

Project Management for Web-based Course Development

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Transferring face-to-face courses into Web-based courses is a trend in higher education. Whether this course transition is for distance education or for resident instruction, faculty members play a critical role in the process. Faculty members not only provide lesson content, but important insights into how content has been best presented in classes semester to semester. However, faculty involvement alone does not guarantee a quality online course. It is the combination of faculty working with an instructional designer and the instructional design team that molds the content and personal teaching experience into a rich learning environment for the online student. Further, this transition process must be guided by a solid project plan that outlines major milestones for the faculty and team members. For without a solid project management plan content may not arrive when needed and resources cannot be scheduled to assure that the course is completed in a timely manner. Delayed or unexpected lesson content will lead to project cost overruns and missed deadlines.

The Penn State World Campus

The Pennsylvania State University has been involved in distance education since 1892 and has produced courses that have been delivered via a variety of media. In 1997 Penn State launched the World Campus as the primary delivery unit for courses offered to students at a distance. This year also marked the beginning of development of online courses for our distance education students. While courses in the past had integrated listserves and gophers, 1997 marked the beginning of the design and development of wholly online courses delivered through WebCT. As of 2004 Penn State's World Campus offers more than 200 Web-based courses and enrolls students from around the world.

Responsibility for transitioning face-to-face courses to online course rests with the Instructional Design & Development (ID&D) Team of the World Campus. This team consists of a director, assistant directors, project managers, instructional designers, instructional designer specialists, graphic artists, a multimedia team, production specialists, technical typists and a technology team (programmers) who have different responsibilities.

Authors of the Web-based courses are Penn State fulltime faculty members. These faculty members work with the instructional designers to determine learning goals and objectives, generate ideas, write the lesson content and storyboard, provide test items and exercises, and suggest multimedia selections.

It is the task of the instructional designers to develop the courses within a given timeframe and within budgetary constraints. This role takes on great significance as more academic units look to technology as a means of offering hybrid courses and wholly online courses in residence and at a distance to assist with student demand and a need for greater flexibility in scheduling. It is imperative that these ventures be done within budget and on time in order to show a return on investment for both the institution and the academic units.

Project Management Models

Over the years distance education at Penn State has had a tried and true project management practice for the development of print based independent learning courses. This model allowed for an 8 to 12 month development cycle where faculty authors first met with the designers to review their existing face-to-face course and examine existing print based course. At the end of the initial meetings the faculty left with a course design guide in hand and constructed in writing their course content. This process took 6 to 8 months. Once the faculty member had finished the draft of the content they once again met with the instructional designer who then worked with the faculty to tailor the course, learning activities, and assessment strategies to the distance education student. Once the faculty and the designer had crafted the course the final product went to the academic unit for approval and was then sent to the technical typists for

final preparation in the templated study guide format. However, as these courses were independent rolling enrollment courses they did not open to students until they were completely done. Thus, if timelines were missed it had little impact on student expectations and costs were contained as faculty were paid a flat rate and designers did not begin work on the courses until all content had arrived.

As Penn State moved to begin the transition of face-to-face courses to online course it was perceived that a similar project management cycle would work for the online courses. Thus the original project management model for the design and development of online courses mirrored that of the print based courses with one semester being allocated to the development of content by the faculty and the second semester being dedicated to the production of the course in the WebCT environment.

However, what worked well for the design and development of the print based courses did not translate well to the development of online courses. These online courses tended to be cohort semester based courses and part of integrated curricula. Therefore, it was often the case that the announcement of these courses preceded final development and timelines for delivery were locked down. Thus, missed deadlines lead to delayed launches or courses starting when they were not complete. This added a great deal of pressure to the faculty authors, designers, and instructors.

What was often experienced in the early development of the online courses using the two-semester model was delayed content delivery. As the faculty authors for the online courses were fulltime faculty demand on their time was extensive and the idea of sitting down to write a full course was often overwhelming. Thus, it was not all that uncommon at the end of the first semester course content was not complete and both the faculty and the design staff had to cut corners and work long hours to get the course finished by the end of the second semester.

