



Software Development
School Course Program
March 1, 2021

2021 Utah State
TSA Virtual
CONFERENCE

TEAM 102AW

TSA Team Members

Member AW0113

Member AW0006

STUDENT COPYRIGHT CHECKLIST

STUDENT COPYRIGHT CHECKLIST

(for students to complete and advisors to verify)

- 1) Does your solution to the competitive event integrate any music? ☐ YES ☒ NO

If NO, go to question 2.

If YES, is the music copyrighted? ☐ YES ☐ NO

If YES, move to question 1A. If NO, move to question 1B.

1A) Have you asked for author permission to use the music in your solution and included that permission (letter/form) in your documentation? If YES, move to question 2. If NO, ask for permission (OR use royalty free/your own original music) and if permission is granted, include the permission in your documentation.

1B) Is the music royalty free, or did you create the music yourself? If YES, cite the royalty free music OR your original music properly in your documentation.

CHAPTER ADVISOR: Sign below if your student has integrated any music into his/her competitive event solution.

I, M. Zervos (chapter advisor), have checked my student's solution and confirm that the use of music is done so with proper permission and is cited correctly in the student's documentation.

- 2) Does your solution to the competitive event integrate any graphics? ☒ YES ☐ NO

If NO, go to question 3.

If YES, is the graphic copyrighted, registered and/or trademarked? ☐ YES ☒ NO

If YES, move to question 2A. If NO, move to question 2B.

2A) Have you asked for author permission to use the graphic in your solution and included that permission (letter/form) in your documentation? If YES, move to question 3. If NO, ask for permission (OR use royalty free/your own original graphic) and if permission is granted, include the permission in your documentation.

2B) Is the graphic royalty free, or did you create your own graphic? If YES, cite the royalty free graphic OR your own original graphic properly in your documentation.

CHAPTER ADVISOR: Sign below if your student has integrated any graphics into his/her competitive event solution.

I, M. Zervos (chapter advisor), have checked my student's solution and confirm that the use of graphics is done so with proper permission and is cited correctly in the student's documentation.

- 3) Does your solution to the competitive event use another's thoughts or research? ☐ YES ☒ NO

If NO, this is the end of the checklist.

If YES, have you properly cited other's thoughts or research in your documentation? If YES, this is the end of the checklist.

If NO, properly cite the thoughts/research of others in your documentation.

CHAPTER ADVISOR: Sign below if your student has integrated any thoughts/research of others into his/her competitive event solution.

I, [Signature] (chapter advisor), have checked my student's solution and confirm that the use of the thoughts/research of others is done so with proper permission and is cited correctly in the student's documentation.

CONTENTS

Title Page.....	..1
Members.....	..2
Copyright Check list.....	..3
Introduction.....	..5
Educational Value / Requirements.....	..6
School Course Login Graphic Design.....	..7
Implementation Cost Information.....	..8
Work Log.....	..9
About TSA Story Reference.....	..19

INTRODUCTION

Our TSA Project for the 2021 Software Development Event is a programmable Learning Menu. In the day and age of online learning, it is especially important to keep the student involved and immersed in the school system. One of the ways our team discovered this was through the use of Learning Menus. Learning Menus are a modern approach to student learning allowing the students the freedom to choose their course and activities in school. My learning menu was designed to be used by teachers and given to students. Teachers can program in or delete any classes or activities from the learning menu we designed. Whenever a student goes through the menu they have the option to select certain classes and settings programmed in by the teacher. They may proceed to finish their selection and the teacher is given their selection of classes on their screen under selections. Along with this teachers can create individual student accounts and edit profiles through the interactive user's screen. Overall I think that our project will help pave the way for future learning and student freedom.

EDUCATIONAL VALUE

PUBLIC SCHOOLS

Schools all over the state try to become more efficient when it comes to class registration. Every school has class registration on paper where they hand you a piece of paper with all the classes on it and then you select what classes you want and turn it back in. Then the counselors have to go in and sign you up for each class. We have developed a software that keeps track of all the classes that a school would have and lets the student select their classes and it saves it under their name. The teacher/counselor would then log in and they could pull up each student and see what classes they signed up for.

This could significantly lower the workload for counselors and lower costs. It cuts down on the amount of paper used and it has all the information that the counselor needs in one place. They don't need to go through papers anymore to see what classes each student selected and sign them up.

