Integrated Action Learning Project Plan

Presentation of a Project Proposal for a Video Streaming System for the Texas Education Telecommunications Network

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Project Description

My project would be to produce a project proposal for implementation of a video streaming system for clients of the Texas Education Telecommunications Network (TETN). The purpose of this system would be to provide live or archived streaming video of videoconferences. The objective is to reduce the administrative costs of many education agencies recording and duplicating VHS tapes for distribution to their clients. This proposal would evaluate and recommend required network infrastructure equipment, a video streaming appliance, and an Internet Service Provider (ISP). People involved in this project would be the TETN governance board, TETN manager, TETN staff, twenty-one regional TETN site managers, TETN clients, equipment vendors, and an ISP. The stakeholder in this project would be the TETN manager, Carol Willis. The actual implementation of the system would take place outside the scope of the capstone course. Once concluded my project would lead to a project proposal that I would present to my stakeholder for final approval.

The current method of recording a videoconference involves a TETN site manager located at the Texas Education Agency (TEA) or one of the twenty education service centers (ESC) placing a VHS tape in a VCR and selecting record. Tapes are duplicated and mailed to clients who request a copy and a tape library is maintained for several months. This process requires time and effort of several people and it may take over a week for the tape to reach its recipient.

TETN site managers would see an immediate benefit from a video steaming system due to a reduced workload. TETN content used for training and information sharing would be available immediately to school administrators, teachers, and students though a standard Web browser. Measurable cost savings in travel and training would be realized in a short amount of time.

As a network engineer for TETN I've seen numerous techniques used to record videoconferencing sessions. This proposal will provide a method to automate this process for twenty-one agencies from a central location managed by a single remote administrator. Teachers and students unable to travel would receive valuable training to apply towards certification or school credit. This is an exciting project that I believe would positively affect the future.

Feasibility Discussion

In performing a feasibility check I examined the following areas:

1. Level of Need - This is an essential requirement for TETN growth. Without the video streaming system this proposal would recommend, time and effort required by TETN Site Managers to maintain VHS tape libraries would increase and content used for training would reach a smaller audience.
2. Requirements - Time will be the primary requirement to plan steps, interview clients, contact vendors, consult with stakeholders, and complete the project proposal. A specific Request for Proposal (RFP) template must be used for the required bidding process.
3. Technical issues - All software required to create the project proposal is installed. This includes Microsoft Word, Microsoft Project, and Adobe Acrobat.
4. Economic Issues - The only measurable cost will be in time.
5. Constraints - Finding objective information about video streaming appliances unbiased towards a certain vendor. Available time to work on the project could be a limitation.

