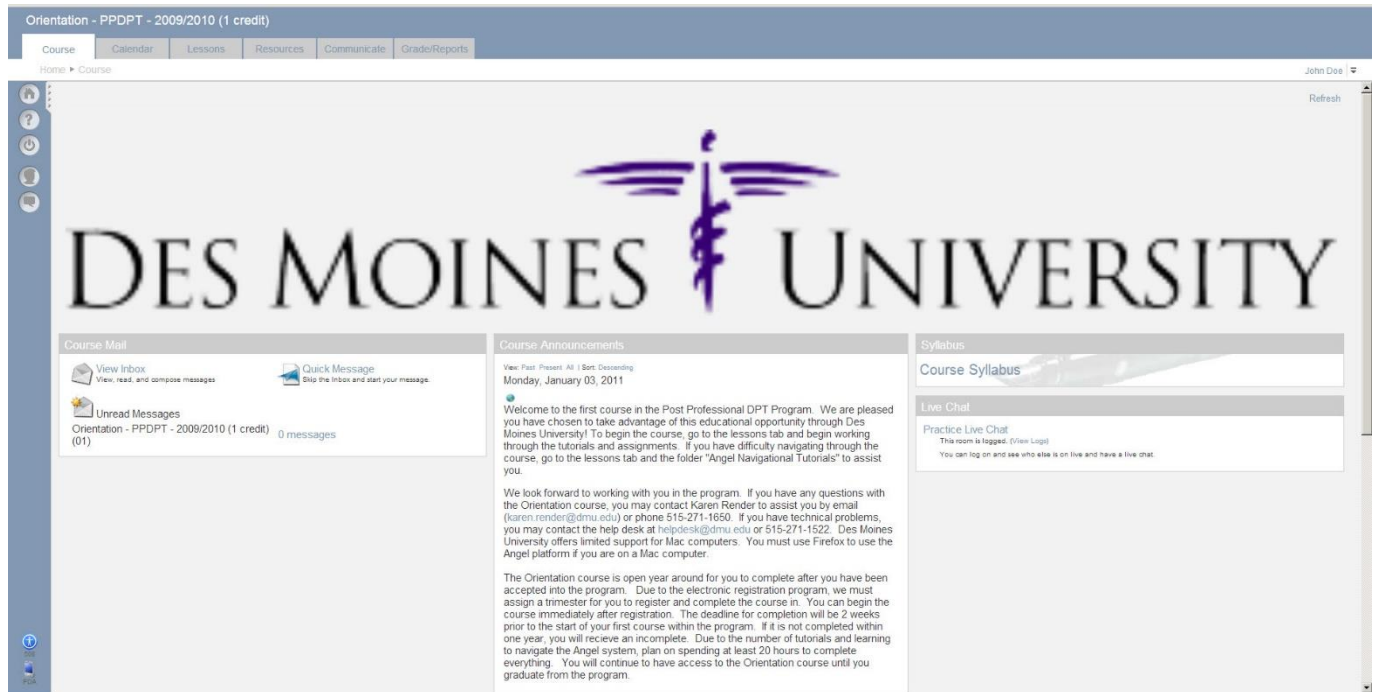


Figure 1: Orientation Homepage before redesign but after implementation of new skin

