Data Driven Web Development

Testing

Milestone project 3

Classapp

Jussi Nousiainen
Code Institute - Full Stack Web Development Course
Module 3

Introduction

Much of the testing was done manually together with the coding, using print() method and with help of Jinja2. I tested the routes and functions usually directly after creating one. In README.md can be found detailed descriptions of building steps and testing the steps to ensure the routes and functions were working properly. Especially at the beginning of the process I used a test.py I had created for the purpose. Later I created python code snippets to test for example validation functions and working of flash. When appropriate, I also used Mongo

Shell. I used VSCode to write the application with the help of Microsoft Python extension, Pylint and Python Extension Pack.

CSS

Css validation was performed at https://jigsaw.w3.org/css-validator

Test result:

Congratulations! No Error Found.

This document validates as CSS level 3 + SVG !

I received 8 warnings:

Warnings (8)

URI : TextArea

406	-webkit-transform is an unknown vendor extension
407	-moz-transform is an unknown vendor extension
408	-ms-transform is an unknown vendor extension
409	-o-transform is an unknown vendor extension
450	-webkit-transform is an unknown vendor extension
451	-moz-transform is an unknown vendor extension
452	-ms-transform is an unknown vendor extension
453	-o-transform is an unknown vendor extension

VSCode is currently set to add the extensions, which is not necessary.

To fix the warnings, the extensions were removed form the CSS.

HTML

HTML validation was performed at https://validator.w3.org/, by copying the code in the browser developer tool and pasting them directly to the validator.
The validator does not accept dynamic content very well. Especially Summernote editor gets a lot of errors, but which point to the editor internal code. Also Materialize uses attributes and values the validator does not accept. I have tried to isolate the errors which I can correct to my

best ability. When I saw no errors outside the Summernote or Materialize fields I regarded the test passed.

HTML Validation					
View	Tested	Result	Issue	Fix	Result
index.html	x	Errors	Sections no headers	Remove section tags	pass
register.html	x				pass
classes.html	x	Errors	Errors: Two titles in head tag Extra id Sections no headers JS had type attribute	Removed title, sections tags and type attribute	pass
addClass.html	x	Errors	Summernote and Materialize errors. Textarea label for= pointing to id - id missing. Cancel button value and form validation attributes	Textarea label for= pointing to id - id fixed. Cancel button value and form validation attributes removed	pass
series.html	x				pass
addSeries.html	x	Erros	Cancel button type and name tag not needed	Removed	pass
viewClass.html	x	Errors	Summernote, Materialize		pass
editClass.html	x	Errors	Summernote, Materialize		pass
editSeries.html	x				pass
addExercise.html	x				pass
editExercise.html	x				pass
addLog.html	x				pass
editLog.html	x				pass
addTrack.html	x				pass

addLink.html	x				pass
view_classes_in_series.html	x				pass

JS

JavaScrip validation was performed at https://jshint.com/.

CONFIGURE
Metrics
There are 12 functions in this file.
Function with the largest signature take 1 arguments, while the median is 0.
Largest function has 26 statements in it, while the median is 1.
The most complex function has a cyclomatic complexity value of 2 while the median is 1.

Jshint fount two undefined variables $ and M.
$ is a jQuery selector and M a selector used by Materialize, both needed by the libraries to make the code work.

No unit testing was performed for JavaScript, script is used mainly for Materialize, Bootstrap and Summernote elements, initialization and styling. The code was tested manually on the elements.

Python

App.py code syntax was tested with an online Python Code Checker at https://extendsclass.com/python-tester.html

1st test result: fail

Issue: Flash syntax

- flash(f"You are logged in already!", "success")

Resolve: Remove f

2nd test result: pass

No syntax errors detected :)

Login and Registration

Validation tests

The user registration uses validation for username, email and password and re python module.

https://docs.python.org/3/library/re.html

Following other web resources were used to build the validation and validation testing.

https://www.geeksforgeeks.org/check-if-email-address-valid-or-not-in-python/

https://www.geeksforgeeks.org/password-validation-in-python/?ref=rp

https://stackoverflow.com/questions/2519670/python-code-to-use-a-regular-expression-to-make-sure-a-string-is-alphanumeric-pl

Username validation

Conditions for password validation.

1. Can only have regular word characters, numbers and/or -
2. Should be between 6 and 20 characters long

```
# Test username regex
def username_check(username):
      regex_in_username = '^[\w.-]+$'
      pattern = re.compile(regex_in_username)
      if not re.search(pattern, username):
            print('not valid username --> ' + username)
      else:
            print('valid username -->' + username)

 # Test values
username = 'jussi'
username = '@£$^$%&%^'
username = '903949285'
username = 'KOEJRO2'
username = '--------'
username = 'Laakkonen-1'

# Test outcome
not valid username --> jussi
not valid username --> @£$^$%&%^
```

```
valid username --> -------
valid username --> Laakkonen-1
valid username --> 903949285
valid username --> KOEJRO2
if len(password) < 6 or len(password) > 20:
                             flash(f"Password must be at least 6 and up to
20 characters long", "warning")
```

Test result: passed
The length of the username is caught with:

```
if len(password) < 6 or len(password) > 20:
      flash(f"Password must be at least 6 and up to 20 characters long",
"warning")
```

Test result flash message: passed

Email validation

Conditions for password validation.

```
# Test email regex
def email_check(email):
      regex_in_mail = '^\w+([\.-]?\w+)*@\w+([\.-]?\w+)*(\.\w{2,3})+$'
      pattern = re.compile(regex_in_mail)
      # result = re.search(pattern, email)
      if not re.search(pattern, email):
            print('not valid email --> ' + email)
      else:
            print('valid email -->' + email)

# Test values
email = 'sdfj'
email = 'lksjdf@lkjfd'
email = '@kslks.oj'
email = 'jussi.com'
email = 'jussi@jussi.fi'

# Test result
not valid email --> sdfoj
not valid email --> lksjdf@lkjfd
not valid email --> @kslks.oj
not valid email --> jussi.com
valid email -->jussi@jussi.fi
```

Test result: passed
Test result flash message: passed

Password validation

Conditions for password validation.