Prototype

The following prototype/concept map depicts my project:
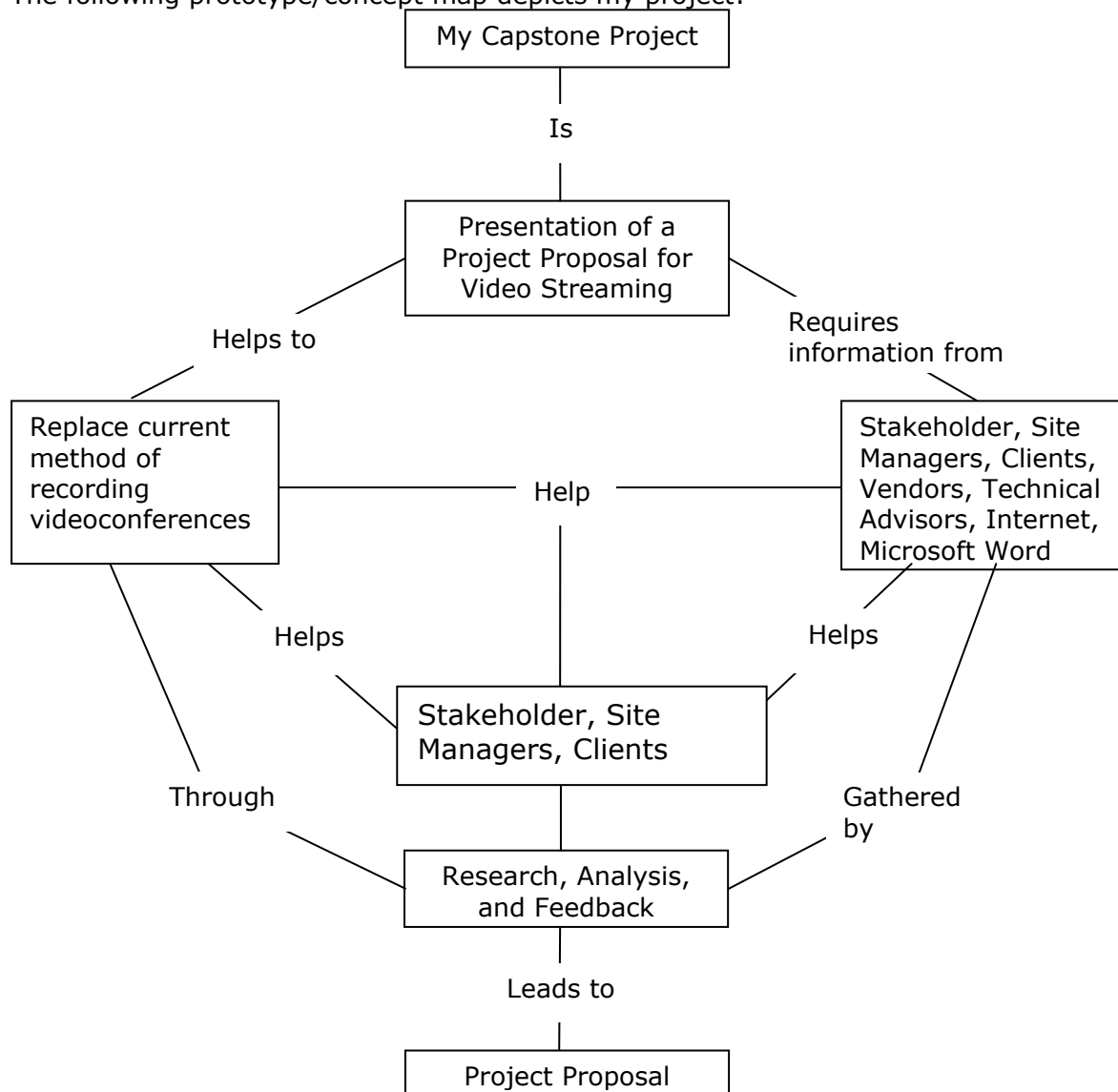
Objectives

In producing my project my learning objectives are to:

1. Apply what I learned in the Fundamentals of Project Management to the development of video services.
2. Develop an understanding of the elements involved in researching the best technical solution.
3. Improve my understanding of Microsoft Project as a project management tool.

In producing my project my project objectives are to:

1. Determine specific TETN client requirements.
2. Conduct research to provide a technical solution that meets TETN client requirements.
3. Create a project proposal for a video streaming system for TETN that replaces the existing method of recording videoconferences on a VHS tape.
4. Recommend acceptable use guidelines for the video streaming system.
5. Provide a synopsis of additional opportunities for reduced training and travel costs.

Project Completion Schedule

In producing my IAL project, I will apply the following project schedule:

Tasks	Duration	Resources
Research Phase – Weeks 1 - 4	**4/4/05 - 5/1/04**	
Task 1: Determine specific TETN client requirements by conducting phone surveys. **Task 2:** Gather information about enterprise video streaming solutions that meet the requirements. **Task 3:** Explore Internet connection alternatives with an ISP. **Task 4:** Research network infrastructure equipment required to support the operation and security of additional equipment and connections. **Task 5:** Consider system acceptable use guidelines with the stakeholder and site managers. **Task 6:** Conduct research on cost savings resulting from reduced travel expenses.	Stakeholder, Site Managers, Clients, Vendors, Vendor Web Sites, Technical Advisors, Internet Research Sites, Internet User Forums, Microsoft Word
Analysis Phase – Weeks 5 - 6	**5/2/05 - 5/15/05**	

