

# ***UPLB FebFair Official Mobile App A Donation Management System***

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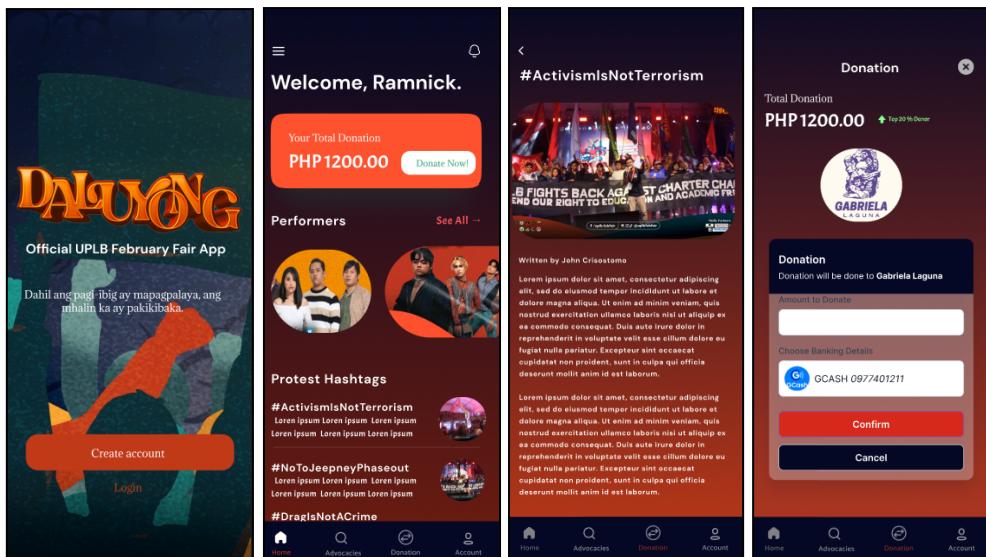


Figure 1. Current Prototype for the Official UPLB Febfair Application:  
(from left to right) login screen, landing screen, primer screen, donation portal

**Abstract—** This mobile application will be delving into the problem of the lack of a centralized system that will cater to the digital cash donation of the annual protest fair: UPLB February Fair. It will also address possibilities of lobbying the advocacies closer to the fairgoers, getting introduced to performers more engaging, and providing more convenient means to donate to national democratic organizations.

**Keywords—**donation management, financial management

## I. INTRODUCTION

The University of the Philippines - Los Banos February Fair is a week-long educational event that helps the general masses to be informed about the different issues that pervade the Philippines (Baron, 2021). It was initially a commemorative fair that was done to protest against the administration of the former president Ferdinand Marcos (Senior).

The UPLB February Fair – colloquially called the Feb Fair – includes showcases of talents from local artists through staged performances, and invitational speaking engagements from different national democratic organizations to put forward certain awareness to their advocacies, and to help

organizations that seek funds for their causes to have an avenue for raising them. In general, these different facets of the UPLB February Fair is an ultimate proof that it is a protest fair.

### A. Problem Statement

The UPLB February Fair, as a protest fair, has many facets and purposes. To name a few, it includes being an avenue for different organizations to shed light on certain societal issues, introduce budding artists from the local music scene in the Philippines, and provide a means for certain democratic organizations to raise funds for their respective causes. However, the UPLB February Fair had been evolving to a mere spectacle for casual fairgoers – subduing its socio-cultural and -political objectives .

This application aims to resolve that by providing a platform for more convenient access to the aforementioned core facets of the UPLB February Fair – a protest fair to lobby advocacies, introduce artists, and raise funds for organizations.

### B. Background of the Problem

In recent years, there has been a distinguishable change in the tonality of intention of the people who attended the fair. It

was apparent that the reasonings for some are opting to attend the fair for mere leisure. This is reflected in the unattentive crowd during educational discussions, rowdiness from people attending during solemnity speeches, and other reflections of the like.

