Shri Govindram Seksaria Institute of Technology and Science

Department of Computer Engineering

SKILL DEVELOPMENT LAB
CO34451

Topic - Quiz Attendance Integration Application

Submitted to -
Ms. Ashwini Sharma
Mr. Surendra Gupta

Submitted by-
Arjun Pratap Singh Devara
0801CS221035

Table of Contents

1. Introduction

1.1 Objective

The objective of this documentation is to define the requirements and functionalities of the Quiz Attendance Integration Application. This application automates the process of integrating quiz attendance data with total student attendance records. It processes multiple CSV files containing quiz attendance, compares them with the overall attendance sheet, and updates the total attendance file to show the number of quizzes attended by each student. Additionally, it identifies students present in quiz attendance but not listed in the total attendance file.

1.2 Product Scope

The Quiz Attendance Integration Application is a web-based system that enhances the efficiency of attendance management. The application enables:

- Uploading of total attendance and quiz attendance files.
- Tracking how many quizzes each student has attended and updating the total attendance sheet accordingly.
- Identifying students present in quiz attendance but missing from the total list.
- Adding unmatched students to the bottom of the attendance sheet.

2. Overall Description

2.1 Product Perspective

The Quiz Attendance Integration Application is designed as a standalone web-based tool. Users can upload two types of files: one containing the total attendance data and another containing quiz attendance records. The application processes the files, integrates the quiz attendance data into the total attendance sheet, and identifies any unmatched students who are present in the quiz attendance but missing from the total attendance list. The final output includes the updated attendance sheet with quiz attendance and unmatched students appended at the bottom.

2.2 Product Functions

1) File Upload:

- One file for total attendance, listing all students (with columns such as Enrollment Number and Total Lectures).
- Multiple CSV files containing quiz attendance (with columns like Email, Enrollment Number, and Attendance State).

2) Quiz Attendance Tracking:

- The application compares the quiz attendance data with the total attendance file and tracks the number of quizzes attended by each student.

3) Unmatched Students Identification:

- Students present in the quiz attendance but missing from the total attendance list are added at the bottom of the output file, marked as unmatched.

4) Final Output:

- The total attendance sheet is updated with the "Quizzes Present" column, and unmatched students are appended at the bottom.

2.3 Design and Implementation Constraints

The system must be able to handle large Excel and CSV files efficiently to accommodate a high volume of data. It should support various Excel formats, including .xls and .xlsx, ensuring compatibility across different file types. Additionally, the application should ensure that

unmatched students are accurately appended to the bottom of the final attendance sheet without any performance degradation, even when processing large datasets.

3. Software Requirements
3.1 Operating System (for deployment and development)
- Server OS: Ubuntu, CentOS, or any Linux distribution, or Windows Server.
- Development OS: Windows 10/11, macOS, or any Linux distribution.

3.2 Programming Language
- Python 3.8+: Required for backend development, including Flask, Pandas, and other libraries used in the application.

3.3 Frameworks and Libraries
- Flask: A lightweight Python framework used to handle the server-side logic of the system, manage user requests, and process the uploaded files.
- Pandas: A Python library used for reading, comparing, and processing Excel and CSV files. It integrates the quiz attendance data into the total attendance sheet.
- re (Regular Expressions): Used for extracting enrollment numbers from student email addresses.
- Openpyxl: For reading and writing Excel files, supporting .xls and .xlsx formats to ensure compatibility.

3.4 Operating Environment
- Web Browsers: The application is compatible with modern web browsers, such as Chrome, Firefox, Safari, and Edge.

4. System Features
4.1 File Upload and Processing
- Upload functionality for a total attendance Excel file and multiple CSV files containing quiz attendance data.
- Validate that the correct columns (Enrollment, Total Percentage, etc.) are present in the uploaded files.
- Compare the quiz attendance files with the total attendance data and track the number of quizzes attended by each student.
- Identify students present in the quiz attendance but missing from the total attendance list and append them to the final Excel file.
- Generate an updated output Excel file with the integrated quiz attendance and unmatched students appended at the bottom.