Upon examining these process failures it was determined that a better project management model needed to be implemented. This lead to a series of benchmarking visits with both corporations involved in the development of online courses and with other institutions involved in distance education. The final result was a project management model dubbed the two-week cycle model.

Two Week Cycle Model vs the Two Semester Model

As stated above the two semester project management model provided faculty with one semester to write and develop content, and then the design staff were given a second semester to develop the course. However, in several instances, content arrived late, thus pushing out the projected completion dates. In the past 18 months a new two-week cycle model has been adopted that adjusts expectations for the faculty in terms of content due dates, and allows the content to be mocked up and tested in a cyclical process.

The Two-Week Cycle model allows designers to develop and get each lesson or unit of a course ready for review in two weeks. During the first week of each two-week cycle, designers work closely with faculty in order to get lesson content on time. Then during the second week the design staff mocks up the lesson online and prepares it for review by the faculty. Also, within the second week, faculty start writing the next lesson or unit of content. By the end of the first week of the next two week period, another content for another lesson is ready for the designer to develop and integrate into the Web-based course. If a Web-based course has twelve lessons, ideally, twenty-four weeks (six months) later, the course should be ready for final review and editing prior to opening. One of the key benefits of the Two Week Cycle model is designers receive content every other week, which keeps things moving. Another benefit is constant communication with faculty. He or she goes over design questions each lesson with the designer as the lesson is being developed and gets a real feel for the instructional design process. Faculty and designers can anticipate areas to modify in the lessons as the course unfolds which results in a better course when development is completed. Thus, the two-week development cycle allows faculty to get each of the lessons in on time, which is the desired goal of the designer?

While the conception of the two-week model is around a two-week cycle, designers have adapted this to meet the schedules of certain faculty. Some have adopted a three or four week cycle with two or three lessons due at the end of each cycle. Regardless of the length of the cycle, which should be no longer than one month, the process helps keep the faculty authors and the design team focused on the development needs and the timeline.

Critical to the two-week cycle model is the first five weeks of the project management model. During this five week period five key things must occur. First the faculty must deliver a completed draft of their course outline or syllabus. This initiates the first design team meeting where the team discusses, with the faculty member, all aspects of the course. During this meeting the course is dissected and graphic and

multimedia elements are reviewed, readings are identified, and copyrighted material is discussed. At the end of this first meeting the faculty and design team have a good conceptual idea of how the course will be developed and what resources are required to complete the task.

Following this first meeting the designer works with the faculty to mock up one of the lessons. This process provides further insights into design requirements and resource needs. Also, during this process all copyrighted material is identified that will need clearance. Upon completion of the mock up of the lesson the design team meets once again in the 5th week to finalize the design, budget, and timeline. A product of this meeting is the final design document for the course.

How to Work with Faculty Involved in the Development of a new Web-based

The above has outlined the conceptual aspects of the two-week model. However, what are the tools employed that facilitate the process. Designers need to work with faculty efficiently and effectively to guide faculty through writing online lesson content and providing the necessary materials. In order to do so, designers may use the following steps:

- create project management Gantt chart;
- create mini Web site for the project management;
- provide detailed course outline form with a sample;
- provide a lesson content template with examples; and
- make a regular communication plan.

1. Create Project Management Gantt Chart

It takes time to establish a long six month timeline using a calendar. With software, such as Microsoft Project 2003, one can easily create a Gantt chart which contains timeline, project tasks, names of who need to complete a specific task, task starting date and ending date, and task time duration, etc. Gantt charts allow a convenient way to make a detailed project management plan, as well as remind all of the team members what tasks they should do and completion deadline for each task.

