



University of the Philippines Los Baños

UPLB DMIS

A Management Information System for
UPLB Student Housing Facilities

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Overview

- 01** Introduction
- 02** Objectives of the Study
- 03** Materials and Methods
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- 05** Conclusion and Recommendations



Background of the Study 01

The University of the Philippines Los Baños (UPLB) is one of the state universities in the Philippines that offers its own student housing facilities. The application for these dormitories is done online via the Office of Student Affairs Management (OSAM) System.



Problem of the Study

01

The OSAM system only handles the dorm application of the students. It does not cover the management of dormers' information.

Some procedures and processes of the current management system of the UPLB dormitories are still done manually. It takes more time and effort to gather and fetch data because of this traditional method.

SAMPLE BASIC INFORMATION SHEET OF RESIDENTS

FORM A

RESIDENTS BASIC INFORMATION FORM

Name ECHAN MEGAN D. Gender Female Civil Status Single
 (Last) (First) (Middle) Date of Birth 12/14/2000 Course BSC Computer
 Last school Attended One Royal Institute (Public) (Private) Religion Catholic
 Classification STS Bracket 1 Scholarship(s) DOST - SEI
 Monthly Stipend P 100 Home Address 100 BANTAN, ORION, BATAN
 Region 3 Student# 2019-08204 Cellphone# 09168494977 E-mail echanmeghan@gmail.com
 Please Check: (Parents still Married) (Parents Separated) (Parents remarried) (Single Parent)
 Father Raulito Echan Occupation Vendor Monthly Income _____
 Name of Firm/or Employer None
 Office Address _____ Cel/Tel# _____
 Mother Christina Echan Occupation Accounting Assistant Monthly Income _____
 Name of Firm/or Employer BPSY Trading Corp
 Office Address _____ Cel/Tel# _____
 No. of Brother(s) 1 No. of Sister(s) _____ Birth Order 1
 Other Source(s) of Income _____ Amount _____
 Hobbies _____ Honors received _____
 Talents _____ Membership in Campus Organization UP PENINSULARES
 Your usual ailments _____ Medication(s) you Usually take _____

In case of emergency, Please notify:

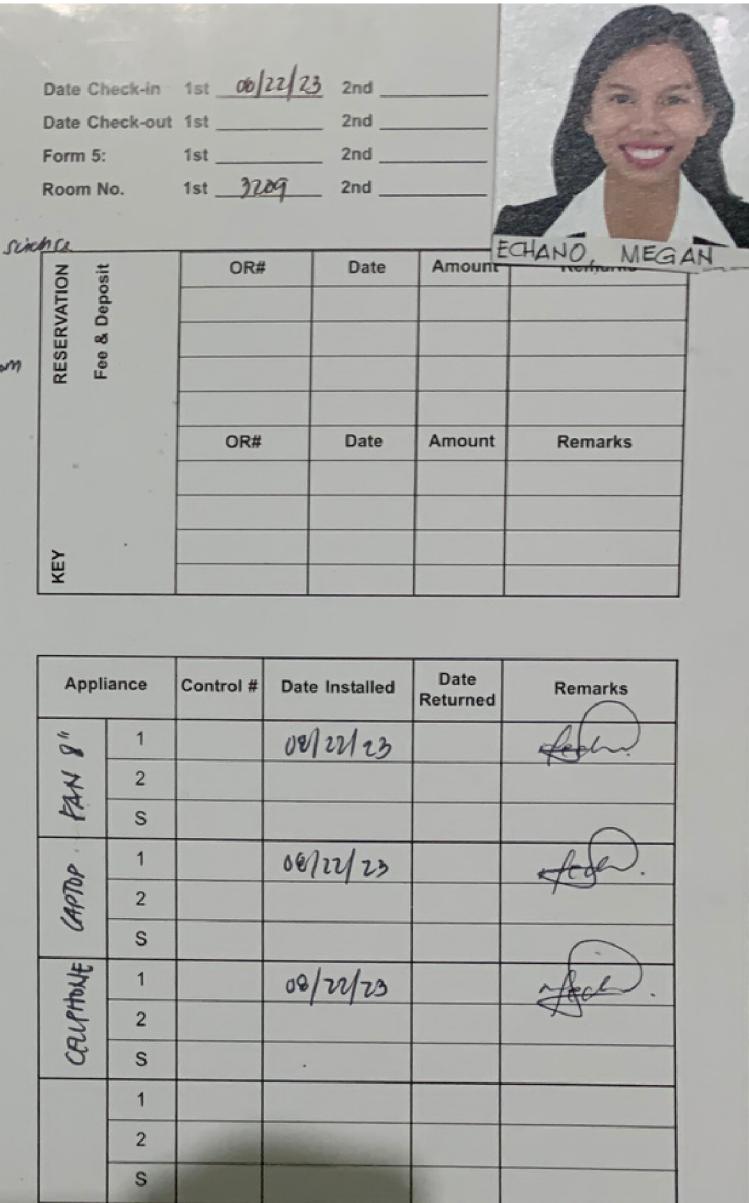
1) Name Christina Echan 2) Name Raulito Echan
 1) Address 100 Bantam, Orion, Batan 2) Address Gov Bantam, Orion, Batan
 1) Contact # 09066811250 2) Contact # 09773387319