1. Should have at least one number.
2. Should have at least one uppercase and one lowercase character.
3. Should have at least one special symbol.
4. Should be between 6 to 20 characters long.

```
# Test password regex
def password_check(password):
      regex_in_password =
'^(?=.*[a-z])(?=.*[A-Z])(?=.*\d)(?=.*[@$!#%*?&])[A-Za-z\d@$!#%*?&]{6,20}$'
      pattern = re.compile(regex_in_password)
      if not re.search(pattern, password):
            print('not valid password --> ' + password)
      else:
            print('valid password -->' + password)

# Test values
password = 'kah56'
password = '@£%^$%&()'
password = 'password1234567890!@£$%^&*()2334ahfgdfgawjeaskd'
password = 'PPPPPPPP'
password = 'Password1!'

# Test outcome
not valid password --> kah56
not valid password --> @£%^$%&()
not valid password --> password1234567890!@£$%^&*()2334ahfgdfgawjeaskd
not valid password --> PPPPPPPP
valid password -->Password1!
```

Test result: passed

Test result of flash messages: passed

- All messages were displayed and they corresponded the correct error

Manual test to register new user

Test result: passe

- New user is created in database
- User is directed to the Home page

Manual test to logout the user that was just created

Test result: passed

- User is logged out and directed to the index page
- Flash gives a message Success! You were logged out!

Manual test to login with existing, just created username

Test result: passed

- Entering not existing username, user is directed to the Register page
- Clicking the logo does not direct user to the Home page
- Entering just created username logs in and directs user to the Home page

Application testing procedure

All functionality, routes and UI were tested manually.

Access and Navigation

	Test	Description/ Action	Issue	Resolve	Result
		Access			
x	In browser try address : https://flask-classapp.herokuapp.com/	Is the application accessible in web			pass
		Navigation			
x	**Before logged in navbar:**	*Include: Logo, Login, Register*			pass
x	Icon > Home	no			pass
x	Login > Login	yes			pass
x	Login > Register	yes			pass
x	Register > Login	yes			pass
x	**After login navbar:**	*Include: Logo, Home, Series, Logout*			pass
x	Logo > Home	yes			pass
x	Home > Series	yes			pass
x	Home > Logout	yes			pass
x	Series > Home	yes			pass
x	Series > Logout	yes			pass
x	Logout > Login (Index)	remove user from session > Login			pass
x	**Navigation buttons on pages:**	*Exist*			pass
x	Go back to classes	Class view > Classes			pass
x	Go back to series	Classes in series view > Series			pass

Pages Views

Login					
	> Submit				
x	Entering not existing username	User is directed to the Register page			pass
x	Entering nothing	User is asked to enter username			pass
x	Entering just a username	User is asked to enter password			pass
x	Entering existing username, but wrong password	User is informed 'Wrong password or username!'			pass
x	Entering existing username with correct password	User is directed to the home page			pass
Register					
	> Submit				
x	Entering nothing	User is asked to fill in username			pass
x	Entering username, but nothing else	User is asked to fill in email	~~email not asked~~	~~make it required~~	pass
x	Entering username and email but nothing else	User is asked to fill in password			pass
x	Entering username, email and password:				pass
x	Too short username	flash = Username must be at least 6 and up to 20 characters long	~~30 in message~~	~~change to 20~~	pass
x	Too long username	flash = Username must be at least 6 and up to 20 characters long	~~30 in message~~	~~change to 20~~	pass
x	Other than word regular word characters	flash = Username may not have special characters			pass
x	Not valid email	User is informed the email address is not valid			pass
x	Non valid password:				
x	Not right length	flash = Password must be at least 6 and up to 20 characters long			pass
x	Not right form	flash = Password is not valid!			pass
x	Not equal	flash = Passwords don't match! Try again.			pass
x	Valid username, email, and password	> new user document inserted to user collection + added to session > Home (Classes)			pass
Home					
	New user/ and existing user who hasn't created classes yet				
x	Accordion	Only header and a message 'You haven't created any classes yet'			pass
	User who has created classes				

x	Accordion	Headers display class names			pass
x		Open and close			pass
x		Body display class description			pass
x		Opening accordion item reveals Master tool button			pass
x		Description area is selectable			pass
x		Description are has tooltip			pass
Series					
	New user/ and existing user who hasn't created series yet				
x	Accordion	Only header and a message 'You haven't created any series yet'			pass
	User who has created series				
x	Accordion	Headers display series names			pass
x		Open and close			pass
x		Body display series description			pass
x		Opening accordion item reveals Master tool button			pass
x		Description area is selectable			pass
x		Description are has tooltip			pass
Add a New Class					
x	Page title	Add a New Class			pass
x	Form	Has inputs for: Class name, Class description, Elements, Helpers, Notes, Select class series selection field, Add A Playlist Title and Add A Playlist Link.			pass
x		Input fields are empty			pass
x		Class name and description input fields are required and alert when not filled	~~Description field not alerting~~	~~add required~~	pass
x	Select series	Can be opened			pass
		Series are displayed in the list of selectable options			pass
		Multiple options can be selected/ unselected			pass
x	* Summernote editor	Has: button to change text style, buttons to make the text bold, italic, or underline, undo and redo buttons, ordered list and unordered list buttons and a button to enter the full screen editor mode.			pass
x		Buttons work for editing			pass
x		Full screen feature opens and closes full screen editor			pass

