

Open Access Scientific Reports

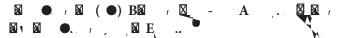
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that is related to the contents that the surfer is interested in viewing or listening, such a class lecture at a university, in our case. For example, the surfer can purchase a HD DVD to supplement the low Res Google Video.

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e Character Generator (Green) Banner URL-Tel Ad provides the instructor with the exibility to re-color the image of the character. e instructor can change it from the current Green to a variety of other colors that better t the background, such as Red, Blue, Purple, Yellow, etc. Likewise, the instructor can change the font size from average, to small and large, depending on the background space availability, or simply turn it o , all together. In addition, the instructor or the controller of the camera can move the banner ad, from the very top of the screen, the current position, down the screen, in multiple positions, all the way to the bottom of the screen. at is important so that the banner ad, does not cover an important object, hindering the view of a student who is trying to write down the blackboard instructions.

Most importantly, this CG Banner Ads, can be sold in increments of minute by minute, so if many sponsors are interested in funding such activity, each sponsor can get a few minutes of exposure at di erent rates, and in di erent times during the lecture. For example, the rate for the beginning of the lecture, when most viewer are still awake, can be much more expensive, then the last minutes of an accounting lecture, when most viewers are sound asleep, especially if they are watching it from bed, before they go to sleep.



Unlike CG Banner ads, Image Overlay (IO) Banner URL-Tel Ad has to be loaded prior to starting to shoot with the camera. at makes it static and less exible, in a way. On the other hand, since the instructor, rather than the manufacture of the Character Generator, controls the image, the instructors have the full Green Screen capability to structure the image as they please. us, the image can be almost transparent or entirely transparent to the naked eye, like Water Mark, it can contain Special E ects, and provide for subliminal ads, that the user may not even be aware o . Of course this poses all kinds of ethical and legal issues, which are beyond of the scope of this study. For now, we would like to stress the operational facet of this research leaving the other issues for future research. It may also restrict the sponsor sales to one single ad per camera turn-on. Plus, it requires the instructor or the institution to prepare the images prior to the beginning of the camera shooting, and load the image overlay before the shooting starts. us the stream of revenues maybe lower and the added work requires more time and e ort.

▶ e UPPER CASE White Real-Time Captions Synchronized with the Video Playback is very e ective for ADA compliance of deaf that cannot read sign language. e captioner, human or machine, adds the captions in real-time, without su cient time to edit and correct mistakes. erefore, the quality may su er for the sake of minimizing the time to market and the sub-second delay between the voice and the caption, as well as real-time translation, if such is available. It is

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A common mistake among incompetent IT (Information Technology) sta is to go to the extremes, of either prohibiting any access to the internets' WWW beyond a simple browser access. In such a restrictive environment, users, such as professor's doctors may not be able to upload videos and DVD to an internet site. us, they may not be able to perform their job optimally. On the other hand, the

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Click here to view your recent orders (status, invoice, delivery tracking) click here to order your products.

Click here to ship one or more products to a list of recipients and addresses. Click here to ship one or more products to a CSV-list of recipients and addresses. Click here to view and fund pending XML and multiple-recipient orders."

Click here to read about our XML service.

Kunaki Online Accounting System with Inventory On-Hand of Active and Deleted DVDs, and Wholesale Cost per DVD order

Screenshot: 13 describe the "Kunaki Online Accounting System with Inventory On-Hand of Active and Deleted DVDs, and Wholesale Cost per DVD order." When the publisher, in this case the professor and instructor clicks the "click here to order your products." Option on the Hypertext menu revealing the publisher order dialog box, with the direct cost per DVD, of \$1.75 or about \$2.00 if we add some extra costs. Still at a price of \$10 per DVD to the consumer, this cost of \$2.00 produces a contribution margin of \$8.00 per DVD, or 80% Contribution Margin Ratio (CMR). is extremely pro table, even at these extremely modest selling prices per DVD of \$10, compared to the going rate of a technology instructional DVD of \$100.00, this price is lower and discounted by 90%.

Contribution Margin (CM) Of \$32,000 Can Be Quite Pro table If It Sells that means that if a class of 100 students orders 1 DVD per person the contribution margin will be \$8 per DVD*100 students= \$800. In a typical semester, a typical professor will have about 40 contact hours, producing about 40 DVDs. If the professor sell DVDs for all these hours, then the total Contribution Margin (CM) will be \$800 per 1 hour class per DVD * 40 DVDs for 40 hours = \$32,000, which is more than the average professor earns for teaching a typical university course. So it can be quite pro table if it sells!!!



e traditional Real-time Human Captionist Using Stenography Machine and Encoding Equipment entail a person located locally at the same classroom as the instructor. Or alternatively, the captionist can be remote, she can be located at a di erent location then the instructor and the classroom, getting the audio signal over telephone POTS (Plain Old Telephone System) or Skype VOIP (Voice over IP), and return the captioned text to be merged at the lecture location. is way only the raw voice transfer take place one way, and back comes the caption that the remote captionist produces. is is one of the experiments that this study deals with. In addition to that it deals also with other types of video transcription, captions, and subtitles. e other types of captions involve recording the voice in real-time, but automatically transcribing it with so ware, such as Dragon Naturally Speaking (DNS).