RESIDENCE HALL AGREEMENT REF # _____

In consideration of my admission in women's Residence Hall for the (1st Semester 2023-2024) (2nd Semester 20_____) ; (Midyear 20_____), I HEREBY Agree AND BIND MY SELF TO COMPLY WITH all the policies and provisions embodied in the Rules in Residence Hall, as well as the accompanying INTERNAL HOUSE RULES AND REGULATIONS, WHICH I UNDERSTOOD.

MEGAN
 Signature of Resident _____ Date 1st Sem 23-24 Signature of Resident _____ Date 2nd Sem _____ Signature of Resident _____ Date Midyear _____

Signature of Dormitory Manager



NAME ECHAN, MEGAN D.

RECORD OF PAYMENT FOR SCHOOL YEAR 20 23

-20

RECORD OF VIOLATION(S)



Significance of the Study 01

UPLB DMIS is a web application that aims to digitize and better manage the data of UPLB dormers. Dormers can create and update their profile on the web application. This will also allow them more flexibility in fulfilling some of their responsibilities in the dormitory, such as submitting payment receipts.

This can aid the management in searching for data faster than a manual search in a stack of information sheets. This will enable them to cope with the demands of their work and ease some of the challenging parts of their management tasks. The study will also contribute to future-proofing dormitory management in UPLB.



O2

Objectives of the Study

- digitize dormers' information by developing the dormer-side of the web application that allows dormers to create and update their profile
- allow dormers to compute and generate their Statement of Account
- allow dormers to submit payment receipts
- aid dorm managers, attendants, and assistants in handling residents' basic information by developing the management-side of the web application
- assess the effectiveness and usability of the web application using the System Usability Scale (SUS)

Materials and Method

03

Development Tools and Technology

- **MERN Stack**
 - full stack solution ideally suited for JSON-heavy applications, cloud-native, and dynamic web interfaces
- **Google Identity Services**
 - A JavaScript library for authenticating and authorizing Google accounts for applications
- **Supabase**
 - An online hosting service to handle, store, and retrieve images and files uploaded on the web application
- **Render**
 - A cloud application hosting service for the application's backend
- **Netlify**
 - A cloud platform for hosting the frontend of the web application