x		Images and text (and only images and text) can be dragged and drop to the editor field			pass
Add a new series					
x	Page title	Add a New Series			pass
x	Form	Has inputs for: Class series name, Class series description	Class series description changed to Description		pass
x		Input fields are empty			pass
x		Class name and description input fields are required and alert when not filled	~~Description field not alerting~~	~~add required~~	pass
View class					
x	Page title	Displays class name			pass
x	Elements accordion	Accordion header display View elements			pass
x		Opens/ and closes			pass
x		Displays content created with Summernote editor			pass
x	Class series collection items	Display selected Series			pass
x		Are selectable			pass
x		Link takes to View classes in series on blank page			pass
x	Playlist	Display playlist title			pass
x		Is selectable			pass
x		Link takes to blank page			pass
	Exercise				
x	*No exercises yet*	Accordion header: No exercises added yet			pass
x	*Exercises*	Header displays exercise name			pass
x		Body displays exercise content			pass
x	*Exercise content accordion*	*Has Headers: Description, Comment, Aim*	Description changed to Elements		pass
x		Description is open and can be closed			pass
x		Displays content created with Summernote editor			pass
x		Comment can be opened and closes			pass
x		Display content			pass
x		Aim can be opened and closed			pass
	Music tracks in Exercise				
x	*No Tracks yet*	Collection header display: No music tracks added yet			pass
x	*Tracks*	Collection header display Track title and comment			pass

x		Is selectable > follows the url to a blank page			pass
	Video links in exercise				
x	*No Links yet*	Collection header display: No video links added yet			pass
x	*Links*	Collection header display Video title and comment			pass
x		Is selectable > follows the url to a blank page			pass
	Logs				
x	*No logs yet*	Accordion header: No logs added yet			pass
x	*Logs*	Accordion header display Log date and Tag			pass
x		Opens/ and closes			pass
x		Displays content created with Summernote editor			pass
Add Exercise					
x	Page title	Add a New Exercise			pass
x	Form	Has inputs for: Exercise name, Description, Comment, Aim	Description was changed to Exercise in some point	~~Change to Description > Changed to Elements~~	pass
x		Input fields are empty			pass
x		Exercise name input field is required and alert when not filled		~~add required~~	pass
x	* Summernote editor	Has: button to change text style, buttons to make the text bold, italic, or underline, undo and redo buttons, ordered list and unordered list buttons and a button to enter the full screen editor mode.			pass
x		Buttons work for editing			pass
x		Full screen feature opens and closes full screen editor			pass
x		Images and text (and only images and text) can be dragged and drop to the editor field			pass
Add a new Log					
x	Page title	Add a New Log	~~Says New Log~~	~~Change to Add a New Log~~	pass
x	Form	Has inputs for: Log date, Log Tag, Log			pass
x		Input fields are empty			pass
x		Exercise name and Elements input fields is required and alert when not filled		~~add required~~	pass

x	* Summernote editor	Has: button to change text style, buttons to make the text bold, italic, or underline, undo and redo buttons, ordered list and unordered list buttons and a button to enter the full screen editor mode.			pass
x		Buttons work for editing			pass
x		Full screen feature opens and closes full screen editor			pass
x		Images and text (and only images and text) can be dragged and drop to the editor field			pass
x	Date picker	Appears when date field is clicked			pass
x		Date is selectable			pass
x		Field displays selected date			pass
x		Clear clear the field			pass
x		Cancel closes the calendar modal			pass

Add Music Track

x	Page title	Add a Music Track			pass
x	Form	Has inputs for: Music Track Title, Music Track Link, Comment			pass
x		Input fields are empty			pass
x		Music Track Title and Music Track Link input fields is required and alert when not filled	~~Music Track Link does not alert~~	~~Add required~~	pass

Add Video Link

x	Page Title				
x	Form	Has inputs for: Video Title, Video Link, Comment			pass
x		Input fields are empty			pass
x		Video Title and Video Link input fields is required and alert when not filled	~~Video Link does not alert~~	~~Add required~~	pass

Edit Class / Edit CLass (copy)

x	Page title	Edit - <class_name>/ Edit - <class_name> (copy)			pass
x	Form	Has inputs for: Class name, Class description, Elements, Helpers, Notes, Select class series selection field, Add A Playlist Title and Add A Playlist Link.			pass
x		Input fields are prefilled			pass
x		Class name and description input fields are required and alert when not filled			pass
x	Select series	Can be opened			pass
x		Series are displayed in the list of selectable options			pass

x		Multiple options can be selected/ unselected			pass
x		Previous options are preselected			pass
x	* Summernote editor	Has: button to change text style, buttons to make the text bold, italic, or underline, undo and redo buttons, ordered list and unordered list buttons and a button to enter the full screen editor mode.			pass
x		Buttons work for editing			pass
x		Full screen feature opens and closes full screen editor			pass
x		Images and text (and only images and text) can be dragged and drop to the editor field			pass
		Display pre filled content			pass
	Exercises (view only)				pass
x	*No exercises yet*	Accordion header: No exercises added yet			pass
x	*Exercises*	Header displays exercise name			pass
x		Body displays exercise content			pass
x	*Exercise content accordion*	*Has Headers: Description, Comment, Aim*			pass
x		Description is open and can be closed			pass
x		Displays content created with Summernote editor			pass
x		Comment can be opened and closes			pass
x		Display content			pass
x		Aim can be opened and closed			pass
	Music tracks in Exercise				
x	*No Tracks yet*	Collection header display: No music tracks added yet			pass
x	*Tracks*	Collection header display Track title and comment			pass
x		Is not selectable			pass
	Video links in exercise				
x	*No Links yet*	Collection header display: No video links added yet			pass
x	*Links*	Collection header display Video title and comment			pass
x		Is not selectable			pass
	Log (view only)				pass
x	*No logs yet*	Accordion header: No logs added yet			pass
x	*Logs*	Accordion header display Log date and Tag			pass
x		Opens/ and closes			pass
x		Displays content created with Summernote editor			pass

x	Edit duplicate	flash = Success! Class was duplicated			pass
x		Selected series are cleared			pass
x		Logs are removed			pass
Edit Series					
x	Page title	Edit - <series_name>	~~- is missing~~	~~add -~~	pass
x	Form	Has inputs for: Class series name, Description			pass
x		Display prefilled inputs			pass
x		Class name and description input fields are required and alert when not filled	~~Description field not alerting~~	~~add required~~	pass
Edit Exercise					
x	Page title	Edit - <exercise_name>	~~- missing~~	~~add -~~	pass
x	Form	Has inputs for: Exercise name, Description, Comment, Aim	Description was changed to Exercise in some point	~~Change to Description > Changed to Elements~~	pass
x		Input fields are prefilled			pass
x		Exercise name input field is required and alert when not filled		~~add required~~	pass
x	* Summernote editor	Has: button to change text style, buttons to make the text bold, italic, or underline, undo and redo buttons, ordered list and unordered list buttons and a button to enter the full screen editor mode.			pass
x		Buttons work for editing			pass
x		Full screen feature opens and closes full screen editor			pass
x		Images and text (and only images and text) can be dragged and drop to the editor field			pass
x		Display pre filled content			pass
	Music tracks in Exercise				
x	*No Tracks yet*	Collection header display: No music tracks added yet			pass
x	*Tracks*	Collection header display Track title and comment			pass
x		Is not selectable			pass
	Video links in exercise				pass
x	*No Links yet*	Collection header display: No video links added yet			pass
x	*Links*	Collection header display Video title and comment			pass
x		Is not selectable			pass