4.2 Attendance Integration and Display
- Add a "Quizzes Present" column to the total attendance file, showing how many quizzes each student attended.
- Display unmatched students at the bottom of the output sheet, marking them accordingly in the first column.
- Ensure that unmatched students' attendance data is clearly identified in the output for further action or correction.
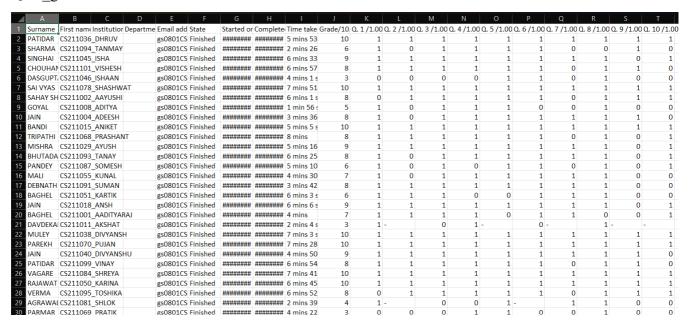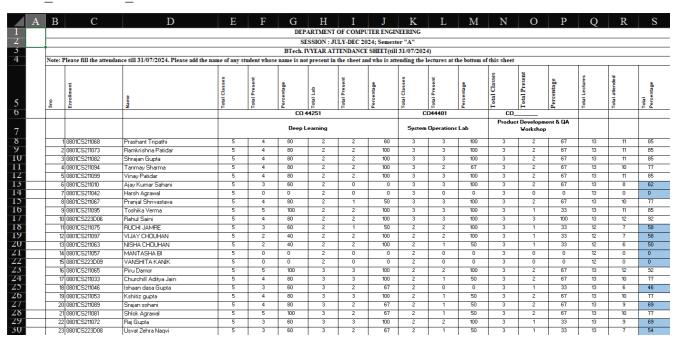
5. Input/Output
5.1 Input
Two types of files are provided as input:

- Total Attendance File: Contains the total list of students enrolled in the class, including their enrollment numbers and attendance details.
- Quiz Attendance Files: Multiple CSV files containing attendance information for the quizzes, including student emails and their attendance status.

