

**Project Description**

MalayanPORTAL is a website for Mapua Malayans, from Junior High School to College, to monitor and transact with various offices and centers of the school. Primarily, the website will focus on the status monitoring of the student user in terms of enrollment, schedules, and tuition balance. Moreover, the website will also contain FAQs and forms of other offices and centers to allow student users to transact with them.

**Requirements Summary**

MalayanPORTAL is designed to be device-agnostic since it is a website, and this gives wide-access to Mapua Malayans. Therefore, the requirements focus on the web browser version, the general minimum hardware requirements of those browsers, and the special requirements for the usage of the website due to some limitations.

**Browser Requirements**

- Chrome: Version 90 or later
- Edge: Version 90 or later
- Firefox: Version 88 or later
- Safari: Version 14 or later

**Hardware Requirements**

- Processor: Dual-core CPU (e.g., Intel Core i3 or equivalent)
- RAM: Minimum 4GB
- Graphics: Integrated graphics (e.g., Intel HD Graphics 4000 or equivalent)
- Storage: At least 10GB free space
- OS: Windows, macOS, Linux-based Operating Systems
- Internet Connection: Stable internet connection

**Special Usage Requirements**

- Device Form Factor

For now, MalayanPORTAL can only be accessed on browsers in Desktops and Tablets (rendered in desktop mode).
- Usage

Also, the website will only render when the browser window is in full screen as of the moment. There will be an error message when a window is minimized. Specifically, it is optimized for a minimum

resolution of 1920x1080 pixels. But it will still scale on other browser window sizes that have the same aspect ratio to cater to a variety of device screen resolutions.

## **Evaluation Overview**

The evaluation will consist of 2 main criteria, which are the Heuristic Evaluation Criteria and the Usability Criteria. The Heuristic Evaluation Criteria provides useful critique through relevant design principles. While the Usability Criteria are specific questions on the actual experience of interacting and doing tasks with MalayanPORTAL. Finally, these questions will be answered through a Likert's Scale, wherein the largest number equates to an excellent answer, while the least number equates to the opposite.

## **Heuristic Evaluation**

Heuristic Evaluation is a method to inspect the usability of a design. It is rooted from the Heuristic Principles that should be seen as a rule of thumb, rather than a rigid set of rules. It aims to identify issues, generate feedback, and improve the overall design.

Questions:

- Visibility of System Status
  - The system design provides appropriate feedback like message prompts in response to user actions.
  - The message prompts are clear, visible and understandable.
- Match Between the System and the Real World
  - Used words, phrases and concepts according to users' language rather than system-oriented words and computer jargon.
- User Control and Freedom
  - The system design provides ways of allowing users to easily "get in" and "get out" if they find themselves in unfamiliar parts of the system.
- Consistency and Standards
  - The colors, text, labels, buttons and other elements in the design are uniform from start to finish.
  - Text and icons are not too small or too big.

- Menus and other features of the system are arranged and positioned in a consistent way.
- Error Prevention
  - The system design provides automatic detection of errors and prevents them from occurring in the first place.
  - Idiot proofing mechanisms are applied.
- Help Users Recognize, Diagnose and Recover from Errors
  - Error messages and the terms used are recognizable, familiar and understandable for the users.
- Recognition Rather than Recall
  - Objects, icons, actions and options are visible for the user.
  - Objects are labeled well with text and icons that can immediately be spotted by the user and matched with what they want to do.
- Flexibility and Efficiency of Use
  - The system design provides easy to navigate menus.
  - The system does not waste time of system resources.
- Aesthetic and Minimalist Design
  - The graphics and animations used are not difficult to look at and do not clutter (mess) up the screen.
  - The information provided is relevant and needed for the system design.
- Help and Documentation
  - The system design provides information that can be easily searched and provides help in a set of concrete steps that can easily be followed.

## **Usability Evaluation**

Usability Evaluation are methods to assess a design's user-friendliness and if it achieves its purpose. In the context of MalayanPORTAL, users will mainly evaluate if they can do tasks efficiently and intuitively.