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en a er the transcript is done, using the archived voice recording les. e user adds the time-codes into the transcript. In the next step the time-coded DNS transcript can be inserted into the video, which has been uploaded to a video web site, such as Google Video. Google Video lets users add time-coded transcript to the video le, to view it during playback and to better index the videos by their contents, in addition to the text originally uploaded, but is not displayed in sync

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the ROI (Return on Investment) and o setting some of the costs of such services.

We deploy automated transcription so ware, such as Dragon Naturally Speaking (DNS), to further reduce the cost of a human transcriber. Of course, the quality of so ware transcription right now, is still inferior to a professional human transcriber, but the cost is disproportionately lower, even if we add an outsourced human transcriber and editor to the mix. What we are doing is using DNS for the initial transcription recording, while also Skype-cast the lecture using VOIP (Voice Over IP) for free telephone transmission to outsourced human transcribers and editors in China, India and Pakistan, to supplement DNS. Such outsourced cautioners, transcribers and editors, reduce the costs by about 90% while reducing the quality

something a little di erent here. Can we atten this just a tad, like so? We have it on; we want to explain to you some of the changes that we made. Let's start the recording also here. Can you help me with burning?"

Unlike a normal surveillance environment in a CCTV (Close Circuit Television) the monitor may not display the image in every classroom. However, in our situation, the monitor displays the image for the bene t of the professor and the students in the classroom. is way the hearing impaired student can read the caption in real time and understand the lecture, without having to rely on sign language. Some of the hearing impaired do not understand sign language, and most hearing students do not understand sign language as well. As soon as the main camera fails, the instructor and the students notice it and switch to the backup camera. us the instructor explains it to the class, as follows:

"What we're trying to do is rst of all, our rst camera fried. So this is our backup and recovery. You can see how good looking you are in the little viewer here. You see that?"

Business continuity planning and backup and recovery procedures are particularly important for security reasons. In the event that a master camera malfunction, another camera that was previously uses as a VCR (Video Cassette Recorder) recording highly compressed AV (Audio Video) to a Sony memory stick, takes its position, as a master camera. e reviewer of the AV recorder will be able to stick the memory stick in a telephone or a PDA that has a memory stick reader, and view the lecture without internet connectivity, or o ine.

e compression rate of the memory stick is high enough that it stores about 5 hours of AV lecture in a 2 Gig space. is way it looks perfectly well in a 2x2 inch telephone screen. In contrast, the HD video takes 2 Gig for 20 minutes of lecture time, it is optimized for HD 2X2 feet monitor, or even a movie theater size screen.

Computer manufacturers may be potential sponsors that are interested in advertising to college computer students. Such manufactures, could be IBM and or Dell corporations that have toll free vanity telephone numbers and matching domain names such as 800-Buy-Dell, etc. e instructor explains the idea of raising money through sponsorship to the students, as follows:

"Look at the screen here. Unlike before, now we have oi0ook a such c9lay eir ADSae26(ae26s)-23BDC BTC /Span <</bef5otential2Span 126span 12

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www.DVDU.Org. is is 888 DVDU.org or CPE1.Org, whichever is available.

So if it's a telephone device that can surf the Internet like some of the PDA phones, the student can click on it, it will port them to the website and simultaneously dial the 800 IBM number so they can order stu from the web. All the commissions will go back to the university and the professor to fund this payroll process -- whole process. So this is why it's important from an additional revenue standpoint. at's with the captions for you. So you don't have to use that. is is the point I was trying to explain. is system will be much more robust, so if the computer doesn't work, there will be no way that everything will not work at the same time.

And also here you need Internet connectivity

Right. Here you don't.

So sometimes when the Internet goes down --

David: is will just be to broadcast

THE PROFESSOR: but many times you will want to broadcast. But at least you will have backups on DVD backup also on a hard drive

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If the computer connection to the internet WWW (World Wide Web) fails, we are using a standalone hard drive recording system with Wi-Fi connectivity, so it can upload the media without any connection to another computer.