Edit Log					
x	Page title	Edit - <log_date>	~~wrong format~~	~~add -~~	pass
x	Form	Has inputs for: Log date, Log Tag, Log			pass
x		Input fields are prefilled			pass
x	* Summernote editor	Has: button to change text style, buttons to make the text bold, italic, or underline, undo and redo buttons, ordered list and unordered list buttons and a button to enter the full screen editor mode.			pass
x		Buttons work for editing			pass
x		Full screen feature opens and closes full screen editor			pass
x		Images and text (and only images and text) can be dragged and drop to the editor field			pass
x	Date picker	Appears when date field is clicked			pass
x		Date is selectable			pass
x		Field displays selected date			pass
x		Clear clear the field			pass
x		Cancel closes the calendar modal			pass
View Classes in Series					
x	Page title	Classes in <<series_name>			pass
	New user/ and existing user who hasn't created series yet	Not accessible			pass
	User who has created series				pass
x	Accordion				pass
x	No classes added to the series	Header displays No classes added to this series			pass
x	Classes added to the series	Headers display class names			pass
x		Open and close			pass
x		Body display class description			pass
x		Opening accordion item reveals Master tool button			pass
x		Description area is selectable			pass
x		Description are has tooltip			pass

Testing buttons

Buttons					
x	**Login button**	*Exist in: Login form at login page*			pass
x	Login	Login > Authentication > if no Register / if yes Home (Classes)			pass

x	**Register button**	*Exist in: Register form on register page*			pass
x	Register	Register + Validation > if no Register / if yes Home (Classes)			pass
x	Info button in register	Opens the password info modal card			pass
x	Close info	Closes the modal			pass
x	**Master Tool button:**	*Exist on: Classes, View class, Series, View classes in series*			pass
x	***Classes master >***	Triggered by open/ close accordion item			pass
x		Has tooltip			pass
x	Classes tools >	*View class, Edit class, Delete class, Duplicate class*			pass
x	Show tools	On hover tools appear/ hide			pass
x		Tools have tooltips			pass
x	View class	> Class view			pass
x	Edit class	> Edit class			pass
x	Delete class	> Delete class document from classes collection > Classes			pass
x	Duplicate class	> Insert class > Edit class (Copy)			pass
x	***Class view master >***	*Fixed*			pass
x		Has tooltip			pass
x	Classes tools >	*Add log, Add exercise, View class, Edit class, Delete class, Duplicate class*			pass
x	Show tools	On hover tools appear/ hide			pass
x		Tools have tooltips			pass
x	Add log	> Add log			pass
x	Add exercise	> Add exercise			pass
x	View class	> Class view			pass
x	Edit class	> Edit class			pass
x	Delete class	> Delete class document form classes collection > Classes			pass
x	Duplicate class	> Insert new class document to classes collection > Edit class (Copy)			pass
x	***Series master >***	Triggered by open/ close accordion item			pass
x		Has tooltip			pass
x	Series tools >	*View classes in series, Edit series, Delete series*			pass
x	Show tools	On hover tools appear/ hide			pass
x		Tools have tooltips			pass
x	View classes in series	> Class in series view			pass
x	Edit series	> Edit series			pass
x	Delete series	> Delete series document from series collection > Series			pass

x	***Classes in series master >***	Triggered by open/ close accordion item			pass
x		Has tooltip			pass
x	Series tools >	*View class, Edit class, Delete class, Duplicate class*			pass
x	Show tools	On hover tools appear/ hide			pass
x		Tools have tooltips			pass
x	View class	> Class view			pass
x	Edit class	> Edit class			pass
x	Delete class	> Delete class document from classes collection > Classes			pass
x	Duplicate class	> Insert class > Edit class (Copy)			pass
x	**Add buttons:**	*Exist on: Classes, Series*			pass
x		Have tooltips			pass
x	Add new class	> Add new class			pass
x	Add new series	> Add new series			pass
x	Add new Music Track	> Add new Music Track			pass
x	Add new Video Link	> Add new Video Link			pass
x	**Edit buttons (not in Master tools):**	*Exist on: Class view > exercise elements, log elements*			pass
x		Have tooltips			pass
x	Edit exercise	> Edit exercise			pass
x	Edit log	> Edit log			pass
x	**Delete buttons (not in Master tools):**	*Exist on: Class view > exercise elements, log elements*			pass
x		Have tooltips			pass
x	Delete exercise	> Delete exercise from class (update class) > Class view			pass
x	Delete log	> Delete log from class (update class) > Class view			pass
x	Delete Music Track	> Delete Music track from exercise in class (update class) > Class view			pass
x	Delete Video Link	> Delete Video link from exercise in class (update class) > Class view			pass
	Save buttons:				
x		have tooltips			pass
x	Saven new class	Insert > Class view			pass
x	Save edited class / edited (copy)	Update > Class view			pass
x	Save new exercise	Insert > Class view			pass
x	Save edited exercise	Update > Class view			pass
x	Save new log	Insert > Class view			pass
x	Save edited log	Update > Class view			pass

x	Save new Music track	Insert > Class view			pass
x	Save new Video link	Insert > Class view			pass
x	Save new series	Insert > Series view			pass
x	Save edited series	Update > Class view			pass
	Cancel buttons:				
x		Have tooltips			pass
x	Add class > Casses	Navigates back to origin			pass
x	Edit class / Edit (copy) > Class view	Navigates back to origin			pass
x	Add exercise > Class view	Navigates back to origin			pass
x	Edit exercise > Class view	Navigates back to origin			pass
x	Add log > Class view	Navigates back to origin			pass
x	Edit log > Cass view	Navigates back to origin			pass
x	Add music track > Class view	Navigates back to origin			pass
x	Add video Link	Navigates back to origin			pass
x	Add series > Series	Navigates back to origin			pass
x	Edit series > Series	Navigates back to origin			pass
x	**Description fields**	*Exist in: Classes, Series, View classes in series*			pass
x		Class in Classes > Class view			pass
x		Series in Series > View Classes in Series			pass
x		Class in View Classes in Series > Class View			pass
x	**Link to Class series**	Navigate to class series			pass