This application, although believes that the fair crucially includes enjoyment as one of its core characteristics, aims to lobby its advocacies in the forefront of its functionality.

On top of this, there are also certain aspects regarding the success of the February Fair that are lacking. This includes certain informational channel regarding the advocacies, performers, and donation methods that can be improved to maximize the accomplishment of the objectives of the February Fair.

### C. Scenario of the Problem

For example, Juan Dela Cruz, a BS Biology alumnus from the University of the Philippines - Los Banos, wants to attend the UPLB February Fair 2025, Day 5. It is the only day where his schedule, as he is already working, permits attending and going back to the university. However, he was lost with what will happen during that day. Therefore, he went to the Fair without any idea regarding the lineup. When he went there, to his surprise, the performers were starting at a schedule at much later time than he anticipated, so he needed to wait for much longer.

When he was there, he learned that there was a donation drive through a coin drop-box that local National Democratic Organizations are performing. However, he only had digital cash with him. Therefore, he was not able to give his donation even though we wanted to.

Juan, being an iskolar himself, understands the importance of listening to the different advocacies that the Feb Fair is trying to promote. Aonhough when he was in the concert grounds, he paid attention whenever speakers were on stage, he still preferred to have a record, or even a primer, of the contents of their advocacies. However, there was no avenue for him to have so.

All of these problems and their corresponding underlying reasons could be solved by a one-stop mobile application that includes details about the performances at the Feb Fair, advocacies that will be discussed that day, and donation platforms that democratic organizations are trying to push forward.

## II. METHODS

This section of the paper will be discussing the experimental design that will be utilized by the researchers to measure the success of a developed Official UPLB February Fair App. The main objective of the experimental design is to quantify the usability of this application.

### A. Hypothesis

The following are the statistical hypotheses that will be tested upon measuring the success or failure of the application in serving its objectives. Quantitative measures for

each hypotheses are further discussed in the discussion of measurements.

- $H_0$ : The use of the Official UPLB February Fair Application has no significant positive effect on the experience of the fair-goers UPLB February Fair.
- $H_a$ : The use of the Official UPLB February Fair Application has significant positive effect on the experience of the fair-goers UPLB February Fair.

More to this, the paper also aims to measure the effectiveness of the application in functioning as a:

1. Fundraising tool for democratic organizations.
  - $H_0$ : The use of the Official UPLB February Fair Application has no significant positive effect on easing the donation processes of the fair-goers UPLB February Fair.
  - $H_a$ : The use of the Official UPLB February Fair Application has significant positive effect on easing the donation processes of the fair-goers UPLB February Fair.
2. Showcase for local Filipino artists.
  - $H_0$ : The use of the Official UPLB February Fair Application has no significant positive effect on the ability of the the fair-goers UPLB February Fair to learn more about the Filipino Performance Art Scene .
  - $H_a$ : The use of the Official UPLB February Fair Application has significant positive effect on the ability of the the fair-goers UPLB February Fair to learn more about the Filipino Performance Art Scene.
3. Platform for organizations to raise awareness on social issues.
  - $H_0$ : The use of the Official UPLB February Fair Application has no significant positive effect on the ability of the the fair-goers UPLB February Fair to learn more about the advocacies of the fair's partner organization.
  - $H_a$ : The use of the Official UPLB February Fair Application has significant positive effect on the ability of the the fair-goers UPLB February Fair to learn more about the advocacies of the fair's partner organization.

As a prediction, this design hypothesizes that the null hypothesis is to be rejected as an incorporation of a companion application for the UPLB February Fair will improve their experience. The prediction then is a positive correlation for all of these hypotheses.

### B. Participant

This study employed, random cluster sampling, for gathering its sample from the population of fair-goers for the UPLB February Fair. This was decided upon the intention of viewing the ata per demographics of participants. With this, the participants was be identified using clusters sampling.