- ">> And this device can broadcast. is is a Wi-Fi device. Our hard drive has Wi-Fi connectivity. is means we can upload or broadcast from here without a computer just in the event that all the computers don't work, we can go directly from this device to the Internet without having a computer.
- >> So we're trying all di erent methods here. at's why we need backup and recovery methods.

In the event that the university is submerged in water due to a ood, students and professors resume classes from alternative predetermined locations around the world. Participants in the course, professor and students provide an alternative address, far away from the present potential disaster area, to resume classes.

" is system is good for backup and recovery. It's good for archiving. Also think about the example of Katrina, Tulane University was out of commission for a semester. What happens to their students?

ey don't want to lose those students because if they transfer to another university, they may just decide to stay in that university. Here I can capture those students and say: At least take those classes that you had last semester. ey are on, they are archived, those classes. Because a lot of times they were dispersed also to faculty members. You can do it for short periods of time and use it for continuity measure. So in disaster recovery and continuity, you can perform just as well."

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">> is is another issue that I wanted to explain to you. Right now universities are saying: What do I care about these ADA people? I'm going to do the minimum that I need to do with

e same kind of assessment can apply to any academic or training course.

As we reveal the source code, we can see the Java script statements, following are some examples: e "<noscript>" statements is setting up the Font Color, "<h3>Javascript not enabled</h3>. en, the "</noscript> terminates the previous block of code. e "<script language='JavaScript'>" script language statement declares Java as the script language.

e following statements demonstrate the Java script If statement syntax:

"if (navigator.appName.indexOf("Netscape") >= 0) {

if (parseInt(navigator.appVersion.charAt(0)) < 4)

As we can see the output of this assessment show the "Name: University of Miami," the "Score: 1 / 3 points (33%)" and the title of this assessment: "1SecurityPolicyVideoAssesment." e assessment proceeds with the type of question being "True/False," Indicate whether the statement is true or false. Following is the "Narrative for .112~ Service Provider documented security policies, standards, plans and procedures are available for review." Following is the correct answer: "T," the score of this correct answer: "1." and the narrative of the 1st question ".112~ Service Provider documented security policies, standards, plans and procedures are available for review."

Likewise, it shows the "ANSWER: T," and the rationale "Rationale for .112~ Service Provider documented security policies, standards, plans and procedures are available for review." e assessment then show the "POINTS: 1 / 1," etc.

Screenshot 5 shows the Expert Video thumbnail it will displays the message: "movxxxx.mpg. When we place the cursor on the thumbnail it displays the message: "movxxxx.mpg. A er pressing the [Score of 1/3 points (33%) for Compliance with Security Policy Video Assessment Internal Control Requirements calculated a er completion of this survey assessment. A er the users press [check your work] button the assessment calculates the score.



"So this is a video, and you see the little advertising promotion there or sponsor" (305)OnTrial.org, "which is advertising a telephone number and website," URL. "You can see that this video will have captions too. And just for the sake of speed, let's go to the end. We are going to skip the last two questions. Close the video. And go to the end.

at's more questions that we will skip on purpose. Notice that at the end there is a button check my work. You click on check my work and it will tell you -- leave the message for a second. It will tell you, you did not complete blah, blah blah. We know, say okay. And it will give you your grade. Go to the top and see that our grade is 33% out of 100. Now know when we go to the end it has also remedial information so there is another hyperlink that will explain to you if you click on it -- and I took out the video, so if you click on it, it will not play the video because I didn't have space on my server. But it will play another video that explains to you why it is important.



"In this case it deals with the SOX that are Sarbanes Oxley

compliance. is is a " part of a computer auditing class and test of compliance with internal control procedures for an IT (Information Technology) audit requirements. But, "it will apply equally to any test. e hearing impaired students can take this from an SD (Secured Digital) card. Put the SD card inside the telephone, listen to the lecture, then take the test and when he's done with the test you see that the score was 33%. He can either gain connectivity from the phone and upload this to the server or take the SD card and connect it to a computer and upload the score to the server this way and do his quiz and homework that way o of a phone. And that is an example of a test that will be generated pretty much automatically o of the videos of the class."

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"e way the program works, it takes the text that the captioner produces, it parses the text, and it nd statements in the text that" the instructor said during the class -- and it makes" a "true/false questions out of it. It takes the statement as it is and then" it "becomes a true/false question, whose answer is true, and then it reverses it, and it makes out of that a true/false question whose answer is false."

e program than sorts the True/False (TF) question that are True (TFT), and TF questions that are F (TFF) and creates Multiple Choice (MC) Questions out of them. e program combines 3 TFT into 1 MC for which choice D All of the above is the correct choice. In this way the program creates a bunch of MC for which choice D "all of the above" is the correct answer. In contrast, the program picks the TFF, and forms from them more MC for which the correct answer is the last choice E "None of the above." In similar manner the program creates an objective test bank very quickly and totally automatically.

is is the way that it automatically builds up a test, just from the text that the captioner types in. And then of course in India they can take it and already edit it a little more and make a more sophisticated test. But that already costs more money and takes longer. But you saw an example and demonstration of the test that we were talking about.