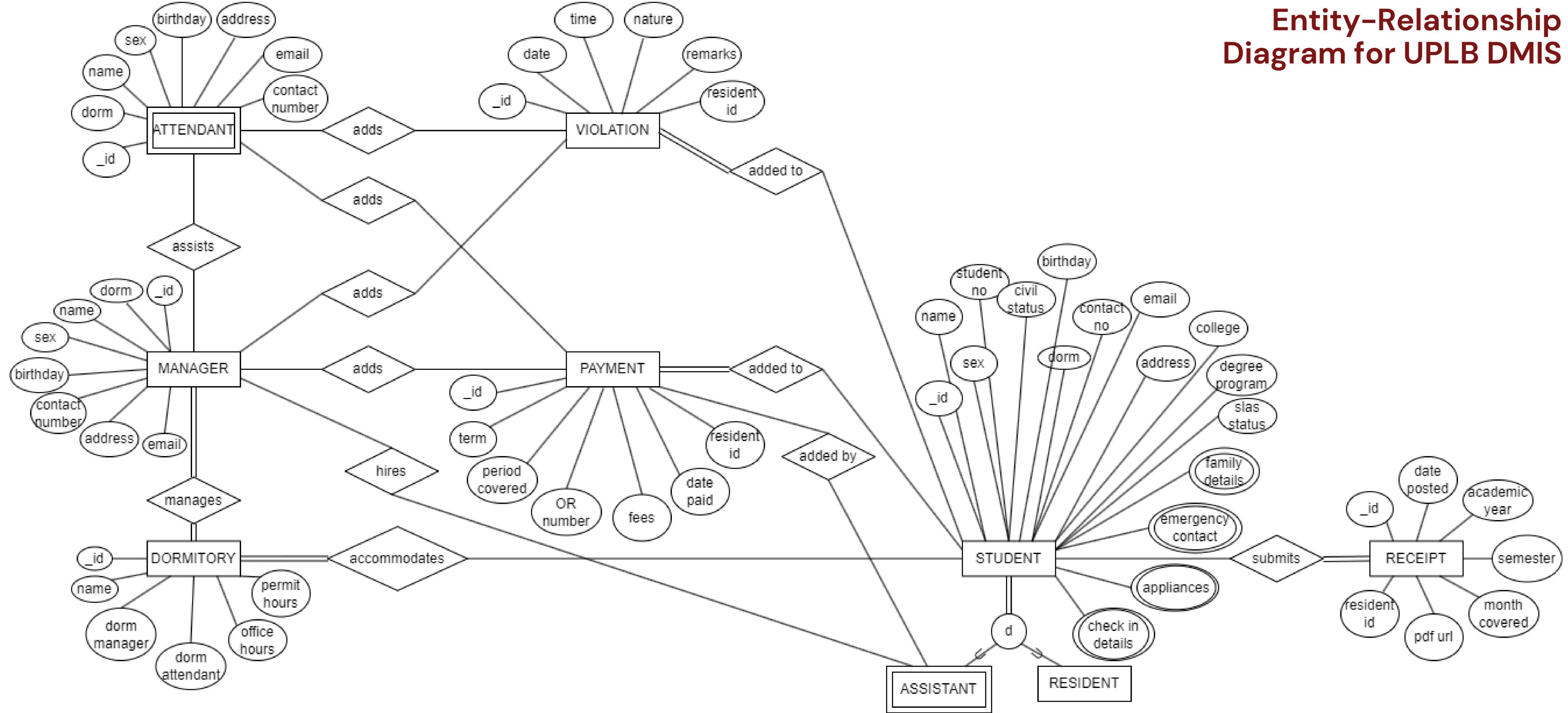
```
products: storeProducts

render() {
  return (
    <React.Fragment>
      <div className="py-5">
        <div className="container">
          <Title name="our" title="products" />
          <div className="row">
            <ProductConsumer>
              {(value) => {
                |   |   |   console.log(value)
                |   |   |
              }}
            </ProductConsumer>
          </div>
        </div>
      </React.Fragment>
    )
}
```

Materials and Method

03

Entity-Relationship Diagram for UPLB DMIS





Materials and Method

03

Application Testing and Participants

- The system was evaluated using the System Usability Scale with an additional feedback or comment section for qualitative input.
- The questionnaire was administered using Google Forms.
- Participants were invited from diverse UPLB dorms. Some assessments were done face-to-face while others were online.
- The constituents selected to participate were dorm heads or managers, attendants, assistants, and residents.

Results and Discussion

04

- Features and Types of Users
- Web Application Demo
- Testing and Evaluation
- Web Application Assessment

Results and Discussion

04

Features and Types of Users

Dorm Heads or Managers

- Log in
- Register Role and Dorm
- Complete, View, and Update Profile
- Create, View, and Update Dorm Information
- View List of Residents
- Sort and Search Residents
- View Resident Profile
- Add, Edit, and Delete Payment Details
- Update SLAS status of Resident
- Add, Edit, and Delete Violations
- Hire and Dismiss Dorm Assistants
- Delete Resident

Results and Discussion

04

Features and Types of Users

Dorm Attendants

- Log in
- Register Role and Dorm
- Complete, View, and Update Profile
- View and Update Dorm Information
- View List of Residents
- Sort and Search Residents
- View Resident Profile
- Add, Edit, and Delete Payment Details
- Update SLAS status of Resident
- Add, Edit, and Delete Violations