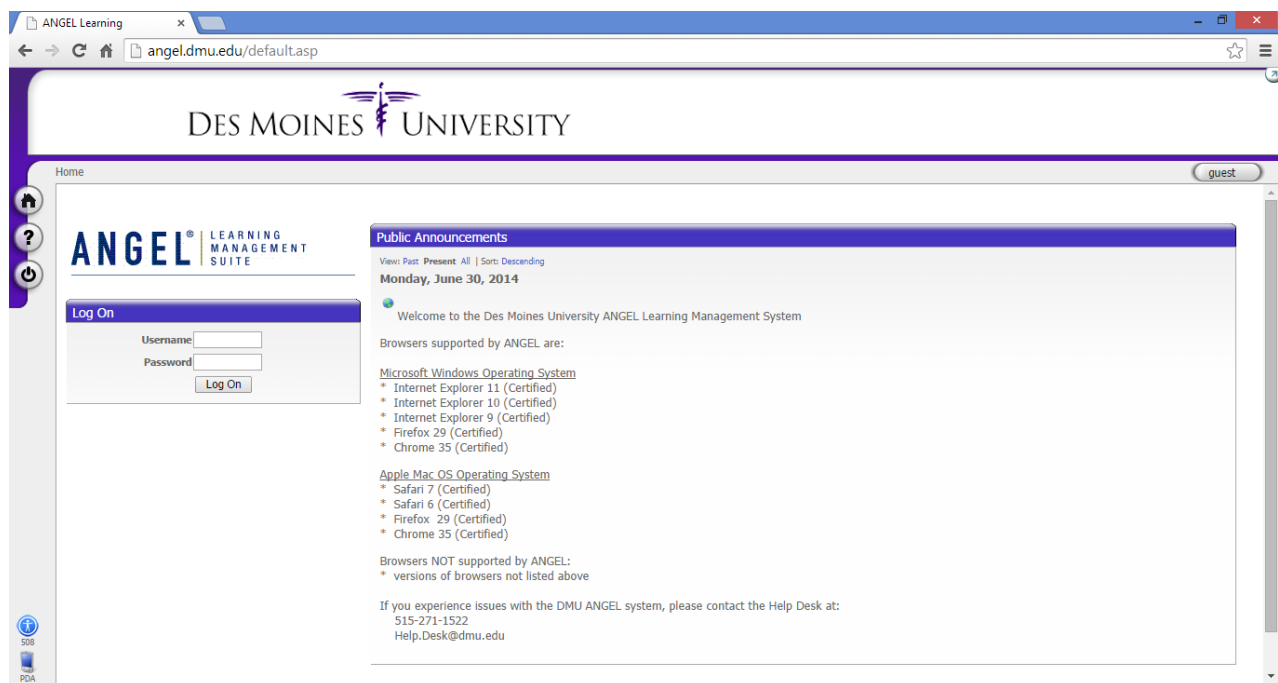


Figure 2: Color scheme and skin before the redesign

Lynch (2003), when talking about course interface design suggests that the homepage, which serves as an introduction to the course, should be colorful and welcoming, inviting the student to explore the course and introduce his instructors. The biggest drawback of the homepage, in my opinion, was the complete absence of the human element and lack of any context creation to provide students a sense of what Des Moines University 'looks or feels' like to help them feel a part of it. The homepage redesign was implemented with this in mind (Fig 3)