The specific clusters that was used for this study are identified through a conducted series of *user persona identification interviews* conducted. The following are the clusters that was used:

- Resident Students of UPLB – encompasses a subset of the population of UPLB February Fair goers who are currently enrolled and employed in the university
  - Non-resident Alumni of UPLB – encompasses a subset of the population of UPLB February Fair goers who are not enrolled and not affiliated in the university but were once in the past
  - Non-affiliate to UPLB – not related to the university in any situation
  - “Producers”/Organizers of the UPLB February Fair – includes the organizers of the the UPLB February Fair and other subset of the population who are involved in the fair’s production
  - “Consumers”/Casual Feb Fair Goers of the UPLB February Fair – subset of the population who are attend the UPLB February Fair as a spectator
- The aforementioned clusters are *not* mutually exclusive. For instance, a resident student may also be involved in the production of the UPLB February Fair.

This scheme of clustering were identified to be the primary categorization of people who goes to the fair upon the completion of the *user persona identification interviews*. The intention to use this demographics aims to sub-identiy if [1] the affiliation to the university and [2] their role during the fair affects the perceived usability of the Official UPLB February Fair Application.

For a presumptive population of UPLB February Fair Goers, this experimental design tested a sample size of n=10 as sufficient for gauging the user interest.

### C. Technique

This study looked into two metrics: the efficiency-usability of the application and its effectiveness in solving the stated problem.

This study applied system usability score testing in order to determine the success of this application in terms of efficiency. The evaluation method that was used to get the the statistics describing the usability of the application is digital survey through a questionnaire. This was deemed most efficient with how this experimental design aims to quantify usability. The decision to use questionnaires also factored in the cost-effectiveness of getting data from a sample size of n=10.

After so, descriptive statistics will then implemented in the effectiveness questions of the application – answering the ability of the application to help on Feb Fair to focus more on their socio-cultural agenda. The dimensions of effectivity are the following:

1. Donation Plaform Dimension: Fundraising tool for democratic organizations

2. Filipino Performance Dimension: Showcase for local Filipino artists.
3. Advocacy Dimension: Platform for organizations to raise awareness on social issues.

D. Representative Tasks

Case No.	Representative Test Cases and Corresponding Success Scenarios	
	Test Case	Success Indicator
1	View the Splash Screen	The user was able to view the February Fair's Theme
2	Access the Login Page	The user was able to view the Log-in Page and authenticate a scenario login.
3	Sign up for the Donation Management System	The user was able to view the Sign up Page and input details.
4	Browse Advocacy Partner Page	The user was able to view the details of the advocacy of the February Fair.
5	Browse Maps of the UPLB February Fair Ground	The user was able to view the location of the stalls, booths, and other stations of the UPLB February Fair.
6	Browse through the Partner-Organizations for Donations List Page	The user was able to view the list of advocacy organizations who are the beneficiary of the UPLB February Fair.
7	Access the Send-in Donation Page	The user was able to be redirected to the Donation Portal after clicking on their logo in the Dimension 1st Page.

Figure 2. Test Cases

### E. Measurements

#### Usability-Effeciency Measurement

For the testing of the hypothesis, this paper will factor in the overall usability index of the mobile application. It will be using the System Usability Scale to quantify its usability through asking the questions below.(What Is the SUS Scale and How to Use It to Measure Usability?, 2024)

No.	Questions
1	I think that I would like to use this system frequently.
2	I found the system unnecessarily complex.
3	I thought the system was easy to use.
4	I think that I would need the support of a technical person to be able to use this system.
5	I found the various functions in this system were well integrated
6	I thought there was too much inconsistency in this system
7	I would imagine that most people would learn to use this system very quickly.
8	I found the system very cumbersome to use.
9	I felt very confident using the system.
10	I needed to learn a lot of things before I could get going with this system.