Questions:

- Effectiveness
  - Were you able to view what you needed to view?
  - If you encountered errors, were they easy to understand and resolve?
  - Did the interface help you achieve your goals?
- Efficiency
  - How quickly were you able to complete the tasks?
  - Was navigating through the interface intuitive and straightforward?
  - Did the interface respond promptly to your actions?
- Learn Ability
  - It was easy for me to be familiarized with the interface.
  - Did you feel comfortable using the interface on your first attempt?
  - After using the interface once, how well do you think you could use it again without additional instructions?

## **Results**

### **Data Presentation and Analysis**

Questions were answered through a Likert's Scale, wherein the largest number equates to an excellent answer, while the least number equates to the opposite.

Likert's Scale:

- 1 – Strongly Disagree
- 2 – Disagree
- 3 – Neutral
- 4 – Agree
- 5 – Strongly Agree

## **Results**

Results were gathered from 13 Mapua Malayan Colleges Mindanao college students from different departments. The table contains the average score per question and their corresponding average score per category.

Category	Question	Average Score
<b>HEURISTIC EVALUATION</b>		
<b>Visibility of System Status</b>  (Ave. Score: 4.5)	The system design provides appropriate feedback like message prompts in response to user actions.	<b>Agree</b> <b>4</b> (4.3)
	The message prompts are clear, visible and understandable.	<b>Strongly Agree</b> <b>5</b> (4.62)
<b>Match Between the System and the Real World</b>  (Ave. Score: 5)	Used words, phrases and concepts according to users' language rather than system-oriented words and computer jargon.	<b>Strongly Agree</b> <b>5</b> (4.92)
<b>User Control and Freedom</b>  (Ave. Score: 5)	The system design provides ways of allowing users to easily "get in" and "get out" if they find themselves in unfamiliar parts of the system.	<b>Strongly Agree</b> <b>5</b> (4.77)
<b>Consistency and Standards</b>  (Ave. Score: 5)	The colors, text, labels, buttons and other elements in the design are uniform from start to finish.	<b>Strongly Agree</b> <b>5</b> (4.77)
	Text and icons are not too small or too big.	<b>Strongly Agree</b> <b>5</b> (4.85)
	Menus and other features of the system are arranged and positioned in a consistent way.	<b>Strongly Agree</b> <b>5</b> (4.77)
<b>Error Prevention</b>  (Ave. Score: 4)	The system design provides automatic detection of errors and prevents them from occurring in the first place.	<b>Agree</b> <b>4</b> (4.07)
	Idiot proofing mechanisms are applied.	<b>Agree</b> <b>4</b> (4.31)
<b>Help Users Recognize, Diagnose and Recover from Errors</b>  (Ave. Score: 5)	Error messages and the terms used are recognizable, familiar and understandable for the users.	<b>Strongly Agree</b> <b>5</b> (4.54)

## CS152 Final Project PART 3.2

Team: CLK

Sisbreño, Cris + Fuego, Louis + Operario, Kim

<b>Recognition Rather than Recall</b>  <b>(Ave. Score: 5)</b>	Objects, icons, actions and options are visible for the user.	<b>Strongly Agree</b> <b>5</b> (4.85)
	Objects are labeled well with text and icons that can immediately be spotted by the user and matched with what they want to do.	<b>Strongly Agree</b> <b>5</b> (4.69)
<b>Flexibility and Efficiency of Use</b>  <b>(Ave. Score: 5)</b>	The system design provides easy to navigate menus.	<b>Strongly Agree</b> <b>5</b> (4.92)
	The system does not waste time of system resources.	<b>Strongly Agree</b> <b>5</b> (4.85)
<b>Aesthetic and Minimalist Design</b>  <b>(Ave. Score: 5)</b>	The graphics and animations used are not difficult to look at and do not clutter (mess) up the screen.	<b>Strongly Agree</b> <b>5</b> (4.77)
	The information provided is relevant and needed for the system design.	<b>Strongly Agree</b> <b>5</b> (4.85)
<b>Help and Documentation</b>  <b>(Ave. Score: 5)</b>	The system design provides information that can be easily searched and provides help in a set of concrete steps that can easily be followed.	<b>Strongly Agree</b> <b>5</b> (4.77)
<b>USABILITY EVALUATION</b>		
<b>Effectiveness</b>  <b>(Ave. Score: 5)</b>	Were you able to view what you needed to view?	<b>Strongly Agree</b> <b>5</b> (4.77)
	If you encountered errors, were they easy to understand and resolve?	<b>Strongly Agree</b> <b>5</b> (4.54)
	Did the interface help you achieve your goals?	<b>Strongly Agree</b> <b>5</b> (4.85)
<b>Efficiency</b>  <b>(Ave. Score: 5)</b>	How quickly were you able to complete the tasks?	<b>Strongly Agree</b> <b>5</b> (4.69)
	Was navigating through the interface intuitive and straightforward?	<b>Strongly Agree</b> <b>5</b> (4.77)
	Did the interface respond promptly to your actions?	<b>Strongly Agree</b> <b>5</b> (4.92)