2. Create Mini Web Site for the project management (See Appendix A)

When you print out Gantt chart and want to share with the rest of team on the project management plan, it is not convenient to show people since the printed Gantt chart is too long. But you can easily create a mini Web site (two to three pages when printed) for this project management based on the Gantt chart with team member tasks and deadline for each task in it. Compared with Gantt chart, the mini Web site is easier and more convenient for team members to check what they should do and be aware of their tasks and deadline for each task so that they can plan their time ahead. Also a mini Web site provides a blue print of the project for the whole team. Moreover, it is easy to update in order to track a project.

3. Provide Detailed Course Outline Form with a Sample

Once faculty have a project timeline in hand, and understands what to do overall, it's time for him or her to review how lesson content has been written for other distance education courses. The first thing you may want the faculty to draft is a detailed course outline. This provides faculty with a clear idea of what the final course will include. It can also serve as the basis for the syllabus for the course.

Below is a typical course outline and shows what might be included:

- Course description
In this section, faculty may answer the following questions. What will be covered in the course? Will this course be an independent learning course, or will there be other students pacing through the course at the same time (as they would in a face-to-face class)? Will you expect students to interact with fellow classmates? Will you expect students to stick to a prescribed pace of study or can they work through the course at their own pace?
- Course goals/objectives
List 4-5 broad statements of what faculty hopes students will know, or be able to do, or have experienced as a result of taking the course

- Course prerequisites
Let students know if there are course prerequisites for this course.
- Outline of overall course structure
The following questions will be answered in this section. How many lessons will the course be broken down? How much time will students spend to complete the course? How much time will students have to work through a single lesson? How much time dose faculty expect students to devote to the course each week.
- Required course materials
List any textbooks, articles, workbooks, videos, software, or other special materials students will need to have in order to complete the course. For each item, provide as much identifying detail as possible (such as ISBN number for a textbook or ordering info for a brochure).
- Course requirementList the graded assignments for the course (e.g. papers, projects, quizzes, exams, class participation grades, etc.) with directions description student can follow to complete assignments, as well as with the percentage of the course grade that each assignment will be worth.
- Each lesson specific objectives
Objectives for each lesson are listed here
- Proposed schedule
Lesson titles, scheduled timeframe, related readings, and assignments will be listed.
- Grading scale
Let students know the grading policy, such as how many points are required for an “A” grade, so on and so forth.

It is good practice to provide faculty a sample course outline from a real course to help them to understand how to draft his or her own course outline.

4. *Provide a lesson content template with examples*

With the course blue print—detailed course outline in mind, faculty can start to work on lesson content. After many years working with faculty, we have found that it is easier and really helpful if we provide faculty a lesson content template, as a lesson content template with examples lets faculty know what he or she should write without taking too much time to figure how to get started. Below is a lesson content template might be included.

- Introduction
- Lesson objectives
- Reading assignment
- Reading tips/summary
- Lesson content/commentary/class notes
- Lesson activities
- Lesson summary

5. *Make a Regular Communication Plan*

A regular communication plan will allow the designer to work closely with the faculty, for example, weekly phone calls can save time in terms of tracking the project or solving problems.

Conclusion

In summary, designers need to work with faculty closely to meet tight project deadlines. When the designers spend time creating samples, template and detailed guide lines for faculty, this will save time and

avoid the need to go back and forth between designers and faculty during the course development process. With the above method to manage a project, the two week cycle model, and the above documents to guide faculty to write lesson content, the Web-based course project will be effectively and efficiently designed, developed, and hopefully meet the project deadline on time and budget. We hope that these ideas are helpful for you when you work with faculty to transfer a face to face course into Web-based course.