Task 1: Analyze the requirements and collected information to determine essential video streaming system features. **Task 2:** Review and select the ISP that best serves the interest of TETN. **Task 3:** Analyze the requirements and collected information to determine essential network infrastructure features. **Task 4:** Define a detailed acceptable use guideline for video streaming system use. **Task 5:** Analyze cost savings research and prepare to document findings.	Stakeholder, Site Managers, Vendors, Technical Advisors, Microsoft Word
Documentation Phase – Week 7 **5/16/05 - 5/22/05**	
Task 1: Collect analysis results for the video streaming system and infrastructure equipment and document them in a Request for Proposal (RFP). **Task 2:** Create an acceptable use guideline for the proposed system. **Task 3:** Prepare a cost savings report for the stakeholder.	Microsoft Word
Feedback Phase - Weeks 8 - 9 **5/23/05 - 6/5/05**	
Task 1: Provide completed documents to the stakeholder and site managers for review and suggestions. **Task 2:** Evaluate suggestions and make the accepted changes. **Task 3:** Submit to the stakeholder for final approval.	Stakeholder, Site Managers, Vendors, Technical Advisors, Microsoft Word
Implementation Phase - Week 10 **6/6/05 - 6/12/05**	
Task 1: Submit the completed RFP to request formal vendor proposals.	Stakeholder

Risk Management

In producing my project I performed the following risk assessment:

Risk Factor Checklist			
Risk Considerations	**Low Risk**	**Medium Risk**	**High Risk**
Stakeholder/Sponsor reliability	X		
Information reliability			X
Technical advisor availability			X
Policies and procedures reliability	X		
Underestimating time required to complete specific tasks			X
Fund availability	X		
Technology reliability and availability		X	
High Risk Solutions			
Risk Considerations	**Problem and Solution**		

Information reliability	Vendors may not be completely honest about their products. Requiring references to allow contact with current product users will be necessary for comparison. Require product demonstrations.
Technical advisor availability	Technical advisors are called away on short notice. Scheduling alternate advisors and/or meeting times may be required.
Underestimating time required to complete specific tasks	Work tasks ahead of schedule when possible. Complete tasks as early in the week as possible to allow extra time at the end of the week. Don't procrastinate!

Contingency Plan:

After completing a risk analysis it has been determined that the high-level risks to the successful completion of my project are:

1. Information reliability
2. Technical advisor availability
3. Underestimating time required to complete specific tasks

Efforts to offset these risks are in place. However, if for some reason my project does not appear to be developing successfully regardless of the efforts made, I would present reasons why I am unable to proceed with the project as planned. Appropriate redirection of the plan would take place upon instructor and/or stakeholder approval and the new direction would be discussed in the final project report. Redirection might be to permit the research, analysis, and documentation phases of my project to constitute my project in its entirety. The outstanding phases of my project would in such case be completed outside the scope of the capstone project. Upon approval, such redirection would represent my project in its entirety.

Research

1)Assisting Resources

In producing my project I would utilize the following assisting resources:

Books/Publications

1. Bender, S. L. (2003). *Producing the capstone project*. Dubuque, Iowa: Kendall/Hunt Publishing Company.

   This textbook would be used as a reference for producing my project. It contains many helpful tips on producing documents and tracking my project progress. It offers many useful resources in its appendix section.

2. Greenburg, Allan. (2004, June). *Super-size bandwidth and two-way video in the classroom*. Retrieved on February 12, 2004, from http://www.wainhouse.com/files/papers/wr-

internet2nVC.pdf#xml=http://search.atomz.com/search/pdfhelper.tk?sp-o=2,100000,0

This technical paper provides an excellent overview of how Internet2 will be used for videoconferencing and streaming in the classroom.

3. Martin, Paula, and Karen Tate. (2001). *Getting started in project management*. Canada: John Wiley & Sons, Inc.

This textbook would be used as another reference for producing my project. It provides information on planning and initiating a successful project.

4. Meaney, Karen. (2004, November). *Sales in educational* video *category decline as market shifts to* streaming *media. Electronic Education Report,* Vol. 11 Issue 22, p1, 3p.
http://search.epnet.com/login.aspx?direct=true&db=aph&an=15116916&loginpage=login.asp

This article discusses the importance of video streaming for present and future classroom instruction.

5. Ritter, Paul. (2004). *The business case for on-demand rich media (ODRM).* Retrieved on February 12, 2004, from http://www.wainhouse.com/files/papers/wr-bizcase4odrm.pdf

This technical paper discusses the benefits of using on-demand media, such as audio and video in a corporate environment. Many business and education processes are similar in the learning and development area.

Internet

1. Codian. (2004). *Codian IP VCR user manual*. Retrieved on February 12, 2004, from http://www.codian.com/support/download/Codian_IPVCR2200_user_manual_1.0_1.pdf

This user manual for a video streaming device of a leading vendor will help determine essential features for the TETN project that will be added to the RFP.