<b>Learn Ability</b> <b>(Ave. Score: 5)</b>	It was easy for me to be familiarized with the interface.	<b>Strongly Agree</b> <b>5</b> (4.85)
	Did you feel comfortable using the interface on your first attempt?	<b>Strongly Agree</b> <b>5</b> (4.85)
	After using the interface once, how well do you think you could use it again without additional instructions?	<b>Strongly Agree</b> <b>5</b> (4.92)

Most respondents strongly agree with most of the statements that the questionnaire contained. The response to almost all items on the questionnaire on both the Heuristic Evaluation and Usability Evaluation were overwhelmingly positive. Even though it mostly has an acceptable result, the Error Prevention category of the Heuristic Evaluation has the lowest and the only category to receive such result. This can be mitigated through adding more error preventing measures such as message prompts.

### Design Implications

Does your prototype need to be altered in order to address the results of the analysis, or was it completely successful?

Yes, there are things that need to be altered but those are not major concerns that hindered the project objectives and target features. We believe that this is the purpose of prototyping, in which we were able to gain insights from possible users.

What improvements could be made to the design to address any shortcomings?

There were only suggestions and no major complaints about our prototype. These suggestions can be grouped into 3 areas, which are the Forms page, Log In Page, and color-related suggestions. First, we have plenty of suggestions for improving the Forms Page by adding more content and grouping forms by processes instead of offices. Second, the Log In Page should have a mechanism for addressing log in access problems. Finally, there were suggestions to color code the subjects and to add a dark mode.

Did you discover any major flaws that would suggest a completely different type of design?

Fortunately, there are no major flaws that require a design overhaul. The only important suggestion, which is to add a mechanism for addressing log in access

problems, is a simple fix, wherein a new element can simply be added. The remaining suggestions are minor, which we still consider since it will surely enhance the user interface.

## **Critique and Summary**

### **Critique**

#### What were the advantages and disadvantages of your evaluation?

The main advantage of conducting an evaluation is that the team got valuable insight from possible users. These insights are essential in understanding what the users really need and expect. Moreover, gathering insights from users helps the team discover points of weakness on the design, making them develop a better implementation on the next iteration.

For the disadvantages, the team believes that having more respondents helps in gathering more insights. Also, variance on the demographics, by including high school students, could have also shown additional perspective and another set of insights.

#### Given more resources, what could you have done that would have produced significantly more insightful evaluation results?

The team believes that having more time could have helped in searching and conducting the evaluation. High school students were not included in the survey because their academic calendar had already concluded. Should more time be available, the team could have included high school students, which are also expected users of MalayanPORTAL, if implemented.

### **Summary of the Project**

Developing MalayanPORTAL was very tedious, even though there was no actual software development. The team realized that designing is not only about creativity, which includes knowing and applying colors, shapes, and other design concepts. Instead, it is a complete process in itself.

First, the process involves about thinking what the problem really is so that we will be able to add elements that are actually needed. It means that we have to think like a user in order to determine what they expect.



Then, we actually commenced the actual prototyping itself. In that part, we learned that there are advanced tools to achieve it and we realized that it is also a complex process by itself. This is where we applied all the design principles and User-Centered System Design concepts we have learned from the subject. In conclusion, we realized that this is the only part that people think of when you ask them what they expect on designing and that is a wrong mindset.

Finally, the evaluation part checks if the prototype satisfies the goals set on the first part through the Heuristic and Usability Evaluations. Most importantly, it checks if the goals were met in a way that is effective, efficient, and intuitive for the users. We have learned a lot from the input of the respondents. With that, we believe that the design process is a cycle, wherein we develop the prototype, then evaluate it through others, then improve and iterate. Once done, it will surely be a great foundation for the commencement of software development.