Introduction

Welcome to the StuView project

StuView is a project for helping students practice interviews.

It runs on a LAMP server and uses Laravel to implement something that resembles a restful api. It also uses Angular 1.5 for organizing the UI.

To save you time, here are some important locations in the project:

Views:
PROJECT/StuView/public/views

Laraval Controllers (Where endpoint behavior is defined):
PROJECT/StuView/app/Http/Controllers

Laraval Endpoint-Controller mapping:
PROJECT/StuView/app/Http/routes.php

Laraval Models (facilitate access to records in the database):
PROJECT/StuView/app

Angular Controllers:
PROJECT/StuView/public/js/controllers

Log files:
PROJECT/StuView/storage/logs

Server side scripts (video chunk merge script and Vimeo upload script can be found here) **:**
PROJECT/StuView/scripts

Everything under the folder **PROJECTS/StuView/public** is directly accessible to the browser, so don't put anything like credentials there.

Note on line endings:
Make sure that your editor will not change the line endings of the video merge script, bash does not like seeing '\r' in shell scripts.

To get the project up and running, follow the instructions found in the project github (https://github.com/EWU-CSCD488-W16/StuView). For a development setup it may save you time

to download a preconfigured development LAMP server (https://drive.google.com/drive/folders/0B2zsSAf6gcv8eFg5dW9Cc1ZOcmc?usp=sharing) for VirtualBox (our team each used a copy of this VM on our development machines).

If you end up distributing a copy of the VM for your development machines as we did, I would recommend coming up with a good way of managing configuration versions (we never got to this). It can get hairy when a codebase change necessitates a change in configuration and now you have to get everyone else on the team to update their VM in the same way. You can have a system of scripts that maintains the configuration according to what version of the project you have checked out, maybe get it to run automatically on boot.

School Server details

   There is a StuView server all setup and running on the school network, it is more or less setup as described in the github readme but there are some changes because was modified from a template created by IT. SSL is functioning on the server but it is using a self signed certificate (which expires on November 17th, 2019), thus your browser will complain about it being an unsafe site. If you can manage to get a domain (or possibly sub-domain) for the server you can probably get a CA certificate working.

   In order to get the emailing functionality working (used to request interview feedback) , you will need to get ahold of our IT contact (James Lamphere) and have him open up port number 587.

If you are on the school's network (or connected via VPN), you can ssh into the server with the command **ssh stuviewdev@146.187.135.22** .

Here are some important details about the server:

OS	`Ubuntu server 16.04.1 LTS x64`
Processors	`4 x Xeon 2420 @ 1.9GHz`
RAM	`2GB`
Partition Size	`15GB`
IP Address	`146.187.135.22`
Listening Ports	`22, 80, 443`

Dev Login	`stuviewdev`
Dev Password	`cV7*8P-44x$`
MySQL root password	`cV7*8P-44x$`
Document Root Path	**/var/www/html**
Phpmyadmin URL	**https://146.187.135.22/phpmyadmin**
SSL Certificate Path	**/etc/apache2/ssl**
Apache Configuration Path	**/etc/apache2**

Some StuView users installed on the server:
mpeterson (student/instructor)
ssteiner (instructor)

In order to add more users you will need to add them directly via mysql in the terminal:
mysql -u root -p

There is a clone of the develop branch found in the document root. My suggestion for updating the server with project changes is using the commands:

cd /var/www/html
sudo -Hu www-data git pull

And for switching branches :

cd /var/www/html
sudo -Hu www-data git pull

The commands will need your github username and password.

Note: Omitting the "**-Hu www-data**" in the command will cause problems when Apache tries to write to the file system for storing interview recordings.

Video Recording

Recording is orchestrated in the interview session controller
(**PROJECT/StuView/public/js/controllers/interviewSessionCtrl.js**)

Known Issues
- Only fully compatible with Chrome.
- Safari lacks implementation of getUserMedia() used for grabbing webcam data.
- Firefox doesn't show the camera preview (this can likely be fixed), and isn't capturing the webcam area during calls to html2canvas().
- The html2canvas library attempts to download all the relevant css and other supporting files every time it creates a DOM capture (which happens for every frame of video we are recording). We have tried to maximize the number of files the browser is getting from cache (by sending Cache-Control headers from the server, defined in the .htaccess file), but it isn't working for all of the files. A solution (unfortunately) is to dive into the html2canvas library (screenshot.js) and do some optimizing.
- The webcam stays on after the interview is finished.
- The user can leave the page during an interview.
- If a user leaves the page during interview recording, chunks will stay on the server and not get cleaned up.

Vimeo

Known Issues
- When Creating a new submission, there is a bug where the assignment to the student wasn't created or was deleted. So database validation was removed to allow submissions to be created anyways and upload the video.
- If on a basic Vimeo account, the API only allows 10 uploads per day regardless of the amount of requests available. This is currently not being tracked, it will log the error and keep the video in the file system, once the cap resets it should upload normally.

Other Known Issues

Known Bugs and Features Not Implemented
Whole Site
- Report a problem link does nothing
- Expired PHP session does not logout or redirect to login page
- Authentication of industry assessors is not implemented
- Eastern SSO not implemented
- Complete error validation is not present on the client side.

Instructor Side
- No way to rearrange order of questions in interviews
- Due date for assigned interviews doesn't work
- Can't select multiple submissions at once to share with reviewers

- No submission date in feedback table
- Sent/Not Sent column is not implemented
- Manage Groups page does not have the best UI design
- Functionality for submitting instructor/reviewer feedback is not implemented
- Videos are not embedded in an individual interview feedback page
  https://developer.vimeo.com/apis/oembed. Video URL can be found in the submissions table.

Student Side
- Download feedback button is not implemented
- Reviewed interviews should be unassigned from the student after being taken, or passed due date

Suggestions

Whole Site
- Implement temporary access tokens for industry assessors to access ****ONLY**** the feedback page for the specific interview they were sent
- Handle endpoint errors on the front end in a way that is better than pretending nothing went wrong (the current implementation).

Database
- Refactor database schema so that tables properly implement foreign keys, constraints and cascades
- Fix stuview_normalized.sql so it isn't initializing the database into an invalid state.
- Combine the **faculty_assesors** and **students** tables into a single **users** table, then add a **roles** table and **user_roles** table that relates users to the roles they are in. This will allow for a much more flexible design that will make it less painful if you want to add a new role later. Right now everything is hardcoded so everyone is either a student, or an instructor, you will need to refactor everything so that the view is dynamically generated based on what parts of the view the current user's role(s) has access to.
- Look into a setting up a database versioning tool such liquibase.

EMAIL CONFIGURATION

The setup for installing sendmail on the server is contained within the readme on github. The account that was created in order to send the email from is the following:
- Email: ewustuview@gmail.com
- Password: stuview2017

Because we are using gmail as an SMTP relay service for sendmail on the school server, the communication between the two servers occurs on port 587 which is not currently open on the school server, so email does not work from the school server. Once that port is open, steps 29 and 30 of the github readme where the /etc/hosts file is edited will likely need to be updated for running on the school server. It should not say 'localhost.localdomain' as that is not where the server is being hosted.