Quiz_grade.csv

	A	B	C	D	E	F	G	H	I	Grade/10	Q. 1 /1.00	Q. 2 /1.00	Q. 3 /1.00	Q. 4 /1.00	Q. 5 /1.00	Q. 6 /1.00	Q. 7 /1.00	Q. 8 /1.00	Q. 9 /1.00	Q. 10 /1.00
1	Surname	First name	Institution	Departme	Email add	State	Started on	Complete	Time take	Grade/10	Q. 1 /1.00	Q. 2 /1.00	Q. 3 /1.00	Q. 4 /1.00	Q. 5 /1.00	Q. 6 /1.00	Q. 7 /1.00	Q. 8 /1.00	Q. 9 /1.00	Q. 10 /1.00
2	PATIDAR	CS211036_DHRUV			gs0801CS	Finished	########	########	5 mins 53	10	1	1	1	1	1	1	1	1	1	1
3	SHARMA	CS211094_TANMAY			gs0801CS	Finished	########	########	2 mins 26	6	1	0	1	1	1	1	0	0	1	0
4	SINGHAI	CS211045_ISHA			gs0801CS	Finished	########	########	6 mins 33	9	1	1	1	1	1	1	1	1	0	1
5	CHOUHAN	CS211101_VISHESH			gs0801CS	Finished	########	########	6 mins 57	8	1	1	1	1	1	1	0	1	1	0
6	DASGUPT	CS211046_ISHAAN			gs0801CS	Finished	########	########	4 mins 1 s	3	0	0	0	0	1	1	0	1	0	0
7	SAI VYAS	CS211078_SHASHWAT			gs0801CS	Finished	########	########	7 mins 51	10	1	1	1	1	1	1	1	1	1	1
8	SAHAY SH	CS211002_AAYUSHI			gs0801CS	Finished	########	########	6 mins 1 s	8	0	1	1	1	1	1	0	1	1	1
9	GOYAL	CS211008_ADITYA			gs0801CS	Finished	########	########	1 min 56 s	5	1	0	1	1	1	0	0	1	0	0
10	JAIN	CS211004_ADEESH			gs0801CS	Finished	########	########	3 mins 36	8	1	0	1	1	1	1	1	1	1	0
11	BANDI	CS211015_ANIKET			gs0801CS	Finished	########	########	5 mins 5 s	10	1	1	1	1	1	1	1	1	1	1
12	TRIPATHI	CS211068_PRASHANT			gs0801CS	Finished	########	########	8 mins	8	1	1	1	1	1	1	0	1	0	1
13	MISHRA	CS211029_AYUSH			gs0801CS	Finished	########	########	5 mins 16	9	1	1	1	1	1	1	1	1	0	1
14	BHUTADA	CS211093_TANAY			gs0801CS	Finished	########	########	6 mins 25	8	1	0	1	1	1	1	1	1	0	1
15	PANDEY	CS211087_SOMESH			gs0801CS	Finished	########	########	5 mins 10	6	1	0	1	0	1	1	0	1	0	1
16	MALI	CS211055_KUNAL			gs0801CS	Finished	########	########	4 mins 30	7	1	0	1	1	1	1	1	1	0	0
17	DEBNATH	CS211091_SUMAN			gs0801CS	Finished	########	########	3 mins 42	8	1	1	1	1	1	1	1	1	0	0
18	BAGHEL	CS211051_KARTIK			gs0801CS	Finished	########	########	6 mins 3 s	6	1	1	1	0	0	1	1	1	0	0
19	JAIN	CS211018_ANSH			gs0801CS	Finished	########	########	6 mins 6 s	9	1	1	1	1	1	1	1	1	0	1
20	BAGHEL	CS211001_AADITYARAJ			gs0801CS	Finished	########	########	4 mins	7	1	1	1	1	0	1	1	0	0	1
21	DAVDEKAI	CS211011_AKSHAT			gs0801CS	Finished	########	########	2 mins 4 s	3	1	-	0	1	-	0	-	1	-	-
22	MULEY	CS211038_DIVYANSH			gs0801CS	Finished	########	########	7 mins 3 s	10	1	1	1	1	1	1	1	1	1	1
23	PAREKH	CS211070_PUJAN			gs0801CS	Finished	########	########	7 mins 28	10	1	1	1	1	1	1	1	1	1	1
24	JAIN	CS211040_DIVYANSHU			gs0801CS	Finished	########	########	4 mins 50	9	1	1	1	1	1	1	1	1	1	0
25	PATIDAR	CS211099_VINAY			gs0801CS	Finished	########	########	6 mins 54	8	1	1	1	1	1	1	0	1	1	0
26	VAGARE	CS211084_SHREYA			gs0801CS	Finished	########	########	7 mins 41	10	1	1	1	1	1	1	1	1	1	1
27	RAJAWAT	CS211050_KARINA			gs0801CS	Finished	########	########	6 mins 45	10	1	1	1	1	1	1	1	1	1	1
28	VERMA	CS211095_TOSHIKA			gs0801CS	Finished	########	########	6 mins 52	8	0	1	1	1	1	1	0	1	1	1
29	AGRAWAL	CS211081_SHLOK			gs0801CS	Finished	########	########	2 mins 39	4	1	-	0	0	1	-	1	1	0	0
30	PARMAR	CS211069_PRATIK			gs0801CS	Finished	########	########	4 mins 22	3	0	0	0	1	1	0	0	1	0	0

