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Diliman SOLUTIONS Challenge

BILIN

QUATTUOR

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BILIN

Bilin is a smartphone application that will be available nationwide wherein users shall be able to either ask for or provide three (3) categories of services—Tutoring, Tourism, and Food Services. Once the user registers in Bilin, there are two roles to choose from: *Tagapaglingkod* or *Mamamayan*. *Tagapaglingkod* refers to the one who will do *bilins* or services that'll make them gain money. Meanwhile, the *Mamamayan* is a user who wishes to have a *Tagapaglingkod* who'll do the *bilins* they'll post in the application. Furthermore, Bilin contains in-app features such as a Visually Impaired Mode, authentication system, category and location filtering, and integrated feedback system. The conception of the mentioned application focuses on solving the issues of SDG 8: Decent Work and Economic Growth by helping its service providers (*Tagapaglingkods*) to have an additional opportunity to expand their earnings, especially with the challenges happening in terms of unemployment, job displacement, and wages in the Philippines.



BILIN

Problem Statement

In the Philippines, 6.6% of Filipinos, equivalent to at least 3.27 million people, are unemployed in December 2021 (Philippine Statistics Authority, 2022)¹. One of its reasons is the high demand for citizens with years of experience or a specific tertiary degree, leading to fresh graduates having difficulties being accepted in jobs. Also, a factor for unemployment is the occurrence of poverty which constrains individuals from gaining the necessary education and skills required by companies or job firms (Rutkowski, 2015)². In addition, some people closed their businesses since they could not financially give enough salary to their employees due to the COVID-19 pandemic (Bird et al., 2021)³. Furthermore, this year's minimum wage earned by citizens remains at ₱537 a day since it was announced in 2018. A five-member household, specifically within the urban NCR, needs to make Php 1,072 daily to have an adequate standard of living (IBON Foundation, 2022)⁴. Considering that money is spent on children's tuition fees or even transportation during the recent gas hike, the former amount is not sustainable in meeting all necessities, especially when coming from a lower middle class or impoverished family. SDG 8: Decent Work and Economic Growth, based on the SDG Tracker (n.d.)⁵, aims to enhance the economy using sufficient employment opportunities and salary earnings. Yet, challenges continue to persist in achieving this goal.

Rationale

Bilin was created in line with providing potential service providers more opportunities to obtain both extra income and skills development. It can support the unemployed and minimum wage workers who struggle financially. Moreover, the youth who do not have a lot of working experience deserve dignified work that'll enable them to be upskilled and be prepared for the labor force after graduating. Displaced employees can also apply the skills they learned from their previous firm. In addition, Bilin aims to aid customers' needs by receiving help from service providers.

The application has three objectives:

1. To provide opportunities for the youth to acquire income
2. To give underpaid workers and the unemployed easier access to alternative sources of earning



3. To bestow an avenue for people to ask for efficient assistance

Significance of the Project

Solving the woes of decent work entails that individuals who work in a family shall amend their wages and have more constant sources of income to survive. Several laborers are not entitled to unemployment compensation and insurance. Some workers gain a minimum wage, which is not enough to live on in this current time. Each day, the cost of living also increases. Therefore, the problems mentioned are worth resolving as they affect citizens' livelihood. If these people are not supported, there'll be a lack of money allocated for food, rent, and other necessities. Because of it, Bilin is formulated as an additional platform to sustain oneself financially.

Bilin is inspired by similar local and global applications such as *Pabili* services (Grab Express Pabili, JoyRide Pabili Service, etc.), MyKuya (now MyMall), and Singapore's Quest. As an alternative to going outdoors, these applications help customers remain indoors by employing service providers to do errands within a specific time frame. At the same time, the service providers would also benefit from having some source of income and practicing their skills. With Bilin in mind, the moderators tackle three (3) primary services to be brought up in the Market Study instead of having various general types of assistance present in both Quest and MyKuya, the previous version of MyMall.



