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| Proposed Title | **Ordering and Delivery Tracker App for Quadro King Water Station Retail Store** |
| Area of Investigation | Quadro king water station is a drinking water retail business owned by Mrs. Gemma Pajo located in Pilar Las Piñas that is supplying drinking water around Pilar, Almanza Uno, and TS Cruz. The main task of this business is to supply customers clean and purified drinking water.  The water station is located at a garage of a home in pilar. There are 2-3 delivery riders per day. 2 for the motorcycle, and 1 for the van. There are also 2-3 washers and 2 refillers. There is 1 manager who supervises the preparation, and sometimes go with the delivery and checks everything.  Since lockdown, finding beneficiary is difficult since the government is implementing health protocols so researchers look for potential company that is near in their residences. The researchers found the said water station. Upon investigating its workarounds, the researchers found out that every transaction they made with the customers are being done manually so the researchers asked Mrs. Pajo if they can innovate and study a system that could work with their retail business and they come up with ordering and delivery tracker app. On this app customers can place a water order through the app, look for the nearest water station (in this case the Quadro King water station) and request for the delivery through the app. The concept is, customers have an app that can place an order, contact the nearest water station and be able to send request to deliver to their homes anytime.  The proposed study can make an innovative system, that will both benefit the business and the customer. The business will monitor the orders through the application, and registered customers can make orders via the application with their address already saved and can be tracked through GPS.  These are the following modules of the proposed system:  The Administrator will have a secured access. A username and password will be used to access the system. There will be 3 types of login Owner, admin, employee, and the customer.  This system will provide an ordering app which will provide real time tracker for the current location of their delivery man. Customers can also place an order and can also track their order on the way  Researchers will use Android Studio for App development. Researchers choose Android Studio to develop the App because it is fastest developer tools for building market-leading apps and accelerating performance. With an intelligent code editor, flexible build system, Realtime profilers and emulators.  Having a reliable App for ordering a clean and safe water really helps people to make sure that they can have it on time and with no worries since they can track or pinpoint the current location of the delivery. With this app you can order/purchase your water necessities at any time even when there is no open store in your nearest.  Android Studio is one of the popular development tools for android programming since it is one of the fastest and reliable tool IDE in the market today. The proponents choose android studio since it provides a lot of features for in-app development since it provides grade-based support which is a necessary for programming GPS based app. Gradle is also easy to use since it has a built-in automation tool for multi-language software development. Gradle supports and controls development process in task compilation, packaging to testing, deployment and publishing. Gradle can handle languages such as Java, Kotlin, Scala, Groovy, C/C++ and JavaScript. You can see this grade like the concepts of Apache Ant and Apache Maven, and introduces a Groovy- & Kotlin Based domain specific langue contrasted with XML-based projects that is configured by Maven. Majority of the languages will be used in this app is written in JavaScript. The proponents prefer JS over Kotlin based APK since JS has been in the market for a quite well, meaning the proponents have a lot of source points to gather when making the app. Also, JS is also used in developing web-pages, where you can build functionalities for your websites. Since the proponents is well-verse in JS there should be no problem in learning to build the app in in the right time. JS is easy to learn and it casts simplicity to the codes unlike any other programming languages that could provide lengthy codes, unlike JS.  The researchers could also consider using Kotlin Based app in some parts of the development since it offers almost the same perks as the JS the big difference of Kotlin is that this programming language is relatively new to the eyes of the programmer’s but it offers dynamics and complexity since it adapts some of the feature of JS. But then, the proponents would see what would be the best programming language for development, for now would focus on JS. XML can be also be seen in the parts of the programming since it acts as a mark-up language tool for android app. It provides the same features of HTML for web development.  For the database, since proponents are developing an app the proponents would use Firebase Cloud Database. Firebase is Google’s mobile application platform that helps you build an android app aside from Cloud-Based database it covers a lot of portion of services a lot of developers need such as app analytics, authentication, configuration, file storages, push, and a lot more. All of these are hosted in the cloud, and it is really scalable with little effort from the developer. The proponents think using Cloud based system like Firebase since it interacts with these services directly. You don’t need to establish middleware such as hosting websites therefore bring the cost of this project to medium costs to low costs. This is different from the traditional app development, since it typically involves writing both front end and back end software. The frontend codes invoke API exposed by the backend. However, with Firebase services, the traditional backend is bypassed, putting the work in the client. Administrative access of these services is accessed through Firebase Console. Aside from using the Firebase Cloud database services we could also consider using some of the authentication Services for the app’s log in and app’s configuration settings. Firebase is maintained and operated by Google. |
| Reasons for Choice of Project | The establishment’s daily water refilling sales are in demand and has difficulties in tracking sales record and customer orders due to the high volume of daily sales. Keeping an eye on daily sales is a vital function of the business growth. The station would peak 212 of gallons average sales per day, a high volume of gallons could render man-made mistakes this system will alleviate work stress for the workers. Provides peace of mind knowing that the sales are accurately tabulated by the system |
| Importance of the Study | By launching the app, the owner of the water station should be able to rely on the app’s order taking system without worrying about the customer’s exact location. This app will also enhance owner to customer interaction since it is recommended to distance ourselves due to social distancing health protocol. Customers can place a water order delivery through this app. |
| Target Users/Beneficiary | The target users/beneficiaries of the proposed system are the management/owner, clients/customers of Quadro King Water Station. |
| Similarity with any Previous Study/Project | According to Ramesh Kumar Bagla Amity University School Volume 10, Issue 11, (November 2017), Bagla, in his journal his paper investigated the growing popularity of online booking and ordering of food in India, expectations of the users, and their satisfaction levels with the popular apps such as Food Panda, Swiggy and Zomato. According to them there are a lot of factors contributing to the popularity of online food and booking app were found to be: lack of time to prepare food, availability of variety, rewards and cashbacks. There is a scoping for improving the users’ satisfaction levels by gathering their customer’s output more precisely and offering more attractive promos and deals while ordering food online. Every App in this criterion caters food and some of the beverages but it is only limited to food concessionaires. The researchers expected this App will bring a new edge and convenience when ordering safe and clean drinking water for their homes and provides all available options when ordering water or get in touch with their favorite retail store through App. |
| Project Time Table (Gantt Chart) |  |

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| Recommending Approval | Signature | Approved by |
| Research Professor |  | Head, Academic Affairs |
| Subject Coordinator |  |
| Department Head |  |
| Dean |  |
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