Testing routes and functions

Routes					
@app.route('/' (index)		methods=['GET'])			
x	Find user in session	if > redirect > classes			pass
x		else > render index.html (Login)			pass
@app.route('/user_auth'		methods=['POST'])			
x	Get form values				pass
x	Find user in users	if > check password			pass
x		> if > redirect > classes			pass
x		> else > redirect > index			pass
x		else > redirect > register			pass
@app.route('/register'		methods=['GET', 'POST']			

x	Find user in session	if > redirect > classes			pass
x	Validation test in Register section	if not > render register.html			pass
x		> else >			pass
x	Add new user document to user collection	> if > redirect > classes			pass
x		> else > redirect > register			pass
x		else > render register.html			pass
@app.route('/logout')					
x	Clear session	> redirect > index			pass
@app.route('/classes/<username>')					
x	Find user in session	If >			pass
	Find user's classes from classes collection	> render classes.html			pass
x		else > redirect > index			pass
@app.route('/view_class/<class_id>')					
x	Find user's class collection				pass
x	Find user's series collection				pass
x	Get classes in class_series	> render viewClass.html			pass
@app.route('/add_class/<username>')					
x	Find user in users collection				pass
x	Find user's class_series in series collection	> render addClass.html			pass
@app.route('/insert_class/<series_doc>/<username>',		methods=['POST'])			
x	Get form values				pass
x	Insert new class into classes collection				pass
x	Get list of selected series				pass
x	Push class id to classes in liste class_series in series document	> redirect > view_class			pass
@app.route('/edit_class/<class_id>')					
x	Find class from classes collection				pass
x	Find series from series collection	> render editClass.html			pass

@app.route('/save_class/<class_id>/<series_doc>',		methods=['GET','POST'])			
x	Get form values				pass
x	Update class in collection				pass
x	Get list of selected series				pass
x	Remove class id from all class_series				pass
x	Push class id to classes in liste class_series in series document	> redirect > view_class			pass
@app.route('/delete_class/<class_id>/<series_doc>/<username>')					
x	Remove class from classes collection				pass
x	Remove class from series all class_series	> redirect > classes			pass
@app.route('/copy_class/<class_id>')					
x	Find class from class series				pass
x	Delete class id				pass
x	Insert class back to classes collection				pass
x	Remove logs from class	> redirect > edit_class			pass
@app.route('/add_log/<class_id>/<username>')					
x	Render	> addLog.html			pass
@app.route('/insert_log/<class_id>',		methods=['POST'])			
x	Get form values				pass
x	Insert log into a class (update class)	> redirect > view_class			pass
@app.route('/edit_log/<class_id>/<log_id>',		methods=['GET', 'POST'])			
	Find log in class	> render editLog.html			pass
@app.route('/update_log/<class_id>/<log_id>',		methods=['POST'])			
x	Get from values				pass
x	Update log in class (update class)	> view_class			pass

@app.route('/delete_log/<class_id>/<log_id>')					
x	Delete log in class	> redirect > view_class			pass
@app.route('/add_exercise/<class_id>')					
x	Render	> addExercise.html			pass
@app.route('/insert_exercise/<class_id>',		methods=['POST'])			
x	Get form values				pass
x	Insert exercise into class (update class)	> redirect > view_class			pass
@app.route('/edit_exercise/<class_id>/<exercise_id>',		methods=['GET','POST'])			
x	Find exercise in class	> render editExercise.html			pass
@app.route('/update_exercise/<class_id>/<exercise_id>',		methods=['POST'])			
x	Get form values				
x	Update exercise in class (update class)	> redirect > view_class			pass
@app.route('/delete_exercise/<class_id>/<exercise_id>')					
x	Delete exercise from class (update class)	> redirect > view_class			pass
@app.route('/add_track/<class_id>/<exercise_id>')					
x	Render	> addTrack.html			pass
@app.route('/insert_track/<class_id>/<exercise_id>',		methods=['POST'])			
x	Get form values				pass
x	Insert track into class (update class)	> redirect > view_class			pass
@app.route('/delete_track/<class_id>/<exercise_id>/<track_id>')					
x	Delete track from class (update class)	> redirect > view_class			pass

@app.route('/add_link/<class_id>/<exercise_id>')					
x	Render	> addLink.html			pass
@app.route('/insert_link/<class_id>/<exercise_id>',		methods=['POST'])			
x	Get form values				pass
x	Insert link into class	>redirect > view_class			pass
@app.route('/delete_link/<class_id>/<exercise_id>/<link_id>')					
x	Delete link from class	> redirect > view_class			pass
@app.route('/series')					
x	Find user in session	If >			pass
x	Find user's series from series collection	If > render classes.html			pass
x		else > redirect > index			pass
@app.route('/view_classes_in_series/<username>/<series_id>/<series_doc>')					
x	Find user's series from series collection				pass
x	Find series(one) in series(all) in user's series document in series collection				pass
x	Find user;s classes form classes collection	> render view_classes_in_sereis.html			pass
@app.route('/add_series')					
x	Find user id of the session user				pass
x	Find user's series document	> if not >			pass
x	Insert new series document into series collection	> render addSereis.html			pass
@app.route('/insert_series/<username>',		methods=['GET', 'POST'])			
x	Get form values				pass
x	Insert new series into series document	> redirect > series			pass

@app.route('/edit_series/<series_doc>/<series_id>',		methods=['GET', 'POST'])			
x	Find series from series document	> editSeries.html			pass
@app.route('/update_series/<series_doc>/<series_id>',		methods=['GET', 'POST'])			
x	Update series in series document (update series)	> redirect > series			pass
@app.route('/delete_series/<series_id>/<series_doc>',		methods=["GET"])			
x	Delete series from series document (update series)	> redirect > series			pass

* Summernote editor unordered list does not show the list style correctly. I tried to address the issue with jQuery, but inside the editor it had no effect. I found the issue was raised on Summernote GitHub. So far I could find out no solution has been offered yet.