Results and Discussion

04

Features and Types of Users

Dorm Assistants

- Log in
- Register Role and Dorm
- Complete, View, and Update Profile
- View Dorm Information
- View List of Residents
- Sort and Search Residents
- View Resident Profile
- Add, Edit, and Delete Payment Details
- Generate Statement of Account
- Add, Edit, and Delete Payment Receipts

Results and Discussion

04

Features and Types of Users

Residents

- Log in
- Register Role and Dorm
- Complete, View, and Update Profile
- View Dorm Information
- Generate Statement of Account
- Add, Edit, and Delete Payment Receipts



University of the Philippines Los Baños

Results and Discussion ⁰⁴

UPLB DMIS DEMO

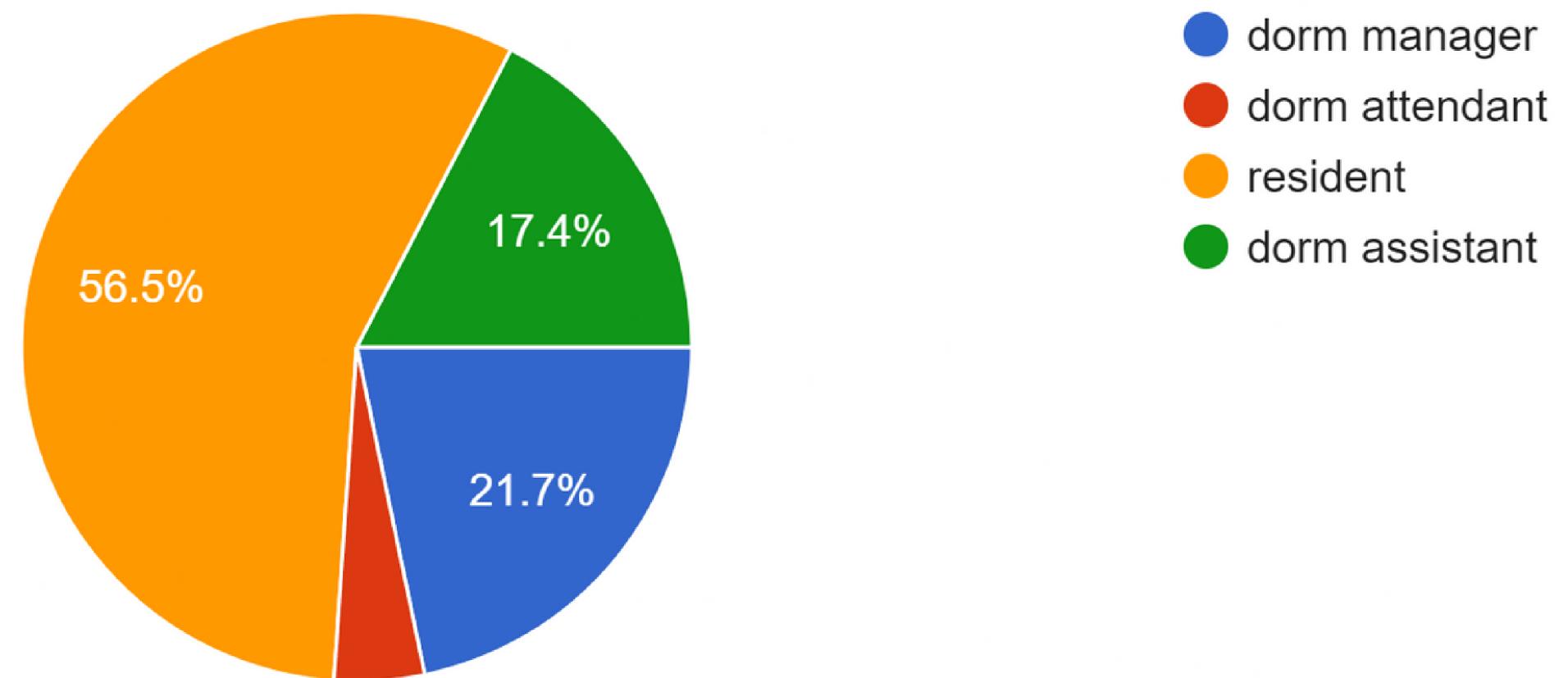


Results and Discussion⁰⁴

Testing and Evaluation

I am testing this application as

23 responses





Results and Discussion⁰⁴

Testing and Evaluation



Results and Discussion⁰⁴

Testing and Evaluation

Results and Discussion

04

Testing and Evaluation

| RESPONDENT | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Individual Score |
|------------|----|----|----|----|----|----|----|----|----|-----|------------------|
| 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 100 |
| 2 | 4 | 2 | 4 | 1 | 4 | 2 | 4 | 2 | 4 | 1 | 80 |
| 3 | 4 | 1 | 5 | 1 | 5 | 2 | 5 | 1 | 5 | 1 | 95 |
| 4 | 5 | 2 | 5 | 1 | 5 | 3 | 4 | 2 | 4 | 2 | 82.5 |
| 5 | 5 | 1 | 5 | 1 | 5 | 2 | 4 | 1 | 5 | 1 | 95 |
| 6 | 5 | 2 | 4 | 3 | 5 | 2 | 5 | 1 | 5 | 3 | 82.5 |
| 7 | 4 | 3 | 4 | 3 | 4 | 2 | 4 | 2 | 4 | 2 | 70 |
| 8 | 4 | 2 | 4 | 2 | 4 | 2 | 4 | 2 | 4 | 3 | 72.5 |
| 9 | 5 | 1 | 3 | 2 | 5 | 1 | 4 | 2 | 5 | 4 | 80 |
| 10 | 5 | 1 | 5 | 1 | 5 | 2 | 5 | 1 | 5 | 1 | 97.5 |
| 11 | 5 | 2 | 5 | 2 | 4 | 3 | 4 | 1 | 4 | 1 | 82.5 |
| 12 | 5 | 1 | 5 | 5 | 5 | 1 | 3 | 1 | 4 | 5 | 72.5 |
| 13 | 5 | 2 | 5 | 5 | 5 | 1 | 5 | 1 | 5 | 4 | 80 |
| 14 | 5 | 1 | 5 | 1 | 4 | 1 | 5 | 1 | 5 | 1 | 97.5 |
| 15 | 5 | 2 | 3 | 3 | 4 | 3 | 4 | 2 | 5 | 3 | 70 |
| 16 | 5 | 3 | 4 | 2 | 4 | 2 | 5 | 3 | 5 | 1 | 80 |
| 17 | 5 | 1 | 5 | 1 | 5 | 2 | 4 | 1 | 5 | 2 | 92.5 |