Figure 3. SUS Questionnaire

The conventionally acceptable score for SUS is an index of 70. Therefore, for the following statistic will be used  $\mu = \text{SUS score}$

- $H_0: \mu \leq 70$  The use of the Official UPLB February Fair Application has no significant positive effect on the experience of the fair-goers UPLB February Fair.
- $H_a: \mu > 70$  The use of the Official UPLB February Fair Application has significant positive effect on the experience of the fair-goers UPLB February Fair.

#### Effectiveness Measurement

For the effectiveness of the serving the purpose of the goals of the fair, the following questions were asked in a Likert Scale of 1-5:

Fundraising tool for democratic organizations (Label: Donation Platform)	
1	The donation process (i.e. digital money transferring) is relatively easy to understand.
2	The donation aspect of the application is encouraging on the aspect of giving contribution to the partner organizations of UPLB February Fair.
3	The application's design informs me about where my donation will go.
Showcase for local Filipino artists (Label: Filipino Performance)	
1	The application's page about the background and advocacies of each artists strikes my interest about 1 Filipino Performance Art Scene.
2	The application design allows the discovery of interesting Filipino Artists.
Platform for organizations to raise awareness on social issues (Label Advocacy)	
1	The Protesta Balita Page allowed me to understand more about the advocacies and causes that the 1 UPLB February Fair is discussing.
2	The application motivates me to participate in spreading awareness regarding local issues in the Philippines.

Figure 4. Questions for the Effectiveness of the Application

Mean was also utilized with the following parametrics as the specific hypothesis:

#### Fundraising tool for democratic organizations.

- $H_0: \mu \leq 3$  The use of the Official UPLB February Fair Application has no significant positive effect on easing the donation processes of the fair-goers UPLB February Fair.
- $H_a: \mu > 3$  The use of the Official UPLB February Fair Application has significant positive effect on easing the donation processes of the fair-goers UPLB February Fair.

#### Showcase for local Filipino artists.

- $H_0: \mu \leq 3$  The use of the Official UPLB February Fair Application has no significant positive effect on the ability of the the fair-goers UPLB February Fair to learn more about the Filipino Performance Art Scene .
- $H_a: \mu > 3$  The use of the Official UPLB February Fair Application has significant positive effect on the ability of the the fair-goers UPLB February Fair to learn more about the Filipino Performance Art Scene .

#### Platform for organizations to raise awareness on social issues.

- $H_0: \mu \leq 3$  The use of the Official UPLB February Fair Application has no significant positive effect on the ability of the the fair-goers UPLB February Fair to learn more about the advocacies of the fair's partner organization.

- $H_a: \mu > 3$  The use of the Official UPLB February Fair Application has significant positive effect on the ability of the the fair-goers UPLB February Fair to learn more about the advocacies of the fair's partner organization.