The routes were tested manually for functionality. Users can add information to classes modularly. The functionality was tested using two shortest routes from index, to create a new user, to complete the simplest complete class which is associated with a series, and to view complete classes. First route one via Classes and then route two via Series were tested. Edit, delete and duplicate functions were tested separately.

Start point		
Route 1	**Route 2**	**Edit, delete, duplicate**
index.html	**index.html**	**editLog.html**
register.html	**register.html**	Delete log
classes.html	**series.html**	Delete Track
addClass.html	**addSeries.html**	Delete Link
viewClass.html	**classes.html**	**editExercise.html**
addExercise.html	**addClass.html**	Delete Exercise
addLog.html	**viewClass.html**	**editSeries.html**
addTrack.html	**addExercise.html**	Delete Series
addLink.html	**addExercise.html**	Duplicate Class
series.html	**addLog.html**	**editClass.html**
addSeries.html	**addTrack.html**	Delete Class
classes.html	**addLink.html**	

editClass.html	**series.html**	
view_classes_in_series.html	**view_classes_in_series.html**	
viewClass.html	**viewClass.html**	
Logout	Logout	
Pass	Pass	Pass
End point		

Testing elements UI

	Test	Description	Issue	Resolve	Result
	Elements				
x	**Navbar:**				
	Exist and is responsive	Changes size and layout according to viewport			pass
	Logo	On left on big screens, on center on smaller screen			pass
	Menu burger	Appears on smaller screen to the left on navbar			pass
	Navigation buttons respond to the hover	Text gets bigger on hovering			pass
x	**Footer:**				pass
	Exist and is responsive	Adjust to the viewport			pass
	Position	Stays at the bottom of the view regardless the viewport size/ when content is shorter than the viewport size			pass
	Pointer	Changes on selectable elements			pass
	Flash messages:	*In general*	~~Should be a little lower, Too vide, text is not aligned to the center.~~	~~Increase top, set width lower, add text align~~	passl
x	Validation	Placement, color, typo, layout			pass
x	Not logged in (Classes, Series)				pass
x	Already logged in (Index)				pass
x	Deletions				pass
x	Login				pass
x	Logout				pass
	Summernote editor:	*In general*			
x	Add class	Buttons, positioning, hover effect, layout			pass

x	Edit class				pass
x	Add exercise				pass
x	Edit Exercise				pass
x	All Log				pass
x	Edit Log				pass
x	View Class				pass
	Accordions:				
x	***Classes***	1/ 2/ 3/ 4/ 5/ 6/ 7/ 8			pass
x	***Series***	1/ 2/ 3/ 4/ 5/ 6/ 7/ 8			pass
x	***View Classes in Series***	1/ 2/ 3/ 4/ 5/ 6/ 7/ 8			pass
	1	Header highlights on hover			pass
	2	Effect when selected			pass
	3	Highlight stays when open			pass
	4	Highlight only on open item header			pass
	5	Highlight off when closed			pass
	6	Content highlights on hover			pass
	7	Effect when selected			pass
	8	Content has tooltip			pass
x	***Elements in class view***	1/ 2/ 3/ 4/ 5			pass
x	***Exercise in class view***	1/ 2/ 3/ 4/ 5			pass
x	***Exercises content in class view***	1/ 2/ 3/ 4/ 5			pass
x	***Logs in class view***	1/ 2/ 3/ 4/ 5			pass
x	***Exercises content in edit class view***	1/ 2/ 3/ 4/ 5			pass
x	***Logs content in edit class view***	1/ 2/ 3/ 4/ 5			pass
	1	Header highlights on hover			pass
	2	Effect when selected			pass
	3	Highlight stays when open			pass
	4	Highlight only on open item header			pass
	5	Highlight off when closed			pass
	In general		Little jumpy opening, non selectables have hover effect	Little jumpy opening, non selectables have hover effect	Not accomplished
	Add buttons:				
x	Classes	1 / 2 / 3 / 4 / 5 / 6			pass
x	Series	1 / 2 / 3 / 4 / 5 / 6			pass
x	Music Track in Exercise	1 / 2 / 3 / 4 / 5 / 6			pass
x	Video Link in Exercise	1 / 2 / 3 / 4 / 5 / 6			pass

x	1	Placement			pass
x	2	Color/ Light blue (add class/ series)/ Lime (Track)/ Lilac (Video)			pass
x	3	Tooltip/ on right			pass
x	4	Hover effect			pass
x	5	Floats			pass
x	6	Icons			pass
	Edit buttons:				
x	Exercise in Class view	1 / 2 / 3 / 4 / 5 / 6			pass
x	Logs in Class view	1 / 2 / 3 / 4 / 5 / 6			pass
x	1	Placement			pass
x	2	Color/ Yellow			pass
x	3	Tooltip/ on right			pass
x	4	Hover effect			pass
x	5	Floats			pass
x	6	Icons			pass
	Delete buttons:				
x	Exercise in View class	1 / 2 / 3 / 4 / 5 / 6			pass
x	Music Track	1 / 2 / 3 / 4 / 5 / 6			pass
x	Video Link				pass
x	Log	1 / 2 / 3 / 4 / 5 / 6			pass
x	1	Placement/ bottom right			pass
x	2	Color/ Red			pass
x	3	Tooltip/ left			pass
x	4	Hover effect/ press down			pass
x	5	Floats/ high			pass
x	6	Icon			pass
	Master tool button:				
x	Classes, class items	1 / 2 / 3 / 4 / 5 / 6			pass
x	View class	1 / 2 / 3 / 4 / 5 / 6			pass
x	Series	1 / 2 / 3 / 4 / 5 / 6			pass
x	View Classes in Series	1 / 2 / 3 / 4 / 5 / 6			pass
x	1	Placement/ bottom right			pass
x	2	Color/ Dark indigo			pass
x	3	Tooltip/ left			pass
x	4	Hover effect/ press down			pass
x	5	Floats/ high			pass
x	6	Icons			
	Tools:				