Market Study

Bilin caters to the needs of individuals 15 years old and above who are either unemployed or those who wish to gain extra income. Moreover, the app also leans towards the interest of people who want to ask for assistance from others. This target market can acquire an advantage through the application since the work-from-home setup has prevailed in the labor force during the pandemic.

The annual estimates released by the Philippine Statistics Authority (PSA) (2021)⁶ display the gap in the Labor Force Survey (LFS) results between the pre-pandemic 2019 to January 2022. Employment and labor deteriorated during the emergence of COVID-19, with a 10.3% unemployment rate in 2020 compared to 5.1% in 2019. Labor force participation, employment, and underemployment rates have also been negatively affected. As the COVID-19 situation prolonged, the PSA (2022)⁷ also showed in their LFS from January 2021-January 2022 that improvements in labor force participation and employment occurred (**Table 1**). Hence, citizens were able to adapt better to the quarantine setup. However, the cost of living of ₱1,072 needed by a family mentioned earlier is greater than the average daily salary of ₱537. Thus, it is challenging to have livable wages in the Philippines, regardless of getting a job.

Table 1. 2019-January 2022 Labor Force Survey (LFS) preliminary results.

Philippines	2019	2020	Jan. 2021	Apr. 2021	Jul. 2021	Oct. 2021	Dec. 2021	Jan. 2022
Labor Force Participation Rate (%)	61.3	59.5	60.5	63.2	59.8	62.6	65.1	60.5
Employment Rate (%)	94.9	89.7	91.2	91.3	93.1	92.6	93.4	93.6
Unemployment	5.1	10.3	8.8	8.7	6.9	7.4	6.6	6.4



Rate (%)								
Underemployment Rate (%)	13.8	16.2	16	17.2	20.9	16.1	14.7	14.9

Regarding the booming online platforms, e-banks are utilized more, and customers now lean further toward e-commerce (International Trade Administration, 2021)⁸. At the start of the pandemic, visits to shopping applications such as Lazada and Shopee had increased from the first quarter until the second quarter of 2020 (Abaño, 2020)⁹ (**Figure 1**). The income of food delivery companies also soared, such as Grab, with a 70% increase in revenue (Garcia, 2021)¹⁰. It is caused by the increasing requests of people to receive products without risking leaving their houses in the prevailing COVID-19 pandemic.

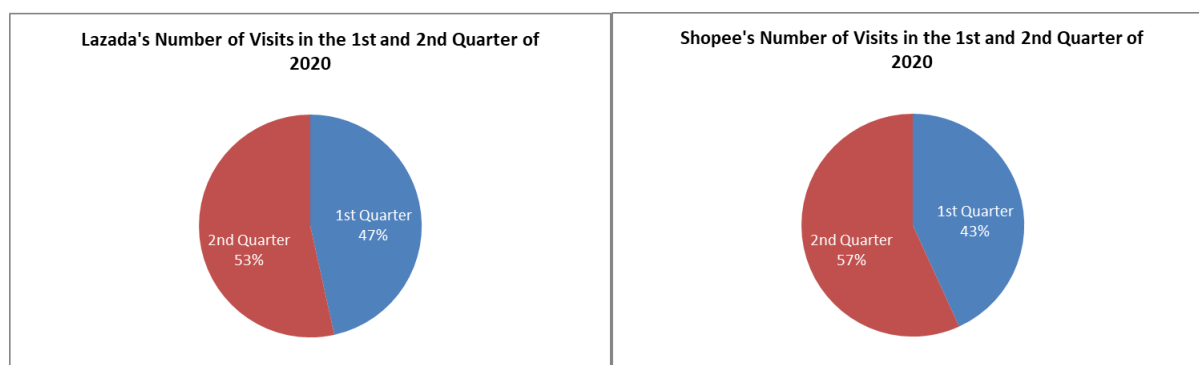


Figure 1. Number of visits (%) to Lazada and Shoppee in the first and second quarters of 2020.