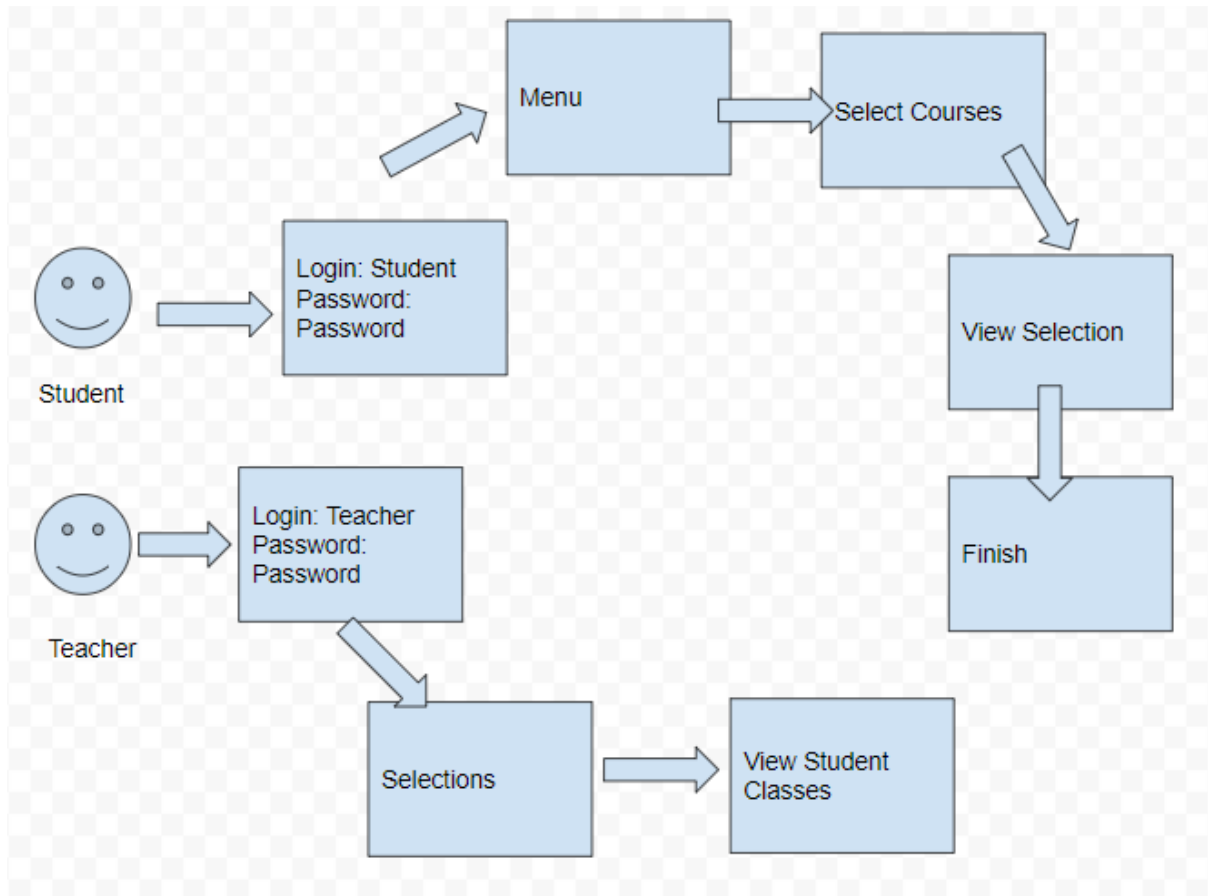
REQUIREMENTS

SCHOOL COURSES

- Software will allow students to have freedom to choose their courses
- Software will allow teachers to access student information
- Software will allow teachers to program in or delete any classes or activities
- Software will have the same login for students and teachers

SCHOOL COURSE LOGIN

Design Overview Graphic



IMPLEMENTATION COST INFORMATION

ITEM	DESCRIPTION	QUANTITY	COST
001	Each course development Setup	1	\$ 50.00
002	Installation Fee	1	\$ 500.00
003	Resource (75 per hour)	3	\$150.00
			\$ 0.00
			\$ 0.00
			\$ 0.00
			\$ 0.00
			\$ 0.00
			\$ 0.00
			\$ 0.00
			\$ 0.00
			\$ 0.00
TOTAL			\$ 700.00

WORK LOG

Item	Start	Finish	Total Hours	Purpose	Challenges
User Login Design (Ethan)	1/3/2021	1/3/2021	1.0	Create the GUI for the opening screen of the application where the teacher and students sign in	Make a good looking GUI with text boxes, a submit button, and errors message label.
User Login Functionality (Ethan)	1/5/2021	1/5/2021	1.5	Input and compare user data with data from xml files to allow access to the menu	Research and use xml documents to store user data. Compare data in xml file and the data given by the user in the text box. Open up the correct main menu given by the user's privilege.
Main Screen Teacher Design	1/6/2021	1/8/2021	3.5	Create and applying design to the user	Make a window with multiple

(Ethan and Nektarios)				which is straight forwards and functional	subforms which can display other forms at the same time. Make the menu look good. Add buttons to access the educational menu window and views the selections and user,
Main Screen Teacher Functionality (Nektarios)	1/10/2021	1/10/2021	0.5	Make drop down menu work and add button functionality	Add action listeners to the buttons and add a dropdown menu of buttons for the settings buttons. This includes the button users.
Users screen design and users button functionality	1/12/2021	1/13/2021	1.5	Add functionality to the users button and create a functional	Link the users button to the users page and creates a clean and