x	Classes, class items	1 / 2 / 3 / 4 / 5			pass
x	View class	1 / 2 / 3 / 4 / 5			pass
x	Series	1 / 2 / 3 / 4 / 5			pass
x	View Classes in Series	1 / 2 / 3 / 4 / 5			pass
x	1	Placement/ vertical			pass
x	2	Color/ Blue (Add Log)/ Purple (Add Exercise)/ Green (View) / Yellow (Edit)/ Red (Delete)/ Teal (Duplicate)			pass
x	3	Tooltip/ left			pass
x	4	Hover effect/ press down			pass
x	5	Floats/ high			pass

Testing pages UI

Login (index)					
x	Page title	Page title is visible	Tends to disappear to the background image	IChange the Title color or layout for affected screen sizes	The issue is relevant only on some mobile devices when device is sideways
x	Background image is responsive	Adjust to the viewport, hidden on small devices			pass
x	Content	Login form in middle			pass
x	Form fields	Yes	Background color on Chrome	remove	User agent styling. Could not target with css or jquery
x	Login button	Exist, is right color, placed correctly, tooltip	~~Not floating~~	~~add z-index-5 to the class~~	pass
Register					
x	Page title	Page title is visible	Tends to disappear to the background image		pass

x	Background image is responsive	Adjust to the viewport, hidden on small devices			pass
x	Content	Login form in middle			pass
x	Form fields	Yes	Background color on Chrome	remove	User agent styling. Could not
x	Register button	Exist, is right color, placed correctly, tooltip			pass
x	Info button	Is placed correctly, is visible, is clear, tooltip	~~Button is too small~~	~~Remove borders, increase size~~	pass
x	Modal	Is placed correctly, is visible, is clear.			pass
Classes					
x	Main elements	Centered. There is equal margin to left and right			pass
x	Secondary elements are positioned correctly	Positioned correctly. They are inside the body content and under or around the main elements.			pass
x	Margins and paddings around elements are correct	there is space between the edges and content. Example, left edge and beginning of text has space between 10 and 30 px			pass
x	Minimum screen height is set to cover the viewport and/ or enclose all content	When the screen is small the elements should still stay between the navbar and footer. There is no overspilling or roll bar visible, unless the content is higher than viewport. There is no overspilling to the sides.			pass
x	Dividers and spaces between sections and elements	The spaces are proportioned. there are no extra dividers. There is linspace before and after a divider. There is min one line space between the buttons and the footer.			pass
Series					
x	Main elements	Centered. There is equal margin to left and right			pass
x	Secondary elements are positioned correctly	Positioned correctly. They are inside the body content and under or around the main elements.			pass
x	Margins and paddings around elements are correct	there is space between the edges and content. Example, left edge and beginning of text has space between 10 and 30 px			pass
x	Minimum screen height is set to cover the viewport and/ or enclose all content	When the screen is small the elements should still stay between the navbar and footer. There is no overspilling or roll bar visible, unless the content is higher than viewport. There is no overspilling to the sides.			pass

x	Dividers and spaces between sections and elements	The spaces are proportioned. there are no extra dividers. There is linspace before and after a divider. There is min one line space between the buttons and the footer.			pass
Add Classe/ Edit Class/ Add Series/ Edit Series					
x	Add Classes	1 / 2 / 3 / 4			pass
x	Add Series	1 / 2 / 3 / 4			pass
x	EditClasses	1 / 2 / 3 / 4			pass
x	Edit Series	1 / 2 / 3 / 4			pass
1	Main elements	Centered. There is equal margin to left and right			pass
2	Secondary elements are positioned correctly	Positioned correctly. They are inside the body content and under or around the main elements.			pass
2	Margins and paddings around elements are correct	there is space between the edges and content. Example, left edge and beginning of text has space between 10 and 30 px			pass
3	Minimum screen height is set to cover the viewport and/ or enclose all content	When the screen is small the elements should still stay between the navbar and footer. There is no overspilling or roll bar visible, unless the content is higher than viewport. There is no overspilling to the sides.			pass
4	Dividers and spaces between sections and elements	The spaces are proportioned. there are no extra dividers. There is linspace before and after a divider. There is min one line space between the buttons and the footer.			pass
View Class					
x	Main elements	Centered. There is equal margin to left and right			pass
x	Secondary elements are positioned correctly	Positioned correctly. They are inside the body content and under or around the main elements.			pass
x	Margins and paddings around elements are correct	there is space between the edges and content. Example, left edge and beginning of text has space between 10 and 30 px	~~class series collection padding missing/ playlist is correct!~~	~~add padding~~	pass
x	Minimum screen height is set to cover the viewport and/ or enclose all content	When the screen is small the elements should still stay between the navbar and footer. There is no overspilling or roll bar visible, unless the content is higher than viewport. There is no overspilling to the sides.			pass
x	Dividers and spaces between sections and elements	The spaces are proportioned. there are no extra dividers. There is linspace before and after a divider. There is min one line space between the buttons and the footer.			pass