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Obviously, minimizing the cost and maximizing the revenue is a simple formula to maximizing the pro t, the "devil may be in the details." e details of the trade-o s between cost and quality, the higher the quality, the higher the cost may be. Or, alternatively, the lower the cost the lower the quality may be. e trouble is that as we reduce the cost, approaching a marginal cost of zero, so may the quality go down to a point that the entire project is entirely useless, due to the quality being so low. Marginal cost is the di erence in cost between 2 levels of activity. For example, if the cost is a xed cost such as rent, then the marginal cost is equal to zero, due to the fact that the cost of the rent does not di er among various levels of activities, within a relevant range. For example, if we pay \$100 to rent a hotel seminar room plus a speaker, and host 10 peephole and \$20 a ticket, our prot will be 10 people * \$20 = \$200 less cost of \$100 producing a pro t of \$100. If we raise the level of activity to 15 people, within the relevant range of 50 people (maximal capacity of the room) our marginal cost will be zero, and our pro t will grow to 15 people * \$20 = \$300 less cost of \$100 producing a pro t of \$200.



e turn-around time of producing the contents of the captioned

Citation: Rushinek

4/16/2008 for this CIS (Computer Information Systems) course, this is part of Computer Information Systems Course about web technologies development. **

e legal and ethical issues are beyond the scope of this study, as we are focusing on the operational, technical, technological and the ROI issues. For now, these issues are challenging enough, in the near future many of our issues will be resolved, making it a mass market appeal. At that time, users will have to deal with the legal and ethical issues that this study raises. But for now, since nobody else but us, is using these combination of applications and integration, we do not have to worry about a mass market appeal and its related problems.

 * $\,$ is is an example of a transcript without time codes. It was created as a Word Document.*

** NOTE: is is a text le that was produced by a real-time captioner to ensure e ective communication for a person who is deaf or hard of hearing. is le is not a certi ed, verbatim record, and it should not be quoted as such; nor should this le be distributed without appropriate authorization. 4/16/2008 CIS, this is part of Computer Information Systems Course about web technologies development. **

As Lee Le owitz (2008) describes the current state of art of the captioning, subtitling and real-time transcription is still way too expensive for the average institution, despite all the new media and new technologies. Following are Lee's descriptions:

"In recent years, emerging technologies has paved the way for Internet captioning to become available to individuals who wish to take advantage of new developments. Internet captioning is the combination of Internet videos with captions that can be read in any language. is project was completed to examine the methods in which Internet captioning could be conducted as well as an examination of the costs involved in providing the service. Internet captioning required the use of technical equipment as well as a stenographer. e costs of operating the technology were relatively small and could be utilized as a method of access for ADA compliance. Internet captioning is being developed in its current state to be expanded when federal legislation

e use of internet captioning can be combined with other specialized equipment appearing on the market today. For example, security cameras have become highly developed that they o en have their own web servers. If a security camera is in the classroom, a cell phone may be used as a remote to control the angles that the camera is pointing. Additionally, captioners may be able to intercept a video signal from the security camera's IP address and caption the video with open subtitles. As new advances are made in technology, new and innovative uses of this equipment will continue to arise.

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A er producing live Internet video with captions, there was plenty learned that could be applied to future development. e main realization from this project is the potential for future development of access for disadvantaged individuals over the Internet. Below are some recommendations based upon the project for future development:

1) Require regulations regarding Internet Video Captioning

As noted earlier, the government currently does not require captioning on Internet videos. By forcing the government to enforce regulations on Internet videos, the market for Internet captioning can be opened exponentially. Forcing the government to consider legislation will require awareness from a variety of groups: the media, non-pro torganizations assisting the disabled, educational institutions, and individuals themselves. e government has the power to open the internet captioning market, just as they did with television captioning.

2) Streamline hardware

As noted in the project, one of the cons was the amount of equipment needed to make the transmission. Using compatible hardware and so ware can eliminate many pieces of unnecessary equipment. If the video recorder is digital, then utilize a digital encoder and high powered computer that can control all the activities of the transmission and be able to handle the high volume of data streaming into it as well.

3) Make hardware/so ware compatible with each other

Many of the di erent aspects of the hardware/so ware were incompatible with each other. For example, the encoder and converters