# Proposal

The project group is required to submit a project proposal before the group starts doing the project. The proposal should introduce the project topic briefly. Each group needs to submit one proposal that contains

1.Background information of the topic.

In recent years, educational games have become increasingly popular as an attractive tool in promoting student learning. These games aim to make learning interactive and enjoyable, with the potential to improve students' academic performance. Researchers are increasingly exploring the correlation between gaming and academic performance, assuming that game based learning can improve cognitive skills and problem-solving abilities. The project aims to investigate and predict students' performance based on their participation and performance in the game.

2.The objective of the project.

The main goal of this project is to develop a predictive model that can use data collected from student game interactions to estimate student performance in traditional academic environments. Our goal is to identify patterns and correlations that can indicate students' potential academic performance by analyzing game data such as scores, time spent, frequency of game play, and types of game play. This can help educators tailor their teaching strategies, provide personalized learning experiences, and ultimately improve students' grades.

3.Potential data sources and the description (e.g. statistics) about these data sources.

From www.kaggle.com

4.The description about the methods that will be used.

Data preprocessing

Cleanup: Delete incomplete or irrelevant records.

Standardization: Scaling data to a common range to ensure consistency.

Conversion: Use techniques such as single hot encoding to convert categorical variables into numerical format.

Cleanup: Delete incomplete or irrelevant records.

Standardization: Scaling data to a common range to ensure consistency.

Conversion: Use techniques such as single hot encoding to convert categorical variables into numerical format.

Consider the following questions when the proposal is being prepared.

1.What is the problem?

The problem is to determine if and how game play data can predict student

performance in traditional academic settings.

What are the data sources?

From www.kaggle.com

Are these data sources available?

It is a available

What are the tasks that are being performed?

Data collection, preprocessing, visualization, model selection, training, validation, and interpretation of results.

What are the data preprocessing, visualization, and data mining methods that will

be used? Why?

Data Preprocessing: To ensure data quality and consistency, making it suitable for analysis.

Visualization: To help understand the data and identify patterns visually.

Data Mining Methods: To build predictive models that can generalize from the observed data and make accurate predictions about student performance. The choice of methods reflects a progression from simpler to more complex models, aiming to find the best balance between interpretability and predictive power.