x	Accordion header of each main element have distinct highlight color when open	Element Powder Blue/ Lilac / Light Teal			pass
Add Exercise/ Edit exercise					
x	Add Exercise				
x	Edit Exercise				
x	Main elements	Centered. There is equal margin to left and right			pass
x	Secondary elements are positioned correctly	Positioned correctly. They are inside the body content and under or around the main elements.			pass
x	Margins and paddings around elements are correct	there is space between the edges and content. Example, left edge and beginning of text has space between 10 and 30 px			pass
x	Minimum screen height is set to cover the viewport and/ or enclose all content	When the screen is small the elements should still stay between the navbar and footer. There is no overspilling or roll bar visible, unless the content is higher than viewport. There is no overspilling to the sides.			pass
x	Dividers and spaces between sections and elements	The spaces are proportioned. there are no extra dividers. There is linspace before and after a divider. There is min one line space between the buttons and the footer.			pass
Add Log/ Edit log					
x	Main elements	Centered. There is equal margin to left and right			pass
x	Secondary elements are positioned correctly	Positioned correctly. They are inside the body content and under or around the main elements.			pass
x	Margins and paddings around elements are correct	there is space between the edges and content. Example, left edge and beginning of text has space between 10 and 30 px			pass
x	Minimum screen height is set to cover the viewport and/ or enclose all content	When the screen is small the elements should still stay between the navbar and footer. There is no overspilling or roll bar visible, unless the content is higher than viewport. There is no overspilling to the sides.			pass
x	Dividers and spaces between sections and elements	The spaces are proportioned. there are no extra dividers. There is linspace before and after a divider. There is min one line space between the buttons and the footer.			pass
x	Datepicker is positioned correctly	Center of the screen			pass
x	Datepicker hover/ select	Dates show red when hovered over, encapsulated in a green circle when selected, buttons background set on powder blue and text dark teal	button effect little sticky	set ease in out	pass

Add Music Track/ Add Video Link					
x	Add Track				pass
x	Add Link				pass
x	Main elements	Centered. There is equal margin to left and right			pass
x	Secondary elements are positioned correctly	Positioned correctly. They are inside the body content and under or around the main elements.			pass
x	Margins and paddings around elements are correct	there is space between the edges and content. Example, left edge and beginning of text has space between 10 and 30 px			pass
x	Minimum screen height is set to cover the viewport and/ or enclose all content	When the screen is small the elements should still stay between the navbar and footer. There is no overspilling or roll bar visible, unless the content is higher than viewport. There is no overspilling to the sides.			pass
x	Dividers and spaces between sections and elements	The spaces are proportioned. there are no extra dividers. There is linspace before and after a divider. There is min one line space between the buttons and the footer.			pass

Responsiveness and compatibility

Responsiveness

Application was tested with the browser tools in Chrome and Firefox for different size mobile devices and screens for responsiveness. In the development phase both browsers were used.

Devises with big screens

Device							
View	Desktop	iPad	iPad Pro	iPhone X	iPhone 6/7/8 Plus	Laptop (MPDI) screen	Laptop with touch
index.html	Good	Good	Good	Good	Good	Good	Good
register.html	Good	Good	Good	Good	Good	Good	Good
classes.html	Good	Good	Good	Good	Good	Good	Good
addClass.html	Good	Good	Good	Good	Good	Good	Good
series.html	Good	Good	Good	Good	Good	Good	Good
addCass.html	Good	Good	Good	Good	Good	Good	Good

addSeries.html	Good	Good	Good	Good	Good	Good	Good
viewClass.html	Good	Good	Good	Good	Good	Good	Good
editClass.html	Good	Good	Good	Good	Good	Good	Good
editSeries.html	Good	Good	Good	Good	Good	Good	Good
addExercise.html	Good	Good	Good	Good	Good	Good	Good
editExercise.html	Good	Good	Good	Good	Good	Good	Good
addLog.html	Good	Good	Good	Good	Good	Good	Good
editLog.html	Good	Good	Good	Good	Good	Good	Good
addTrack.html	Good	Good	Good	Good	Good	Good	Good
addLink.html	Good	Good	Good	Good	Good	Good	Good
view_classes_in_series.html	Good	Good	Good	Good	Good	Good	Good
Over all	Good	Good	Good	Good	Good	Good	Good
Notes							

Devices with small screens

Device					
View	iPhone 6/7/8	iPhone 5/ SE	Pixel 2	Pixel 2 XL	Galaxy S5
index.html	Good	Good	Good	Good	Good
register.html	Good	Good	Good	Good	Good
classes.html	Good	Good	Good	Good	Good
addClass.html	Not optimal	Not optimal	Not optimal	Not optimal	Not optimal
series.html	Good	Good	Good	Good	Good
addCass.html	Good	Good	Good	Good	Good
addSeries.html	Good	Good	Good	Good	Good
viewClass.html	Not optimal	Not optimal	Not optimal	Not optimal	Not optimal
editClass.html	Not optimal	Not optimal	Not optimal	Not optimal	Not optimal
editSeries.html	Good	Good	Good	Good	Good
addExercise.html	Not optimal	Not optimal	Not optimal	Not optimal	Not optimal
editExercise.html	Not optimal	Not optimal	Not optimal	Not optimal	Not optimal
addLog.html	Not optimal	Not optimal	Not optimal	Not optimal	Not optimal
editLog.html	Not optimal	Not optimal	Not optimal	Not optimal	Not optimal
addTrack.html	Good	Good	Good	Good	Good
addLink.html	Good	Good	Good	Good	Good
view_classes_in_series.html	Good	Good	Good	Good	Good
Over all	Not optimal	Not optimal	Good	Good	Not optimal
Notes	Summer note	Summer note	Summer note	Summer note	Summer note

	buttons fall on two rows. When master tools are open they can cover the delete button of Tracks and Links.	buttons fall on two rows. When master tools are open they can cover the delete button of Tracks and Links.	buttons fall on two rows. When master tools are open they can cover the delete button of Tracks and Links.	buttons fall on two rows. When master tools are open they can cover the delete button of Tracks and Links.	buttons fall on two rows. When master tools are open they can cover the delete button of Tracks and Links.

Browser compatibility

Chrome, Firefox, Edge, Safari, IE and Opera were used for testing browser compatibility:

Browser test			
Browser	Intended appearance	Intended responsiveness	Notes
Chrome	Good	Good	
Firefox	Good	Good	
Edge	Good	Good	
Safari	Good	Good	
Opera	Good	Good	
IE	Good	Good	All features and visuals work as expected from IE 9 and above.