Btech_Attendance_2024.xlsx

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1								DEPARTMENT OF COMPUTER ENGINEERING											
2								SESSION : JULY-DEC 2024; Semester "A"											
3								BTech. IVYEAR ATTENDANCE SHEET(till 31/07/2024)											
4				Note: Please fill the attendance till 31/07/2024. Please add the name of any student whose name is not present in the sheet and who is attending the lectures at the bottom of this sheet															
5		Sno	Enrollment	Name	Total Classes	Total Present	Percentage	Total Lab	Total Present	Percentage	Total Classes	Total Present	Percentage	Total Classes	Total Present	Percentage	Total Lectures	Total attended	Total Percentage
6							CO 44251					CO44401		CO_____					
7							Deep Learning					System Operations Lab		Product Development & QA Workshop					
8		1	0801CS211068	Prashant Tripathi	5	4	80	2	2	60	3	3	100	3	2	67	13	11	85
9		2	0801CS211073	Ramkrishna Patidar	5	4	80	2	2	100	3	3	100	3	2	67	13	11	85
10		3	0801CS211082	Shrajan Gupta	5	4	80	2	2	100	3	3	100	3	2	67	13	11	85
11		4	0801CS211094	Tanmay Sharma	5	4	80	2	2	100	3	2	67	3	2	67	13	10	77
12		5	0801CS211099	Vinay Patidar	5	4	80	2	2	100	3	3	100	3	2	67	13	11	85
13		6	0801CS211010	Ajay Kumar Sahani	5	3	60	2	0	0	3	3	100	3	2	67	13	8	62
14		7	0801CS211042	Harsh Agrawal	5	0	0	2	0	0	3	0	0	3	0	0	13	0	0
15		8	0801CS211067	Pranjal Shrivastava	5	4	80	2	1	50	3	3	100	3	2	67	13	10	77
16		9	0801CS211095	Toshika Verma	5	5	100	2	2	100	3	3	100	3	1	33	13	11	85
17		10	0801CS223D06	Rahul Saini	5	4	80	2	2	100	3	3	100	3	3	100	13	12	92
18		11	0801CS211075	RUCHI JAMRE	5	3	60	2	1	50	2	2	100	3	1	33	12	7	58
19		12	0801CS211097	VIJAY CHOUHAN	5	2	40	2	2	100	2	2	100	3	1	33	12	7	58
20		13	0801CS211063	NISHA CHOUHAN	5	2	40	2	2	100	2	1	50	3	1	33	12	6	50
21		14	0801CS211057	MANTASHA BI	5	0	0	2	0	0	2	0	0	3	0	0	12	0	0
22		15	0801CS223D09	VANSHITA KANIK	5	0	0	2	0	0	2	0	0	3	0	0	12	0	0
23		16	0801CS211065	Piru Damor	5	5	100	3	3	100	2	2	100	3	2	67	13	12	92
24		17	0801CS211033	Churchill Aditya Jain	5	4	80	3	3	100	2	1	50	3	2	67	13	10	77
25		18	0801CS211046	Ishaan dasa Gupta	5	3	60	3	2	67	2	0	0	3	1	33	13	6	46
26		19	0801CS211053	Kshitiz gupta	5	4	80	3	3	100	2	1	50	3	2	67	13	10	77
27		20	0801CS211089	Srajan sohani	5	4	80	3	2	67	2	1	50	3	2	67	13	9	69
28		21	0801CS211081	Shlok Agrawal	5	5	100	3	2	67	2	1	50	3	2	67	13	10	77
29		22	0801CS211072	Raj Gupta	5	3	60	3	3	100	2	2	100	3	1	33	13	9	69
30		23	0801CS223D08	Usvat Zehra Naqvi	5	3	60	3	2	67	2	1	50	3	1	33	13	7	54

5.2 Output

- The output Excel file integrates a "Quizzes Present" column into the total attendance data, showing the number of quizzes each student has attended.
- Unmatched students, who are present in the quiz attendance files but missing from the total attendance file, are appended at the bottom of the same sheet, marked as "unmatched" in the first column, along with their enrollment numbers and the number of quizzes attended.