Appendix A
Project Management--Timeline
 Last updated: 10/3/2004

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Tasks	Person Responsible	Duration	Starting Date	Deadline	Status	Notes
Held first Author Meeting		1 day	Thu 11/20/03	Thu 11/20/03	Done	
First Draft Detailed Course Outline to ID		11 days	Fri 11/21/03	Fri 12/5/03	Done	
Provide feedback on Detailed Course Outline to Author		1 day	Mon 12/8/03	Mon 12/8/03	Done	
Initiate Intellectual Property Agreements		3 days	Mon 12/8/03	Wed 12/10/03	Done	
Meet with Development Team to Discuss Activities, Ideas		1 day	Thu 12/11/03	Thu 12/11/03	Done	
Send Final Detailed Course Outline and Unit 1 to ID		9 days	Tue 12/9/03	Fri 12/19/03	Done	
Send Unit 2 Content to ID		16 days	Sat 12/20/03	Fri 1/9/04	Done	
Convert Unit 1 to online environment; send it and Detailed Course Outline to the Program Manager for Approval		15 days	Mon 12/22/03	Fri 1/9/04	Done	
ID Goes Through Unit 1		2 days	Mon 12/22/03	Tue 12/23/03	Done	
ID Sends Revised Unit 1 With Suggestions Back to the Author		1 days	Tue 12/23/03	Tue 12/23/03	Done	
Author Sends ID Unit 1 With Changes/Revisions		9 days	Wed 12/24/03	Mon 1/5/04	Done	
ID Looks Over Unit 1 Changes and Sends Final Unit 1 to Tech Typist		1 day	Mon 1/5/04	Mon 1/5/04	Done	
ID Sends Graphic Ideas and Multimedia Ideas		1 day	Mon 1/5/04	Mon 1/5/04	Done	
ID Put Unit 1 Activities in Angel		5 days	Mon 1/5/04	Fri 1/9/04	Done	
Typist Sends Final Unit 1 to ID		2 days	Mon 1/5/04	Tue 1/6/04	Done	
Graphic Designer Sends Graphics to ID for Review		5 days	Mon 1/5/04	Fri 1/9/04	Done	
Media Specialist Gives Multimedia Products to ID		5 days	Mon 1/5/04	Fri 1/9/04	Done	
Meet with Development Team to Finalize Activities, Ideas		1 day	Tue 1/13/04	Tue 1/13/04	Done	
Create listing of all Anticipated Copyright Permissions and Video		4 days	Mon 1/12/04	Thu 1/15/04	Done	

Licenses Needed for Course and Send to ID						
Initiate requests for all necessary copyright permissions and video licenses		1 day	Fri 1/16/04	Fri 1/16/04	Done	
Convert Unit 2 Content to online environment		4 days	Fri 1/9/04	Fri 1/23/04	Done	
Same Processes as Unit 3~Unit 14						
Draft Welcome Page Site and send URL to Author		16 days	Fri 3/5/04	Fri 3/26/04	Done	
Review Welcome Page Site and provide revisions by Author to ID		6 days	Fri 3/26/04	Fri 4/2/04	Done	
Notify Program to approve Welcome Site and Unit 2-4		5 days	Mon 4/5/04	Fri 4/9/04	Done	
Send approval form for Welcome Site to ID		6 days	Fri 4/9/04	Fri 4/16/04	Done	
Draft Activity Sheet and Send Welcome Letter to Production Specialist		32 days	Fri 4/16/04	Mon 5/31/04	Done	
Schedule Implementation in mid-July		31 days	Wed 5/5/04	Wed 6/16/04	Done	
Provide Administration Training to Instructor		6 days	Fri 7/23/04	Fri 7/30/04	Done	
Provide Angel Training to Instructor		6 days	Fri 8/6/04	Fri 8/13/04	Done	
Notify Program to Approve Final Course		1 day	Wed 8/4/04	Wed 8/4/04	Done	
Send approval Form for Final Course to Dong		6 days	Wed 8/4/04	Wed 8/11/04	Done	
Finalize all Parts of Online Environment		11 days	Wed 8/4/04	Wed 8/18/04	Done	
Notify ITs that it's Time to Move Course over and Link to University Registration System		1 day	Wed 8/18/04	Wed 8/18/04	Done	
Enable Angel		1 day	Fri 8/20/04	Fri 8/20/04	Done	

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