(Ethan)				users screen	functional users screen
Display users on the user's screen along with basic data (Nektarios and Ethan)	1/13/2021	1/15/2021	2.0	Print the user data on the screen from xml documents	Parse the xml documents for user data and print it on the screen in panels. Learn how to use flow layout.
Create the add user buttons in the sub frame (Nektarios and Ethan)	1/17/2021	1/17 2021	0.25	Add buttons to a subform at the bottom of the screen. Add edit, add and delete buttons.	Link buttons to corresponding forms and make them look nice.
Create the add user form and link it to xml documents (Nektarios)	1/18/2021	1/18/2021	1.5	Create a simple pop up which allows the teacher to add a username, password, privilege and name to the users list.	Create a program which takes the user entered data and puts it into an XML document. After this make sure that it works to

					sign in as the new person
Create the user edit form (Ethan)	1/19/2021	1/19/2021	0.5	Make a simple user edit form which looks similar to the add user form but has one extra box.	Put all of the names into a drop down text box and keep track of the names so the computer knows which XML document to edit.
Create user delete button (Nektarios)	1/19/2021	1/19/2021	0.5	Make a form with a simple and easy to use drop down menu which allows the user to delete a user in the system	Remove all of the information from the corresponding XML document
Creates a refresh button (Ethan)	1/21/2021	1/21/2021	1.0	Add a refresh button to refresh the page after the user makes edits	Figure out how to repaint the screen with a button

XML Research for the menu button (Ethan)	1/21/2021	1/22/2021	1.5	Figure out a way to store data for the menu portion of the program	Store all data under corresponding categories and store the information in array to read them
Creates the menu form and a GUI (Ethan)	1/23/2021	1/23/2021	0.5	Create a good looking GUI for the educational menu	Think about how you are going to add menu items from xml document
Display menu item and add a button for each (Ethan and Nektarios)	1/25/2021	1/25/2021	2.0	Display the menu items on the screen in a nice looking format along with their buttons	Create a array of panels and array of buttons and put them on the screen into a flow layout panel. In each panel put the name of the item.
Add to selection button and GUI form (Nektarios)	1/26/2021	1/27/2021	2.0	Display a form with all of the options for the	Read the XML document and display all the info

				corresponding item.	on the screen into 3 separate categories. Difficulty, Class and Extras. Display the name of the item and include check boxes for all options.
Add to order save button (Ethan)	1/27/2021	1/28/2021	2.0	Create XML documents for order and store information in a list	Figure out how to add all the information selected to the right XML document
Create add course button on the menu (Ethan and Nektarios)	1/29/2021	1/30/2021	1.5	Make a decent looking form with a lot of text boxes for the user to input information to	Make a text box for the name. Then add a lot of text boxes for the other option in the form. Save all the data to the next unused xml document.
Get refresh	2/1/2021	2/1/2021	0.25	Make a	Copy and

button working for the menu screen (Ethan and Nektarios)				refresh button for the menu screen	paste the other button and edit the code
Create delete course button (Nektarios)	2/1/2021	2/1/2021	0.5	Make a simple form to delete a course in the menu	Copy and paste the code from the users menu but change the text and location to work with this form
Create student selection screen (Nektarios and Ethan)	2/1/2021	2/3/2021	2.0	Make a simple student course selection screen which has text boxes for user data	Create text boxes and get the info if the finished button is pressed. Display all of the courses in a flow layout panel.
Create delete button for selection screen (Nektarios)	2/4/2021	2/4/2021	1.0	Deletes the course from the selection	Store the course the student selected and then delete the right course from the xml file

Functionality of the finish button (Ethan)	2/5/2021	2/5/2021	0.5	Save all of the courses as a selection	Saves the current selection as finished and moves onto the selection in the list of order files
Selection screen GUI and refresh button (Nektarios)	2/7/2021	2/7/2021	1	Copy the same look of the other GUIs	Get refresh button working with the frame
Selection Screen functionality (Ethan)	2/7/2021	2/8/2021	1.5	Read all of the finished order file and display them on the screen	Read the XML file and display the results on the screen using an array of panels and putting them into the flow layout panel
Selection screen panel buttons. View and delete (Nektarios)	2/9/2021	2/10/2021	2.0	Create a view button to view the order and its contents and create a delete	For the view button I will open up the selection form from the menu

				button to delete the selection and its contents	page. I will make an array of button to track which one is pressed then add them to the panels. The delete button will go through the file and make all of the node empty
App is finished now check for errors in the code (Ethan and Nektarios)	2/9/2021	2/9/2021	1.0	Go through all of the functions and see if there are any exploits	Created a cap for how many users you could have and put in messages say you can have less than one or more than five. Put in a default recovery password and user. Everything checks out. (Username: backup, Password:

					backup)
--	--	--	--	--	---------

ABOUT TSA

TSA Story Website Reference

<https://tsaweb.org/about/about-tsa/story>