Updated_Btech_Attendance_2024.xlsx

	Status	Sno	Enrollment	Name	Total Classes	Total Present	Percentage	Total Lab	Total Present	Percentage	Total Classes	Total Present	Percentage	Total Classes	Total Present	Percentage	Quizzes Present	Total Lecture	Total attend	Total Percentage
1	Status	Sno	Enrollment	Name													Quizzes Present	Total Lecture	Total attend	Total Percentage
2					CO 44251						CO44401			CO			0			
3					Deep Learning						System Operations Lab			Product Development & QAWor			0			
4		1	0801CS211068	Prashant T	5	4	80	2	2	60	3	3	100	3	2	67	4	13	11	85
5		2	0801CS211073	Ramkrishn	5	4	80	2	2	100	3	3	100	3	2	67	4	13	11	85
6		3	0801CS211082	Shrajan Gu	5	4	80	2	2	100	3	3	100	3	2	67	4	13	11	85
7		4	0801CS211094	Tanmay Sh	5	4	80	2	2	100	3	2	67	3	2	67	3	13	10	77
8		5	0801CS211099	Vinay Pati	5	4	80	2	2	100	3	3	100	3	2	67	4	13	11	85
9		6	0801CS211010	Ajay Kuma	5	3	60	2	0	0	3	3	100	3	2	67	4	13	8	62
10		7	0801CS211042	Harsh Agra	5	0	0	2	0	0	3	0	0	3	0	0	3	13	0	0
11		8	0801CS211067	Pranjal Shr	5	4	80	2	1	50	3	3	100	3	2	67	4	13	10	77
12		9	0801CS211095	Toshika Ve	5	5	100	2	2	100	3	3	100	3	1	33	4	13	11	85
13		10	0801CS223D06	Rahul Sain	5	4	80	2	2	100	3	3	100	3	3	100	0	13	12	92
14		11	0801CS211075	RUCHI JAN	5	3	60	2	1	50	2	2	100	3	1	33	4	12	7	58
15		12	0801CS211097	VIJAY CHO	5	2	40	2	2	100	2	2	100	3	1	33	4	12	7	58
16		13	0801CS211063	NISHA CH	5	2	40	2	2	100	2	1	50	3	1	33	1	12	6	50
17		14	0801CS211057	MANTASH	5	0	0	2	0	0	2	0	0	3	0	0	4	12	0	0
18		15	0801CS223D09	VANSHITA	5	0	0	2	0	0	2	0	0	3	0	0	0	12	0	0
19		16	0801CS211065	Piru Damo	5	5	100	3	3	100	2	2	100	3	2	67	4	13	12	92
20		17	0801CS211033	Churchill A	5	4	80	3	3	100	2	1	50	3	2	67	4	13	10	77
21		18	0801CS211046	Ishaan das	5	3	60	3	2	67	2	0	0	3	1	33	3	13	6	46
22		19	0801CS211053	Kshitiz gup	5	4	80	3	3	100	2	1	50	3	2	67	3	13	10	77
23		20	0801CS211089	Srajan soh	5	4	80	3	2	67	2	1	50	3	2	67	4	13	9	69
24		21	0801CS211081	Shlok Agra	5	5	100	3	2	67	2	1	50	3	2	67	3	13	10	77
25		22	0801CS211072	Raj Gupta	5	3	60	3	3	100	2	2	100	3	1	33	4	13	9	69
26		23	0801CS223D08	Usvat Zehr	5	3	60	3	2	67	2	1	50	3	1	33	0	13	7	54
27		24	0801CS223D04	Pritha Misl	5	3	60	3	2	67	2	2	100	3	1	33	0	13	8	62
28		25	0801ME211057	Nishika Sha	5	1	20	3	1	34	2	2	100	3	0	0	4	13	4	31
29		26	0801CS223D03	Nikhil Dwi	5	3	60	3	2	67	2	2	100	3	1	33	0	13	8	62
30		27	0801CS211018	Ansh Jain	5	4	80	3	2	67	2	1	50	3	2	67	4	13	9	69
31		28	0801CS211038	Divyansh N	5	4	80	2	2	100	2	1	50	3	1	33	4	12	8	67
32		29	0801CS211050	Karina Raj	5	5	100	2	2	100	2	2	100	3	1	33	4	12	10	83
33		30	0801CS211051	Kartik bagl	5	3	60	2	2	100	2	0	0	3	1	33	4	12	6	50
34		31	0801CS211090	Sujata Mo	5	3	60	2	2	100	2	1	50	3	1	33	4	12	7	58
35		32	0801CS211002	Aayushi Sa	5	4	80	2	2	100	2	1	50	3	1	33	4	12	8	67
36		33	0801CS211015	Aniket Bar	5	1	20	2	1	50	2	1	50	3	1	33	4	12	4	33
37		34	0801CS211034	Deepak Ag	5	5	100	2	2	100	2	1	50	3	1	33	4	12	9	75
38		35	0801CS211045	Isha Singha	5	4	80	2	2	100	2	1	50	3	1	33	4	12	8	67
39		36	0801CS211091	Suman Del	5	2	40	2	0	0	2	1	50	3	0	0	4	12	3	25