## F. Methodology

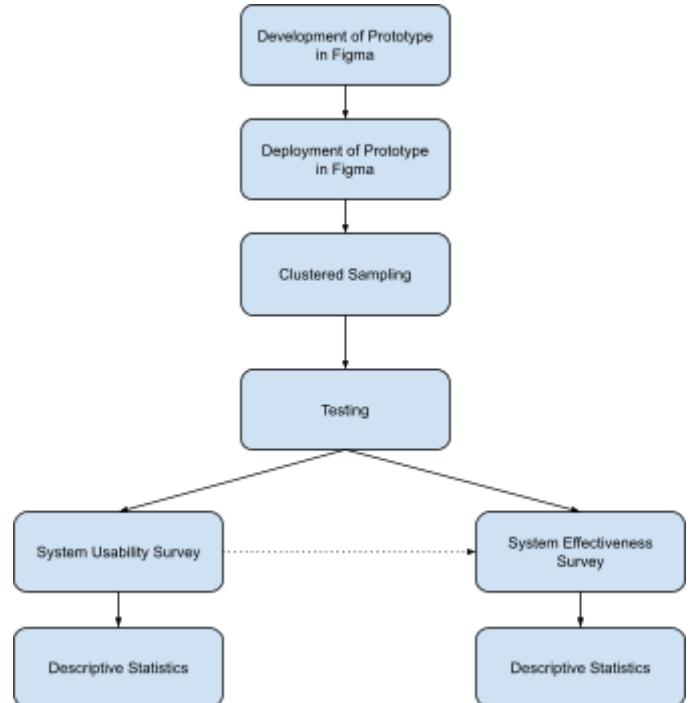


Figure 4. Outline of the Methodology

The data collection was conducted as a post-analysis survey upon using the prototype of the Official UPLB Febrary Fair Application. This prototype is deployed through Figma. The System Usability Scale (SUS) was the bgiven out through a digital format for the ease of data gathering and convenience of the participants. It also contained the effectiveness questions Specifically, Google Forms was utilized in order to hand out the questionnaire.

The data for the System Usability Score (SUS), after completing its collection, was analyzed using descriptive statistics.

For the descriptive statistics on the effectiveness was also anlayzed but viewed in clusters of

- Resident Students of UPLB,
- Non-resident Alumni of UPLB,
- Non-affiliate to UPLB,
- “Producers”/Organizers of the UPLB February Fair, and
- “Consumers”/Casual Goers of the UPLB February Fair.

## Results and Discussion

The following were the results for the System Usability Score for all of the respondents:

Statistic	Value
Mean	92.25
Median	96.25
Mode	100
Range	30
Standard Deviation	9.72
Variance	94.5625
First Quartile (Q1)	87.5
Third Quartile (Q3)	100
Interquartile Range (IQR)	12.5
Skewness	Positive (more high scores)

Figure 5. Descriptive Statistics on the Results of the System Usability Score

It was shown that the mean SUS Score is **92.25**.

On the other hand, for the descriptive statistics on the effectiveness of the Application, the following were the results per cluster (For breakdown, See Annex A):

Cluster	Donation Platform	Filipino Performance	Advocacy
Non-resident Alumnus of UPLB	5.00	4.75	4.75
Casual Goer of the UPLB February Fair	4.58	4.63	4.63
Resident Students of UPLB	5.00	4.88	4.88
Non-affiliate to UPLB	5.00	5.00	4.50
Organizer of the UPLB February Fair	3.67	3.50	3.50

Figure 6. Means of the responses on the Three Dimensions of the Effectiveness of the Application.

Based from the results, the cluster that sees the donation platform dimension of the application effective the most was the Non-resident Alumnus of UPLB, Resident Students of UPLB and Non-affiliate to UPLB which scored the dimension 5.0.

For the Filipino Performances Dimension, Non-Affiliates to UPLB viewed this dimension as the most helpful. While for the Advocacy Dimension of the objectives of the application, the cluster that deemed this as most helpful was the Resident Students of UPLB Cluster with a score of 4.88.

On the other hand, the Organizer Cluster figured this application the most critically with 3.67, 3.50, 3.50 scores for each dimensions of Donation Platform, Filipino Performance, Advocacy respectively.

The overall (inclusive of all clusters) results are the following score:

For the **Donation Platform Dimension, a mean of 4.65** was collected.

For the **Filipino Performance Dimension, a mean of 4.55** was collected.

For the **Advocacy Dimension, a mean of 4.45** was collected.

## Conclusion

For the efficiency-usability of the application, a mean of **92.25** was collected from the data. Therefore, the null hypothesis is rejected, and the application is deemed to have a positive impact to the experience of UPLB February Fair Goers.

For the effectiveness of the application, the following conclusions were made after the data collection:

Fundraising tool for democratic organizations (Donation Dimension)

- With an overall mean of **4.65**, the use of the Official UPLB February Fair Application is deemed to have significant positive effect on easing the donation processes of the fair-goers UPLB February Fair.

Showcase for local Filipino artists.

- With an overall mean of **4.55**, he use of the Official UPLB February Fair Application is deemed to have significant positive effect on the ability of the the fair-goers UPLB February Fair to learn more about the Filipino Performance Art Scene.