Bilin focuses on three (3) main categories—Tutoring, Tourism, and Food Services. First, Tutoring is chosen to help minors and students be both customers and service providers, especially with the continuous adjustments to virtual classes. Second, Tourism is the sector most affected by the closing of industries in the COVID-19 lockdown based on the survey conducted by the World Bank (2021)¹¹ to 13,878 firms (**Figure 2**). Knowing the precautions towards pandemic rules and regulations when traveling is also relevant. Lastly, Food Services is among the top five (5) firms that closed, and ordering food online is a big market now. Fundamentally, these services are some of the most impactful in the pandemic.

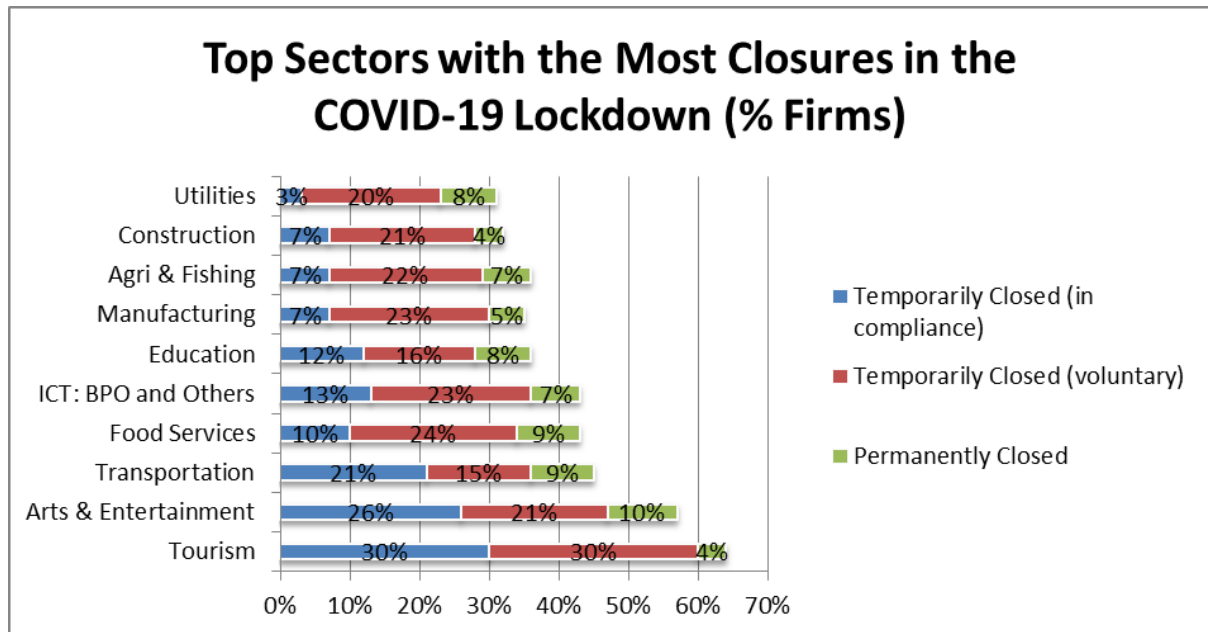


Figure 2. Top sectors with the most closures in the COVID-19 lockdown (% firms).

Innovation Description

Bilin is a nationwide smartphone application that provides a secure environment where Filipinos may ask for or provide services. With it, they can choose between two (2) roles and can switch anytime:

- *Mamamayan* are those who post their requested *bilins* (services) with their payment offer (customers).
- *Tagapaglingkod* are the ones who accept the *bilins* and provide help (service providers).

As also mentioned, Bilin has three (3) priority categories of services. Each category also has subcategories, or specific services, that *Tagapaglingkods* can choose to pursue (e.g. teaching Science for Tutoring, Itinerary Planning for Tourism, cooking desserts for Food Services). To pay *Tagapaglingkods*, the third-party e-banks Gcash and Paymaya shall be utilized.

