

Defining the problem

Client Ms Dean is an assistant housemistress of Halla North, one of the boarding houses of NLCS Jeju. There are over 20 students who are either year 12 or 13 for her to keep track of their locations, especially on the weekend. For every registration, each student is supposed to let Ms Dean know their location by the group messenger (Figure 2). Then, Ms Dean records the collected data onto paper documentation (Figure 1). Because there are three registrations per day if the location of the student changes, Ms Dean has to cross it out rewrite on the limited space. Furthermore, a boarding student, Kyle is interviewed to identify the problem of the current system from a student's point of view. The students felt tiresome to type their location at every registration time and experienced disturbance of the message alarms from other students. (See appendix 2 for interview script)

Figure 1: Halla North Girls Register 2020-21 Autumn Term

Sat 22 Aug	19:30 ²⁰	TEMP	19:45 ²⁰	TEMP	20:45 ^{22.3}	Comments
201 Soobin Claren An	✓	36.9	✓	36.6		
202 Katie Kyungyeon Min	✓	36.6	✓	36.5		
203 Erica Da Hye Chon	✓	36.5	✓	36.2		
205 Aileen Hyun So Lee	✓	36.5	✓	36.5		VB
206 Janis Juoyun Park	✓	36.5	✓	36.2		
207 Alison Hyeyun Song	✓	36.7	✓	36.2		
208 Seyfried Sookkyong Sung	✓	36.8	✓	36.2		
209 Janice Seung Min Yoo	✓	36.6	✓	36.2		
210 Hailey Hyun Seo Yoo	✓	36.5	✓	36.4		swimming
211 Cindy J Hyung Ku	✓	36.5	✓	36.4		Hailing wants to move to 211
212 Layla Sunwoo Bu	✓	36.4	✓	36.4		
213 Jay Won Evelyn Yoon	✓	36.3	✓	36.3		
201 Luella Yoonseo Lee	✓	36.5	✓	36.5		
203 Marie Nakuna Song	✓	36.9	✓	36.9		

Figure 1, Figure 2

Ms Dean wanted a new document format with a better user interface, where it is easy to input and edit the data for each student, as well as having a user-friendly visual representation of the list of student location information. Moreover, she has stated that it would be great even if the students can input their location to the system by themselves at a given time (See appendix 1 for interview script). One step further, a boarding student, Kyle, mentioned that he desires a system with an easy user interface, which can be used in mobile devices (See appendix 2 for interview script).

Rationale for the proposed solution

A well-organized website and databases would be suitable for solving Ms Dean's problem. The website has high accessibility as it can be accessed through an online server, on any device that has a connection with the internet. Using databases allows users to easily manage large amounts of information at once. Furthermore, queries such as sorting can be used in the programming process, which makes the program developing process easier and faster.

I am comfortable with programming with HTML and CSS, and the platform such as Visual Studio Code is easily accessible, hence, website development chosen for the new

system. Also, PHP is used when interacting with the database: utilizing sql queries conveniently.

With a website-based system, staff and the students in various locations would be able to access the program via any devices, such as mobile phone and laptop without any compatibility issues regarding the operating system. If I have chosen to develop a mobile application, the compatibility problem may arise between different operating systems such as iOS and Android. Furthermore, a website would allow fast synchronization of data between the user interface and the database as the data is automatically uploaded to the database server if connected online.

Success Criteria

- 1) Administration account is provided for staff
- 2) The administrator can add, edit or delete student information
- 3) Visual presentation of a table of students and their locations is provided
- 4) The administrator can choose how to sort the table of data
- 5) The program allows the administrator to reset the location data
- 6) User accounts are provided for the boarding students
- 7) User can enter their location using their accounts

451 words