Platform for organizations to raise awareness on social issues.

- With an overall mean of **4.45**, The use of the Official UPLB February Fair Application is deemed to have significant positive effect on the ability of the fair-goers UPLB February Fair to learn more about the advocacies of the fair's partner organization.

With all null hypothesis rejected, it could be concluded that the Official UPLB February Fair Application will have a positive effect on the overall experience and intentions of the Feb Fair Goers on going to the event.

This application will be helpful in improving the lived experiences of these goers whilst getting reminded of the socio-cultural and socio-political agenda of the UPLB February Fair.

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ANNEX A - Clustered Results for Each Question in the Effectiveness

Cluster	Measure	Mean	Media n	Standard Deviation n	Rang e
Non-resident Alumnus of UPLB	Donation Platform Q1	5.00	5	0.00	0
	Donation Platform Q2	5.00	5	0.00	0
	Donation Platform Q3	5.00	5	0.00	0
	Mean (Donation Platform)	5.00	-	-	-

	Filipino Performance Q1	4.50	4.5	0.71	1
	Filipino Performance Q2	5.00	5	0.00	0
	Mean (Filipino Performance)	4.75	-	-	-
	Advocacy Q1	5.00	5	0.00	0
	Advocacy Q2	4.50	4.5	0.71	1
	Mean (Advocacy)	4.75	-	-	-
Casual Goer of the UPLB February Fair	Donation Platform Q1	4.63	5	0.74	2
	Donation Platform Q2	4.63	5	0.74	2
	Donation Platform Q3	4.50	5	0.76	2
	Mean (Donation Platform)	4.58	-	-	-
	Filipino Performance Q1	4.50	5	0.76	2
	Filipino Performance Q2	4.75	5	0.46	1
	Mean (Filipino Performance)	4.63	-	-	-
	Advocacy Q1	4.75	5	0.46	1
	Advocacy Q2	4.50	5	0.76	2

## CMSC 173: Human-Computer Interaction

	Mean (Advocacy)	4.63	-	-	-
Resident Students of UPLB	Donation Platform Q1	5.00	5	0.00	0
	Donation Platform Q2	5.00	5	0.00	0
	Donation Platform Q3	5.00	5	0.00	0
	Mean (Donation Platform)	5.00	-	-	-
	Filipino Performance Q1	4.75	5	0.50	1
	Filipino Performance Q2	5.00	5	0.00	0
	Mean (Filipino Performance)	4.88	-	-	-
	Advocacy Q1	5.00	5	0.00	0
	Advocacy Q2	4.75	5	0.50	1
	Mean (Advocacy)	4.88	-	-	-
Non-affiliate to UPLB	Donation Platform Q1	5.00	5	N/A	0
	Donation Platform Q2	5.00	5	N/A	0
	Donation Platform Q3	5.00	5	N/A	0
	Mean (Donation Platform)	5.00	-	-	-

	Filipino Performance Q1	5.00	5	N/A	0
	Filipino Performance Q2	5.00	5	N/A	0
	Mean (Filipino Performance)	5.00	-	-	-
	Advocacy Q1	5.00	5	N/A	0
	Advocacy Q2	4.00	4	N/A	0
	Mean (Advocacy)	4.50	-	-	-
Organizer of the UPLB February Fair	Donation Platform Q1	5.00	5	N/A	0
	Donation Platform Q2	3.00	3	N/A	0
	Donation Platform Q3	3.00	3	N/A	0
	Mean (Donation Platform)	3.67	-	-	-
	Filipino Performance Q1	3.00	3	N/A	0
	Filipino Performance Q2	4.00	4	N/A	0
	Mean (Filipino Performance)	3.50	-	-	-
	Advocacy Q1	3.00	3	N/A	0
	Advocacy Q2	4.00	4	N/A	0

CMSC 173: Human-Computer Interaction

	Mean (Advocacy)	3.50	-	-	-
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