Moreover, *bilins* can be filtered out according to their category. Depending on their task specialty, the *Tagapaglingkod* can pick which *Mamamayan's bilin* to take on. At the same time, when the *Mamamayan* has posted a *bilin*, they can opt for either of the options below to get a *Tagapaglingkod*:

- Waiting for an available *Tagapaglingkod* to pick the *bilin*
- Choosing the *Tagapaglingkod* they want and contacting them via direct messaging

In finding a specific *Tagapaglingkod*, their availability status and profile are displayed. Bilin also provides *Mamamayans* with an accurate location filtering feature to



navigate for *Tagapaglingkods* living near them, especially in the Food Services category. Also, the task description and payment offer are included for searching the posted *bilins* of the *Mamamayan*.

Bilin has an integrated feedback system to achieve a safe environment and deliver competent service. Upon viewing the users' profiles, whether they are a *Mamamayan* or *Tagapaglingkod*, ratings and reviews on their performance will be shown. Also, posted *bilins* with sexual or abusive language shall be immediately taken down, and the *Mamamayan* will automatically be banned.

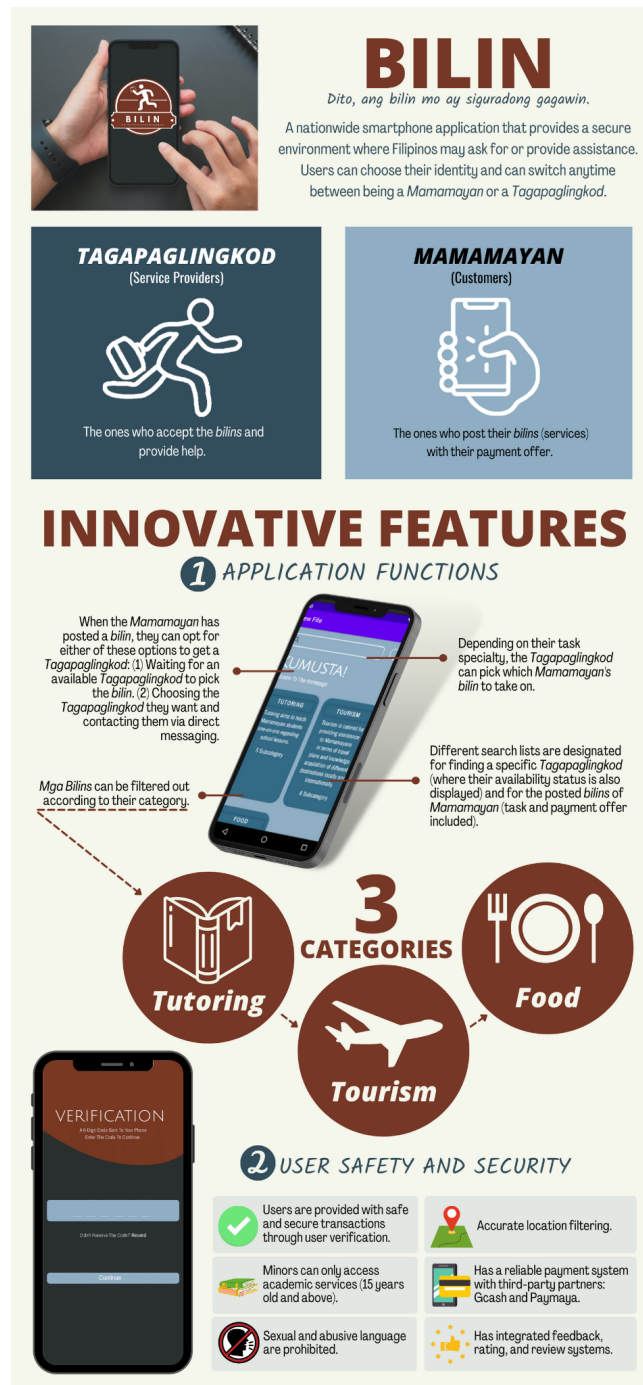


Figure 3. Bilin's application description, two user identity options, and top innovative features.

