School of Computing  
CA326 Year 3 Project Proposal Form

**SECTION A**

Project Title: Smart Rostering System

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Staff Member Consulted: Liting Zhou

**Description**

Smart Rostering System will be designed to solve the severe problem of the nursing schedule system. Due to the circumstances of the short hands of a nursing home, Smart Rostering System will help to provide a frame, or a fair prediction schedule solution based on the status of the medical staff who signed into the system.

Target :

1. User-friendly UI design. Follow the UI design guidelines. The UI should be convenient, easy to understand and memorized.
2. Solid database. Use data analysis techniques such as collecting data, cleaning data and storing data and so on.
3. Smart Rostering System should work in both Mac OS and Windows.
4. Smart Rostering System should generate a usable schedule draft for every two weeks. It can highlight the day off, special events, rush hour and free slots, it also can be amended manually.
5. The night shift rotation reminder can be set up on this system.
6. The system should not only generate one result. Multiple results can be chosen by the user.
7. The system should handle errors from user input or database.
8. All staff names, roles, contracted hours should be displayed on the screen and allow allocations of specific area or floor.
9. All staff can request day off, annual leave, sick leave, or maternity leave on the system for manager’s approval and all these data will be recorded, the system also should show remaining holiday hours.
10. Who has approved day off, annual leave, sick leave or maternity leave should appear on roster automatically.
11. The duty will be notified to staff by email.
12. The system should store personal information of all staff as below:

* Contact number
* Home address
* Email address
* Employment status i.e. full time, part time, relief, weekends only, nights only.

1. Layout of roster should be as below:

* First Section – Nursing: Director of nursing, ADON - Assistant Director of Nursing, CNM3 - Clinical Nurse Manager 3, CNM2 - Clinical Nurse Manager 2, CNM1 - Clinical Nurse Manager 1, Nurses, Night nurses
* Second Section – HCA: Team leaders, HCAs, Night HCAs, Activities, Physio
* Third Section – Ancillary: Admin, Finance, HR, Reception, Maintenance
* Fourth Section – Catering: Head chef, Chefs, Kitchen assistants
* Fifth Section - Housekeeping: Supervisor, Cleaners, Laundry assistant

In conclusion, the Design of the Smart Rostering System will focus on the help correction of the schedule and UX in real-life.

**Division of Work** - Outlines how the work is envisaged to be split equally among the team members.

Xiaoyu Lyu – Create database, develop the back end, write half of functional specification, write half of user manual, write half of technical specification, write blog.

Yutong Wu – Design the user interface, develop the front end, write half of functional specification, write half of user manual, write half of technical specification, make video walkthrough.

**Programming language(s)** - List the proposed language(s) to be used

Python, JavaScript, HTML, CSS, REST.

**Programming tool(s)** - List tools (compiler, database, web server, etc.) to be used

VSCode, MySQL, Django, Postman, Node, AWS.

**Learning Challenges** - List the main new things (technologies, languages, tools, etc.) that you will have to learn

1. Build a suitable algorithm.
2. New to the JavaScript.
3. More challenge on database.
4. New to AWS.

**Hardware / software platform** - State the hardware and software platform for development, e.g. PC, Linux, etc.

Windows and Mac OS.