| 18 | 5 | 2 | 4 | 2 | 5 | 1 | 4 | 1 | 5 | 2 | 87.5 |
| 19 | 5 | 2 | 4 | 2 | 4 | 3 | 4 | 1 | 5 | 2 | 80 |
| 20 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 100 |
| 21 | 5 | 2 | 4 | 3 | 4 | 3 | 3 | 2 | 4 | 3 | 67.5 |
| 22 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 5 | 1 | 100 |
| 23 | 5 | 1 | 5 | 4 | 5 | 1 | 4 | 1 | 5 | 4 | 82.5 |

Mean Score **84.67391304**

LEGENDS

| |
|-----------|
| MANAGER |
| ATTENDANT |
| ASSISTANT |
| RESIDENT |

Results and Discussion

04

Web Application Assessment

From residents

- easy to use and navigate
- satisfied about generation of SOAs and submission of payment receipts

From management

- satisfied with the web application
- saw great potential in the system
- if implemented in UP dorms, it could alleviate their workload

Suggestions

- mobile or desktop version
- improvements in user interface and formatting of generated documents
- additional features such as requesting of permits



Conclusion and Recommendations

05

The development of UPLB DMIS aims to digitize dormers' information and allow dormers to fulfill some of their dorm responsibilities.

The web application was able to show users from the management side that an online alternative to the traditional basic information sheet is feasible and more convenient in these developing times.

- A total of 23 participants willingly tested and evaluated the system using SUS.
- It garnered a mean score of 84.67.
- This is equivalent to an 'A' grading with an 'Excellent' adjective rating.



Conclusion and Recommendations

05

- Integrate with other UPLB-related systems that can easily validate user involvement and role in the university.
- Consider improvements in user interface.
- Develop alternatives of the system to promote more accessibility and flexibility of the system that is fit for travel, emergency purposes, and/or connectivity issues.
- Conduct thorough consultation with the UPLB dorm constituents to assess their needs and result in higher satisfaction among users.

THANK YOU