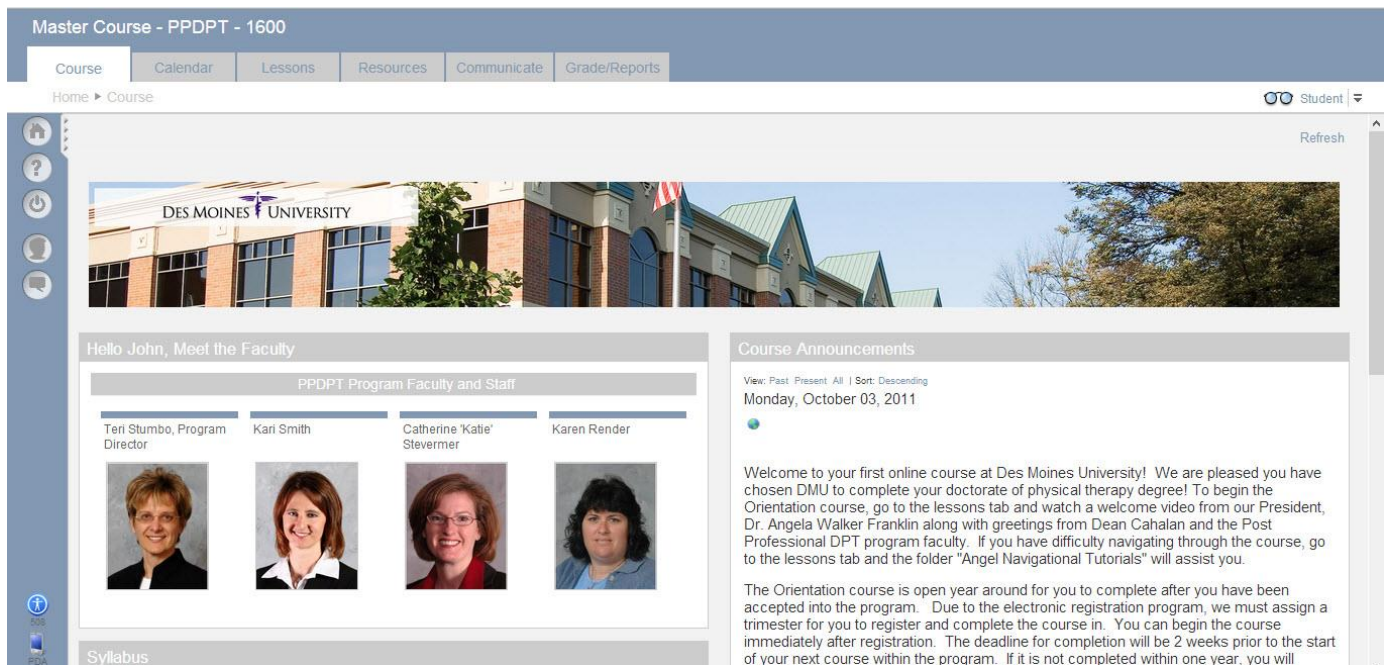


Figure 3: PPDPT Course home page after redesign.

Redesign of Homepage

The simple introduction of the banner with a perspective of a DMU building with the DMU official logo added instant color and context to the page, and was enhanced by a simple table inserted into an Angel 'custom' nugget with faculty and staff pictures in it with their names. There is nothing like smiling faces to make one feel welcome, especially with a simple bit of code that welcomes the user by name, inviting him or her to meet the faculty. This table is interactive and the pictures are linked to their faculty profiles on the DMU Website, providing information on their specialization, research interests, publications etc. This was done specifically keeping the student profile in mind and the importance of allowing them to make a professional connection with the faculty.

The 'skin' or the color scheme and how the page elements display was also changed using slate-blue, grey and white pallet to make it look more professional to suit the mindset of the users and convey seriousness of purpose. The rounding and glossiness of tabs and outlines in page elements (seen in Fig. 2) were also removed and flattened for a more square look with clean lines. This was the **color identity** that was created for the course. The skin also has 'mouse-over' features which stand out and create emphasis when activated by mouse-over by changing color within the grey-blue color pallet. The active course tab on the top of the page stands out as white and slightly

larger than the rest. For the portfolio, these features will be illustrated by a video screen capture on the website.

Element of online course	Condition/Benchmark	Baseline	Effective	Exemplary
Online Organization and Design				
Course Organization and Structure	Course is well organized. Course components and structure is easy to understand		✓	
	Course is Easy to Navigate		✓	
Course Syllabus	The syllabus clearly identified what role the online environment would play in the course.			✓
Aesthetic Design	Aesthetic design presents and communicates course information clearly			✓
Consistency	Webpages are visually and functionally consistent throughout the course		✓	

Table 2: Self-evaluation of course components after redesign

In this manner, all the other shortcomings of the Orientation Course and related redesign will be presented.

Reflection:

The artifact will conclude with a reflection on the process of redesign, insights gained in the process, problems faced and lessons learned.

References:

The paper will conclude with a list of references mentioned in the report.