

PROJECT INFO

CS309 Object-oriented Analysis and Design

Early release in summertime

Note

- Each group picks one problem from a pool
- So far we released 5 projects during your summer vacation (there might be more to be released in the beginning of this course).
- More detailed explanations of each projects would be introduced in the first week of fall semester in both theory course and lab courses.
- One contact person is needed for each group.
- You can pick and launch your project right away once you nail your team members.

The Project List

- **The Legendary Mozart**: Build an RPG game with Mozart's life events as its storyline (collaborated with Central Conservatory of Music, 35% + 5%).
- **SUSTeMahjong**: Build a Mahjong Game with SUSTech background.
- **Courschema**: Build a website that easily derive the course schema uploaded by all the departments in SUSTech (collaborated with Office of Educational Administration of SUSTech).
- **BetterOJ**: Build a comprehensive online judge system that can be easily adopted by several CSE courses.
- **Algorithm store**: An online store where users can customize smart logics algorithms and run them in server (collaborated with the Peacock team in CSE).

The Legendary Mozart:

- An RPG game with the leading role of first/third person perspective
- Mozart's life events as basic storyline (e.g, his birth, growth, composition of his famous work)
- You don't know the details? No worries, Central Conservatory of Music provides the story script.
- Highly refined images. You can outsource them to professionals if you want to. Contact us if you need financial support but the funds are limited .
- Students with expertise in both game programming and music are encouraged to form such teams.
- Need to have faith, especially because this project is really harsh.
- Bonus hits:
 - One or more branch games are needed to enrich the game.
 - Fancy GUIs are welcome
 - ...

The Legendary Mozart:

- Labor recommendation
 - Resource provider (art designer)
 - Scenario designer
 - GUI designer
 - Game logic designer
 - Or other roles determined by you
- Materials
 - You can refer to the .pdf file “南科大 – 莫扎特音乐游戏脚本”

SUSTeMahjong

- Build a Mahjong Game with SUSTech as background.
 - You need to change the elements of traditional Mahjong. For example, replace Strip Pie and Ten Thousand (条、饼 和 万) with departments, courses, or teaching buildings etc.
 - You can change the rules of traditional Mahjong, but make sure that your game is a Mahjong Game. That means the winner policy and the game process should align with the traditional Mahjong.
 - Human vs. Human mode is required. Other modes are optional and bonus.
- Reminders
 - Design your game policy as funny and reasonable as possible
 - Make sure that your game logic stays positive, otherwise you would be forced to give up on your ideas.
 - Fancy GUIs are welcome
 - ...

SUSTeMahjong

- Labor recommendation
 - Resource provider (art designer)
 - Algorithm designer
 - Game logic designer
 - GUI designer
 - Or other roles determined by you

Courschema

- Users (e.g. Teaching secretaries or others) can upload course schemas by filling a uniform template or adding courses into website directly.
- The download format of course schemas needs to be unified.
- For website visitors, given the input keywords such as 'department', 'academic year', etc., the website can return how many courses are required for learning. When logging in the website by a student account, it can return which courses he/she has learned or not.
- Design an approach to solve the inconsistencies in course schema appearances among all departments.
- Design a Q & A session for frequently asked questions.
- Contact the Office of Educational Administration for further guidance

Courschema

- Bonus hits:
 - Try to add as many appropriate requirements as possible.
 - Try to refine the front-end design. (e.g. deliver an refined layout to display the course list)
 - user friendly design.
 - ...
- Labor recommendation
 - Database designer
 - Front-end designer
 - Back-end designer
 - Or other roles determined by youor
 - Admin of Q & A session
 - Admin of Schema Models
 - Or others

Courschema

- Materials
 - You can refer to the .pdf file ‘培养方案样本’

BetterOJ

- Provide a platform for executing codes in the server, and then return the corresponding results (e.g., the error messages, how many test cases have been passed, and score).
- Design different user levels such as the highest permission user, question administrator, user administrator, students, etc.
- Deliver an approach for adding assignments, competitions or other activities, and give a clear feedback by a ranking list or others
- Design it with your own feature, DO NOT simply copy and change from open source

BetterOJ

- Bonus hits:
 - Try to add as many appropriate requirements as possible.
 - The server can execute as many programming languages as possible.
 - Place emphasis on the Innovation points from CSE courses in SUSTech.
 - ...
- Labor recommendation
 - Database designer
 - Front-end designer
 - Back-end designer
 - Or other roles determined by you

Algorithm store

- Customers can customize different algorithms from the website to solve their own problem. (e.g. sorting problem). You can refer to several popular online stores, such as Tao Bao, to design purchase models.
- To solve one problem, different algorithms have different prices.
- The website can design an approach for customers to upload original data, then run them in the server, and finally feedback the running result to customers in the website.
- Customers can check their transaction list.
- For other advanced algorithms, you can refer to <https://github.com/DEAP/deap>
- Bonus hits:
 - Your store can sell as many algorithms as possible.
 - Refine front-end design.
 - Using distribute way to running the algorithm.
 - Design an algorithm interface for programmer to invoke different algorithm easily.

Algorithm store

- Labor recommendation
 - Database designer
 - Front-end designer
 - Back-end designer
 - Or other roles determined by you
- Materials
 - Algorithms can be extracted from open source, while others cannot.
 - We provide a github link <https://github.com/DEAP/deap>.