Methodology

To fulfill Bilin's objectives, setting criteria for accepting *Tagapaglingkods* and collaborating with associations and organizations are also specified in **Figure 4**.

Objective 1: To provide opportunities for the youth to acquire income. Upon user registration, moderators shall make sure that only 15-year-olds and above are allowed to access the application's services. Additionally, minors interested in being *Tagapaglingkods* can only access the Tutoring category, and their parent or guardian needs to sign a Parental Consent Form before proceeding as service providers. Moreover, partnering up with student councils will be taken into account to reach further to the students struggling with their finances.

Objective 2: To give underpaid workers and the unemployed easier access to alternative sources of earning. The moderators will contact the Technical Education and Skills Development Authority (TESDA) as partners since people who took classes within their agency come from various industries, which may also be negatively affected by the pandemic. Some also work at home. Thus, moderators can actively find *Tagapaglingkods* from them.

Likewise, Bilin also aims for inclusivity by reaching out to the disadvantaged, including persons with disabilities and indigenous people. Thus, the application promotes user-friendliness through the Visually Impaired Mode, a disability-friendly feature.

Other potential partners for the procurement of *Tagapaglingkods* are indicated in **Figure 4** in consideration of their broad reach to the unemployed, displaced, and other disadvantaged citizens. There are also partners to locate *Tagapaglingkods* for the three (3) categories.

Objective 3: To bestow an avenue for people to ask for efficient assistance. Aside from the standard sign-up requirements (email address, phone number, valid I.D., etc.), upon registration, users are obliged to submit their NBI clearance for safety purposes so that both the *Mamamayan* and *Tagapaglingkod* aren't involved in any crime. There shall also be validation processes per category to ensure that the *Tagapaglingkods* are legitimate and well-equipped to serve *Mamamayans*. A non-negotiable for Tutor acceptance is having a good grade for the subject of their choice. However, it has to be



ensured that they can teach effectively, which is why moderators ask for a 3-minute video. Regarding the Tourism category, the moderators will only accept *Tagapaglingkods* from the Tourism sector, which includes current or former Tour Guides, Travel Agency Consultants or Staff, Tourism Graduates, among others, for the sake of quality assistance. Lastly, prospective *Tagapaglingkods* in Food Services shall be asked to send a picture of their kitchen for cleanliness and safety purposes. Moderators will also request them to send their menu list and images of their food.

In response to laying down fair base prices, the wages for each category in Figure # are selected from the pricings in the Philippines. With Tutoring, ₱100 is the average base price for it per hour. With that, *Tagapaglingkods* who teach Junior High School (JHS) lessons will be paid with the said amount. As the grade level becomes more advanced, topics will be more difficult. Hence, additional prices are added for Senior High School (SHS) and College lessons. As for Tourism, base prices depend on the daily wages that Tourism-work employees earn, along with the task difficulty. Meanwhile, the Food Service category prices were decided due to the common price online food businesses put out, and weighing also the ingredients, cooking time, prepping time, and serving size.

Data Collection. The data to be collected in the application will include the full name, email address, mobile number, and password of the users. In addition, a valid I.D. shall be asked for as proof of identity. Also stated above, an NBI clearance is required for everyone. *Tagapaglingkod*-wise, those who wish to be service providers shall submit specific requirements based on the category of their choice.

UI/UX Designing. Two shades of blue are utilized in all of Bilin's pages—representing trustworthiness, calmness, and security. Contrasting colors—dark colors for texts and light colors for backgrounds—are applied as forms of visual balance when reading. The Typeface Sans Serif is the font style because users can discern better text patterns while reading with no extra lines. Bilin's typography acts as a harmony that unifies with the other elements found in the interface.

