Alumni Video Donations
Vision and Scope

Simone Davison, Andrew Lanum, Austin Morin

November 1, 2021

Version: 1.0

Ver.	Date	Who	Change	Who

1 Business Requirements

1.1 Background

The overarching goal of this project is to allow Computer Science alumni to have access to a URL link in a post-graduation donation e-mail that lets them see a stitched montage video of various students, faculty, and club representatives asking for donations. Users are provided a link to the WWU Computer Science Department's official donation page as well.

The reader needs to know the process of accessing their @wwu.edu email account, coming to a session on a specified date, time, and location, signing a terms and conditions waiver, preparing an elevator pitch for the recording, and following instructions given by the personnel recording the videos.

1.2 Business Opportunity

The customer's need is to provide a simple means for students to recieve a donation request email upon graduating that contains a short message, a URL link to a stitched video created from a series of smaller videos of students, faculty, and club representatives recorded on campus, a link to a donation page, and a QR within the video as an alternative means to access a donation page. The ability for students to be able to see the friends that they made during their time in the CS department donate and to watch the professors and other faculty present short snippets should excite them and encourage them to spread the news on donation opportunities to others.

This need fits into the industrial context since this system will allow students to make donations on a secure site as opposed to making them via email or on the phone which is more subject to scams and fraud. Furthermore, this system will prevent the student from doing more work on their end than they need to and will make the donation experience more engaging and convenient.

1.3 Business Objectives and Success Criteria

The customer needs the means to fund the technologies and resources that improve future Computer Science students' experiences with assignments, clubs, mentoring sessions, social gatherings, career fairs, scholarships, and all other activities associated with the Computer Science Department.

Success can be measured by tracking how much money is donated per year, and compare that amount to how many people access the video URLs and the link to the offical CS donation page. If the amount of money donated increases from the previous year, success has been verified.

1.4 Customer and Market Needs

The industry requires the customer to have this solution in order to expand the Computer Science Department, provide ease of access to updated technologies and curriculum resources, fund scholarships, fund department jobs, and remain relevant to ever-evolving major.

1.5 Business Risks

Upon initial assessment the project team has identified five hazards: 1) URLs to the video links can be changed. The effects would be negligable since URLs can easily be recovered. The chance of this happening is likely. URL encryption would be required to protect against the hazard.

2) Alumni and faculty do not show up for video recording sessions. The effects would be negligable as meetings can be rescheduled on another date. The chance of this happening is likely. Steps taken to protect against the hazard can include advertising campaigns, incentives such as raffles and gift cards, partnering with CS Clubs, and recruiting additional help with scheduling and operating recording sessions.

3) Incorrect info can be inserted into the database of names, e-mails, and URLs by the customer/admin. The effects would be serious since it can delay e-mail communication with alumni for a long period of time depending on the damage. The chance of this happening is seldom. Steps that can be taken to avoid this problem would be to ensure that all edge cases are covered in the program code and make use of regular expressions to identify errors in database insertion.

4) Video files can be corrupted due to a power outage, computer disconnect or shut-down, etc., destroying the URL. The effects would be serious because this can delay video stitching for a long period of time especially if there are a lot of snippets to process. The chance of this happening is occasional. Steps that can be taken to avoid this problem would be to use looping logic in the program code to restart the program upon a system crash, delete the video that was in-progress, and start building the processed video again from scratch.

5) CS Lab Computer file directory is entirely restructured. The effects would be severe because entire files and directories can be lost. The chance of this happening is seldom. Steps that can be taken to avoid this problem would be to use 3rd-party cloud storage such as iCloud, Google Cloud. Backups should not be stored on CS Lab Machine and should occur once per quarter.

2 Vision of the Solution

2.1 Vision Statement

The Western Washington University Computer Science Department is looking for a new and engaging form of requesting donations for their programs and clubs from alumni. We have come up with the Alumni Money Video Stitcher, which creates unique videos that stitch various clips of students and staff. The clips will combine to greet the alumni by name and request a donation for various aspects of the department, such as current projects and clubs that need funding. The current method for requesting donation is sending generic emails to alumni and asking for money. Our personalized messages would be more engaging. Seeing their peers, professors, new students, and school projects will hit them with nostalgia, which will increase their chances of leaving a donation.

2.2 Major Features

Our customer is looking for a video made up of separate single word clips to short sentences taken by students and staff. They are to be randomly strung together to form an approximately 30-second-long video requesting a donation to the program. The video will comprise a greeting, the alumni's name, and a few clips highlighting aspects of the program that need funding. It will end off with a request to donate. The video will be stored in an encrypted URL which is then sent to alumni via email.
To use the program, the user will simply need to input a CSV file with the first name, last name, and graduation year of each alumnus. The program will then stitch together unique videos tailored to each alumnus and spit out a new CSV file containing their first name, last name, graduation year, and the encrypted URL to their personalized video.
The clips included in each alumnus' video will be chosen at random, but with priority to clips from their graduation year. The clip of their name will only be used if we have an instance of the alumnus saying their own name to avoid mispronunciations. If we do not have a clip of their name, we will fill that space with a screen with their name typed out.
To gather the video clips, we will set up recording sessions and invite students and staff to come in and record clips of them saying a list of words and phrases. They will sign release forms and when the forms are processed we will add those clips to our database.

2.3 Assumptions and Dependencies

That students and staff will show up to film videos. If they don't, or we do not receive enough, it will be a challenge to stitch together unique videos for each alumnus. We also require that alumni will click on links sent to their email, because if we find that alumni will not click our URLs then all of this is in vain. There isn't much we can do other than hope they trust our department to send out trustworthy links.