	Status		Enrollment	Name													Quizzes Present			
89		84	0801CS211084	Shreya Vag	5	4	80	2	2	100	3	2	67	3	2	67	4	13	10	77
90		85	0801CS211055	Kunal Mali	5	4	80	2	2	100	3	2	67	3	2	67	4	13	10	77
91		86	0801CS211059	Mohamme	5	4	80	2	1	50	3	1	33	3	2	67	3	13	8	62
92		87	0801CS211106	Zainulabec	5	4	80	2	1	50	3	1	33	3	2	67	3	13	8	62
93		88	0801CS211049	Jayesh Unc	5	1	20	2	0	0	3	1	33	3	2	67	4	13	4	31
94		89	0801CS211023	Arvind Kur	5	2	40	2	0	0	3	1	33	3	1	33	4	13	4	31
95		90	0801CS211003	Abhishek T	5	4	80	2	2	100	3	1	33	3	2	67	4	13	9	69
96		91	0801CS211056	Manmay N	5	1	20	2	1	50	3	1	33	3	2	67	4	13	5	38
97		92	0801CS211016	Anirudh Sir	5	2	40	2	1	50	3	1	33	3	2	67	3	13	6	46
98		93	0801CS211013	Aman Bag	5	3	60	2	1	50	3	2	67	3	2	67	4	13	8	62
99		94	0801CS211021	Anvesha Ja	5	5	100	2	2	100	3	1	33	3	2	67	2	13	10	77
100		95	0801CS211040	Divyanshu	5	2	40	2	1	50	3	1	33	3	2	67	4	13	6	46
101		96	0801CS211058	Meet Jain	5	2	40	2	1	50	3	1	33	3	2	67	4	13	6	46
102		97	0801CS211054	Ku Priyansl	5	2	40	2	1	50	3	0	0	3	2	67	4	13	5	38
103		98	0801CS211001	Aadityaraj	5	3	60	2	1	50	3	0	0	3	2	67	4	13	6	46
104		99	0801CS211009	Aditya Ma	5	4	80	2	2	100	3	0	0	3	1	33	2	13	7	54
105		100	0801CS211027	Aviral Bhat	5	4	80	2	1	50	3	0	0	3	2	67	4	13	7	54
106		101	0801CS211093	Tanay bhu	5	4	80	2	2	100	3	1	33	3	1	33	4	13	8	62
107		102	0801CS211001	Akshay dav	5	0	0	2	0	0	3	0	0	3	0	0	4	13	0	0
108		103	0801CS211030	Ayushi Kes	5	4	80	3	2	67	3	1	33	3	2	67	4	14	9	64
109		104	0801CS211080	Shivanand	5	5	100	3	3	100	3	3	100	3	2	67	3	14	13	93
110		105	0801CS211024	Aryansh Pa	5	5	100	3	3	100	3	3	100	3	2	67	4	14	13	93
111		106	0801CS211083	Shreya Jair	5	5	100	3	3	100	3	3	100	3	2	67	4	14	13	93
112		107	0801CS211079	Shivansh Ja	5	5	100	3	3	100	3	3	100	3	2	67	4	14	13	93
113																				
114																				
115	Unmatched Student		0801CS211011														2			
116	Unmatched Student		0801CS211086														3			
117																				

6. Conclusion

The Quiz Attendance Integration Application streamlines the process of tracking student attendance across quizzes and total classes. By integrating quiz attendance data into the total attendance file and identifying unmatched students, the system enhances efficiency and accuracy in attendance management. Built with scalable technologies like Flask and Pandas, it ensures smooth performance while providing clear visibility into student attendance. This application simplifies attendance tracking, fosters accountability among students, and improves overall communication regarding participation in quizzes.

7. References

- Flask Documentation -> https://flask.palletsprojects.com/en/2.2.x/
- Pandas Documentation -> https://pandas.pydata.org/pandas-docs/stable/
- Openpyxl Documentation -> https://openpyxl.readthedocs.io/en/stable/
- Regular Expressions Documentation -> https://docs.python.org/3/library/re.html