

# Introduction to Database Systems

## Term Project Proposal

### NOTICE!

To make sure the projects of different teams will not be too similar, before you start to write your project proposal, please fill what data you are going to use and what will the project do in the [team registration form](#). If you find other teams that have similar idea, please modify or change your project idea so that they will not be too similar (using same data is okay). We will ask you to modify or change your proposal if your project proposal is too similar to others'.

## 1. Introduction

The purpose of term project is to help you understand and practice how applications interact with database systems. In this project, you are required to choose one or multiple datasets, then write a application based on the data you choose. The application can be a website, an App on phone etc. Continue reading to learn details about the project.

## 2. Proposal

The proposal requires you to write about your plan for the project. In this proposal you need to include the following aspects of your plan:

### 2.1 Data

You can choose the data on your own, but remember to follow the following rules:

1. The data you use in this project must be **publicly available**.
2. The size of your data must not be too small (in term of number of rows and number of tables).
3. The data should not be artificial (i.e. fake data).
4. (optional) We encourage you to use data associated with public interest (e.g. data about COVID-19, public transportation etc.).

In the proposal, you need to provide the following information about your data:

- The description of your data
  - introduction of the data
  - what do the columns and tables mean
  - where was the data from

- other information about your data (e.g. will it be updated in the future?)
- The source of your data
  - link to your data source

Here are some data sources (of course you can choose data from other sources):

- [Open data platform of Taiwan government](#)
- [Kaggle](#)
- [U.S. Government's open data](#)

Sometimes it may not be easy to find suitable data just from one source, you can try to combine multiple data into one. If you decide to use multiple data, provide information of all the data you use and tell us how you would like to combine them.

## 2.2 Application design

Your application should be based on the data you choose and with some additional functionality that interact with the data, it can be a website, an apps on mobile device, a program on PC etc. Here are some rules of the application:

1. This is a “application”, so there must be a interface for users to use your application easily.
2. There must be some “interaction” with users, a simple example is to let users search for some keywords and return related result.
3. The users should be able to insert some data into your database, the inserted part can be separated from the original data (e.g. you have a table recording users name and their search history).

The following aspects of your application must be explained in this proposal:

- Main idea
  - the purpose of your application
- Functionality
  - what kind of information will be presented to users
  - what kind of interaction will be available
  - what kind of data will users be able to insert and update
- Interface
  - what will be the platform (website, mobile devices app, PC program etc.)
  - expected interface look (use figure or text to explain)

## 2.3 Work plan

Since this is a team project, we need to make sure everyone in the team contribute to the project. However, we understand that it is hard and meaningless for you to pre-assign work to team members. So, instead of a work division table, we require you to provide these information in the proposal:

- Time schedule
  - no need for exact date, just list all the tasks and sub-goals of your project, then tell us which part will be done first etc.
- Discussion
  - we want to see how your team work together throughout this project, so please open a discussion board/channel (e.g. Hackmd note, Trello board) and record your discussion throughout the project
  - in the proposal, just open the discussion board/channel and provide the link
- Repo
  - please open a github/gitlab repo for your project, your will need to upload the source code of the project in the repo (at the end of the project)
  - (optional) we encourage you to do version control and show contribution of each member using git, you will get extra points if you do this
  - in this proposal, just open the repo and provide the link

### 3. Remarks

**Remember, this is a “database” project, so the interface is not the main consideration. DO NOT spend too much time on making your interface looks good, we WILL NOT rate your project based on this. (That is to say, it is okay if your interface is ugly.)**

Here are some main points you should consider when designing the project:

- Data
  - as mentioned before, we would like to see you choose some data associate with public issues like COVID-19
- Functionality
  - since this is a database project, what we care most is how you utilize the ability of database and query language in your project
  - the interaction between application and database (both direction) is one main point, how do you transform between users’ action to query
- Exception handling

- will the application break when some abnormal actions (e.g. insert a “-1” into a column “age”) happen? how do you make the application robust to these exceptions

## 4. Submission

1. The deadline of project proposal is **4/29 (Wed.) 23:59:59**.
2. Submit only 1 .pdf file, the file should be named in the format “**Proposal\_TeamXX.pdf**” where XX is your team ID (please write 05 if you are team 5 for example).
3. Only 1 team member need to submit the proposal.
4. Late submission lead to score of  $(\text{original score}) \times 0.85^{\text{days}}$ , for example, if you submit your proposal right after the deadline, your get  $(\text{original score}) \times 0.85$  points. **This penalty applies to ALL team members’ score.**
5. If there is anything you are not sure about the project, ask in the “Project 討論區” channel on Microsoft Teams.