2. StarBak Communications Inc. (2004). *Using video to improve results and accountability in education / K-12.* Retrieved on February 12, 2004, from http://support.starbak.com/cgi-bin/starbak.cfg/php/enduser/fattach_get.php?p_sid=-PP-c4yh&p_tbl=9&p_id=1010&p_created=1105470467&p_olh=0

This paper from a second vendor discusses video solutions specifically for the Kindergarten through 12th grade education market. This information will help further evaluate essential features.

3. VBRICK Systems Inc. (2004). *Solutions for education*. Retrieved on February 12, 2004, from http://www.vbrick.com/solutions/solutions_education.asp

VBRICK is a third vendor that provides video solutions to the education market. As with the two previous vendors, common and unique features will be compared for possible addition to the RFP.

People

1. Carol Willis, Stakeholder

   Carol is the TETN Manager and will be involved in, and approve of, all aspects of the project. She will present the completed RFP for formal vendor proposals.

2. TETN Site Managers, Users

   Site managers at the twenty-one TETN locations are the primary users of the proposed system and their feedback will be requested frequently.

3. Benny Bailiff, Mentor

   Benny is an SBC network design engineer and will help me through any technical issues.

4. Martin Zamarripa, Video Specialist

   Martin is a coworker with several years experience supporting video solution. His input will be requested for this proposal.

2) Literature Review

I performed the following literature review concerning the value in producing my project:

Books/Publications

1. Meaney, Karen. (2004, November). *Sales in educational* video *category decline as market shifts to* streaming *media. Electronic Education Report,* Vol. 11 Issue 22, p1, 3p.
   http://search.epnet.com/login.aspx?direct=true&db=aph&an=15116916&loginpage=login.asp

   This brief report provides an overview of the use of video in the Kindergarten through 12th grade (K-12) education market. It discusses how student performance is improved through the use of video from VHS tapes, DVDs, and video streaming. An important statistic is that an August 2004 survey of teachers determined ninety-percent use video in their classroom.

   A disadvantage of using VHS tapes and DVDs are they can quickly become outdated. Video streaming stores video in a digital file on a server and can be easily updated by the content provider. The report estimates that streaming will increase usage four times. Another advantage of streaming is the digital video file will not get damaged or stolen. With eighty-four percent of K-12 schools having high-speed Internet connectivity, access to streaming content could be implemented with little or no cost to the school through existing computer equipment.

   The video streaming solution proposed for this project will provide K-12 schools this type access. Current VHS tape recording and duplication will no longer be required for many types of training classes and conferences. Student and teacher

performance will be improved through the use of on-demand video by providing access to a much larger audience.

2. Ritter, Paul. (2004). *The business case for on-demand rich media (ODRM).* Retrieved on February 12, 2004, from http://www.wainhouse.com/files/papers/wr-bizcase4odrm.pdf

   Whatever industry you may be in there is a business case that must be made for any project. While this research document covers using on-demand or streaming video from a corporate perspective it's easy to apply it to the education industry as well. The same type of training and development takes place in both industries. Both must create and distribute content. The education industry must reach administrators, teachers and students instead of corporate employees.

   The paper lists five driving factors for using on-demand video; convenience, customization, consistency, cost, and currency. Convenience provides access to users in many locations that normally would not have access. Travel is dramatically reduced, and in some cases eliminated. Customization allows providers to change content to fit specific situations. Consistency ensures the content is the same each time, no matter how many students or teachers view it. Costs are tied in to all the factors and can be realized by a reduction in travel, time, or tape media use and storage. Currency is a very important factor. Many forms of media, such as VHS tapes, can become outdated quickly. On-demand video is easily updated from a single location for all to use.

   The paper recommends capabilities and features to look for in an enterprise system. Playback is a feature that allows playing of streaming video to as many of the leading media players as possible. Reports are necessary to show usage and trends. Systems should be easy to implement and maintain for the IT staff. The system should seamlessly integrate with other organization applications.

   Video streaming provides an effective way to reach a larger audience in any industry. Remote users can have access to learning that previously was not available. The content can be customized or updated easily from a central site. Costs in travel and time can be greatly reduced. Streaming is an essential part of any network that is required to provide knowledge to a large diverse audience.

Appendix

The following appendixes would be added to the Integrated Action Learning Project Final Report to provide a sample of my work and to evidence satisfactory project completion:

Appendix A: Sample of the Presentation
Appendix B: Letter of Project Completion from Stakeholder, Carol Willis