Google Technology used. Android Studio will be used for making the application. Additionally, Firebase shall be applied as an authentication system. After signing up, any information that the users input in Bilin and their browsing and transaction history will be saved on their device. Data could be stored and synchronized to other devices for security



measures. Firebase is also responsible for managing the user's in-app activity to remain signed in after restarting the application. Each user will also have a unique user I.D. which shall never change once authenticated.

TalkBack by Google LLC is utilized to enable a voice feature. The users have to go to Google Play Store first to install the Android Accessibility Suite. After that, they'll go to their phone Settings and click 'Accessibility.' Subsequently, they have to press 'TalkBack' and turn on this feature.

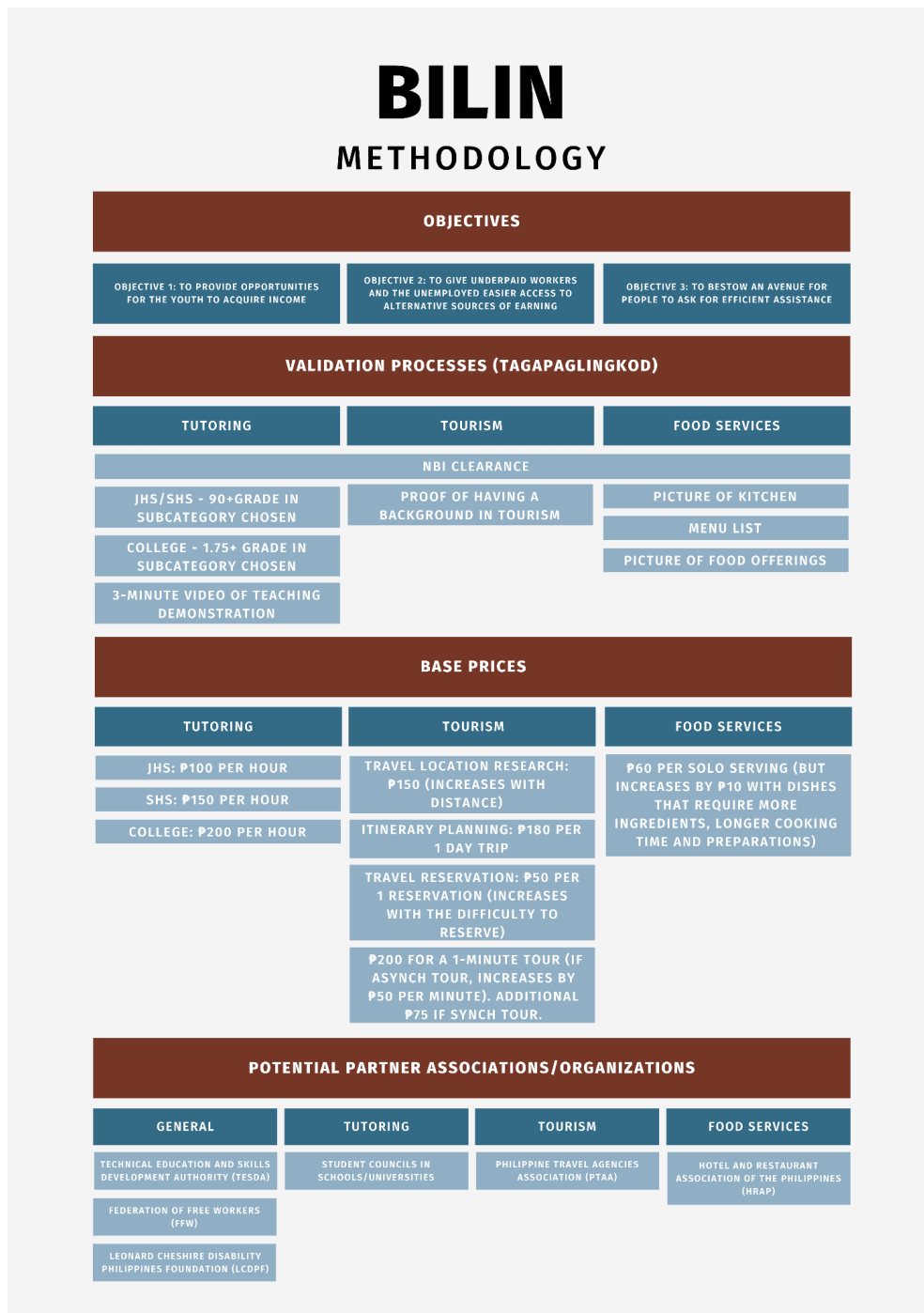


Figure 4. Methodology for Bilin.

Flow Chart

The Flow Chart below represents how the application will work (**Figure 5**).

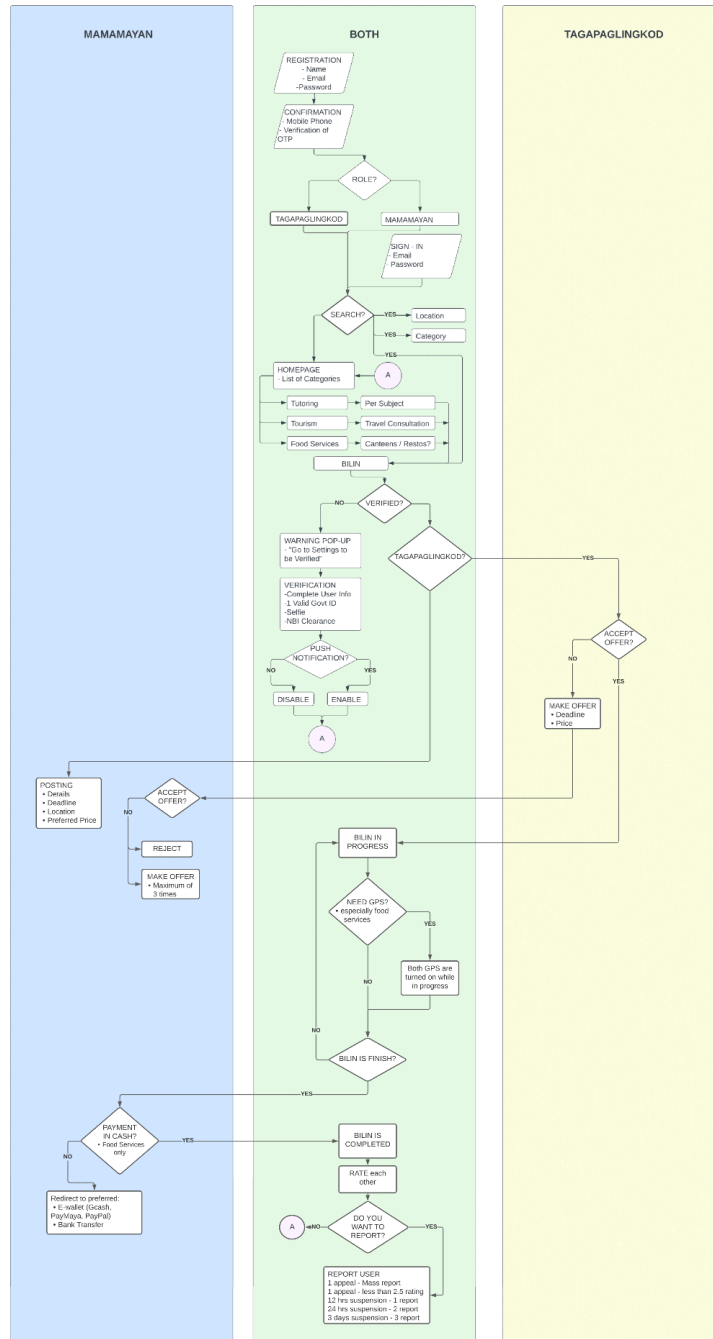


Figure 5. Flowchart for Bilin.

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