3 Scope and Limitations

3.1 Scope of Initial Release

We are going to develop two distinct programs, a video editing program, and a video stitching program.
The video editing program will accept videos as a (format) and parse it for human speech. The program will extract snippets where the person is speaking and name each clip the word they are saying. For longer clips made up of multiple sentences (used for promoting clubs or programs), they should already be edited by the submitter and have no need to go through the video editing program.
For the video stitching program, it will have an assortment of sentences curated by our team and client that it will randomly select and build with the clips we've collected. An example sentence being:
{greeting, alumni name, the, computer, science, department, would, like, to, ask, you, for, a, donation, to, program message, thank, you, for, and, take, care}
The program will accept a CSV file where each line contains an alumni's first name, last

name, and year of graduation. The program will return a copy of the CSV file with the addition on each line of a URL to the alumni's personal video. The program will iterate through the alumni and pick a random sentence structure for each one, it will then look for clips to make up the sentence with priority to those taken from the same year as the alumnus graduated. It will then stitch all the clips together, encrypt a URL to store it in, and append it to the alumni's line in the CSV file. If things go well, then we will begin to implement a thank-you video for those who donated. It will not be as personal, but it will follow the same format of stitching clips together to form one of our sentences. Finally, we will add a pop-up of a QR code in the stitched video that serves as an additional means for the viewer to access the donation page.

3.2 Scope of Subsequent Releases

We envision this project to be released and not updated until our customer wants to add something to it. At that point they can update it themselves, or they can create a new senior project team to handle it.

3.3 Limitations and Exclusions

The timeframe of our project limits us to only allowing videos we ourselves take. In an ideal world, students and alumni would be able to submit clips that they would have the creative liberty to direct, act, and shoot, but with the variation that would be submitted our video editing program wouldn't be able to handle it, resulting in many videos getting rejected, and likely inappropriate videos getting accepted. The easiest way to address this is to tightly control what videos can be submitted by recording all of them ourselves.

4 Business Context

4.1 Stakeholder Profiles

Our stakeholders vary depend on who ends up recording video snippets, but in general they consist of our customer (Dr Jagodzinski), WWU Alumni, WWU Clubs, and WWU Students/Staff.

We get the to work with our most important client Dr. Jagodzinski to make a product that is appealing to him and the CS department, and possibly other departments also.

The WWU Alumni are the subject and target demographic of this project, so they also are a large stakeholder. Because they are what this project is made of, we need to make sure we accomodate their needs and take in their feedback as we record video snippets and continue development. Overall, Alumni (specifically donors) are what will help us figure out the right way to reach other donors successfully.

The students, faculty, and clubs of the WWU Computer Science Department are stakeholders in this project as well, since the success of this project can impact them in a positive way via funds for scholarships and improved technology and resources in their classes. They also may record video snippets for us, so once again we want to make sure we accomodate their needs and gather feedback from them.

4.2 Project Priorities

For this project, there are 3 main priorities 1. Be able to stitch together snippets to create videos 2. Have a system to automatically upload videos to a specified location and generate a unique URL 3. Have a backlog of snippets to use to make created videos more diverse

4.3 Operating Environment

This product will be used in an online setting, to hopefully encourage potential donors to donate. The program will take in names and e-mails, store the information ina database, and then send out emails with URLs in them that direct the client to a personalized video.

5 Schedule

5.1 Gantt Chart

Gantt chart:
https://drive.google.com/uc?export=downloadid=1BpXAET6jEch5RXMsDdDKmaJIEWVfKYP1

5.2 Key Milestones

Milestone 1: Alpha Version sticks together edited videos Milestone 2: Beta Version Accepts CSV files and parses to URL Milestone 3: Modified Beta Version Accepts unedited videos, adds transitions, encrypts the URLs Milestone 4: Testing/Debugging/Finalizing Documentation Milestone 5: Final Release/Demo/Presentations

5.3 Resource Assignments

Milestone 1+: GitLab repo Python (with video stitching library)

Milestones 2+: Storage space (Jagodzinski's directory) Camera equipment rented from WWU AV Recording space, likely rented from WWU library

5.4 Individual Responsibilities

All of us will be working together on this project, since the work can't be easily split up evenly. Some features may be developed simultaneously with other features, and who works on them will be decided based on whoever is available to work on it.

6 Deliverables

6.1 Software/Hardware

There are 3 major components, (1) the collection of clips, (2) the processing of clips, and (3) the stitching of videos.

1. The collection of clips will be done manually and in person, where we will reserve a room, ideally in the Communication Facility on the Western Washington University campus, and encourage students and staff to show up and film clips. By the end of the recording session, we will have clips of a student saying their name and various words we prompt them with cue cards. As well as a release form signed and filled out by each student.

2. We are also developing a program that takes in unedited clips and edits them down to single word clips, names them, then stores them in the directory with the rest of the edited clips.

3. Finally, we will also create a program that stitches our edited clips together. It accepts a CSV file, where each line contains the alumni's first name, last name, and grad year. The program creates a personalized video for each alumnus requesting a donation to the department. The program will store the video in an encrypted URL and copies the CSV file and appends each alumnus's URL to the end of their line.

6.2 Documentation

Our programs will be stored on GitLab where our client Jagodzinski has maintainer access. How to use each program will be found in the readme file, which will state the arguments and their formats, as well as what is expected to be returned.
We will also provide a pdf that contains how to collect video clips. Namely, the process for scheduling sessions, collecting and submitting waivers, reaching out to the department to get people to show up, and how to conduct the recording session.

6.3 Key Presentations

For 492 we will plan to have the stitching software nearly complete, how we went about collecting videos, as well as how we process unedited clips.
For 493 our project should be complete as we hope to have it ready to go by give day. We would be able to showcase how give day went and talk about any issues we had to address or features we added to incorporate feedback on its performance to improve it for next give day.

6.4 Other Deliverables

Not applicable in our project.