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## THE 11TH INTERNATIONAL INNOVATION, INVENTION & DESIGN COMPETITION INDES 2022

# **EXTENDED ABSTRACTS BOOK**



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#### eSAPS: STUDENTS' ACADEMIC PERFORMANCE SYSTEM

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#### ABSTRACT

Educators at every educational institution take a role in recording student examination results. A reliable system is required to ensure that it can help educators maintain accountability for students' confidential results. Academic performance records, such as grades and marks, provide information about student progress and assist educators in making critical decisions about students' learning needs. Hence, the researcher has created Students' Academic Performance System (eSAPS) to make it easier to record student exam results. An application software called data studio was used to create this system. Additionally, it may make it simpler for educators to keep track of students' development and advancement, as well as any weak points. Making a unique folder for each student is a terrific way to accurately monitor their development. Documents that demonstrate proof of students' academic performance can be kept in each folder.

Keywords: students' performance, academic system, data studio

#### **1. INTRODUCTION**

Most students relate assessment with test results and grading, which includes calculating course grades as well as quiz and exam scores (Garfield, 1994). Whatever student assessment method is employed, it is crucial to assess particular learning outcomes at various critical thinking levels (Nancy, 2013). Educators frequently use assessments to let students know how they are doing or how well they are doing in a class. There is a growing understanding that assessment is a dynamic process that generates data about how well students are doing in achieving their learning goals on a continuous basis.

Moreover, some educators give numerical values such as the test's accuracy percentage, while others give letter grades. The grades are then averaged using one of the two methods, frequently using a weighting method designed to give some grades a higher weight than others. The question of whether to average letter or numerical grades or to discuss a particular aspect of the weighting process is the main topic of discussion of the benefits of various strategies (Cross, 1994).

Additionally, Béguin and Wood's (2015) study discovered that assessment results are typically presented as grades or marks. The results of the assessment can be used to create future performance goals that will have a significant educational impact when properly interpreted and put into practice. Educators can agree on their priorities, focusing, for instance, on a

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coherent set of curriculum domains or at-risk student populations. They are able to effectively set attainable, concrete growth goals and monitor their progress in achieving those goals.

According to Jorge et al. (2017), considering that one of the student privacy concerns is their assessment data. Some applications of trustworthy profiles might involve technological issues. Therefore, due to ethical considerations and trustworthiness, data must be handled in accordance with the legal requirements, responsiveness standards, and privacy protection guidelines established for each educational institution. Additionally, students should decide whether they would rather not publish specific information. In order to achieve this, we suggest a customization control access module that is designed to provide a tool for configuring student profile visibility.

In conclusion, using data studio, a system known as eSAPS: Student Academic Performance System was created to track student assessment results. Only the students involved can access the results of the student assessment system and see the evaluations that have been set by the lecturer. The results are accessible at any time and from any location.

#### 2. METHODOLOGY

The project in general was developed using the System Development Life Cycle (SDLC) methodology. The SDLC methodology is used while designing systems by many ICT practitioners or specialists. Several models, including the Waterfall, Spiral, Iterative, V-shaped, and Agile models, are incorporated into the SDLC process (Existek, 2020). The Waterfall approach was integrated into this project since it supports or fits the development of web-based applications. The steps of the SDLC waterfall model are shown in Figure 1 below, which was introduced by Dr. Winston in 1970 (Winston, 1970).



Figure 1 System Development Life Cycle, Waterfall Models

Based on Figure 1, the Student Academic Performance System (eSAPS) has been established effectively, allowing for efficient and effective operation of the student academic performance. eSAPS is developed using data application software studio within Google. Every student can access this application to view the history of their assessment marks and attendance records in class.



#### **3. FINDINGS**

To measure the users' acceptance level of satisfaction on eSAPS, an online survey was conducted after the students received their assessment marks. For this project, the survey was focused on the perceived-ease-of-use (PEOU) in which the respondents were required to respond on the ease of using eSAPS. Five (5) options using the Likert Scale from scale 1 for strongly disagree until scale 5 for strongly agree were the options for each question that the users can choose.

A total of 60 respondents were selected for the survey. 34 respondents were female students, and 26 respondents were male students from the Faculty of Electrical Engineering and Faculty of Mechanical Engineering, Universiti Teknologi MARA (UiTM) Pulau Pinang Branch.

		System	Level of
		Interface	Satisfaction
System Interface	Pearson	1	.781
	Correlation		
	Sig. (2-tailed)		.015
	N	60	60
Level of	Pearson	.781	1
Satisfaction	Correlation		
	Sig. (2-tailed)	.015	
	N	60	60

 Table 1 Correlation between System Interface and Level of User Satisfaction

Table 1 indicates that there is a significant and strong positive relationship between the level of satisfaction and the system interface since the Pearson Correlation was equal to 0.781. This indicates that respondents are satisfied with the system interface since it is easy and practical to use compared to the traditional method.

#### 4. CONCLUSION

As a conclusion, eSAPS is a very useful tool for teaching and learning, especially for documenting student assessment results. Additionally, eSAPS makes it simpler for students to assess their coursework and verify their grades at any time, even if their assessment materials are misplaced in the storage. Because of this, students can indirectly improve their performance on the following assessments if they regularly review their results and check the overall grade for their coursework. In addition, educators can track students' attendance during each assessment and compile student assessment results using eSAPS. This demonstrates the importance of the eSAPS application in conjunction with blended learning, which is still frequently used in higher education institutions today.



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