



**MOBILE MEDICATION CONTROL APP FOR CHILDREN
MY BABY PRESCRIPTION**



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**MOBILE MEDICATION CONTROL APP FOR CHILDREN
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EXECUTIVE SUMMARY

MY BABY PRESCRIPTION is a mobile app that has been designed with all parents in mind who need to have control over the medications their children should take. It has been designed in such a way that it is simple to keep track of the medications, the first dose sent by the pediatrician and let the system automatically create a notification for each hour that the medication should be given.

The application allows the registration of the child's information, information of the treating doctor and the relationship with the child, prescribed medicines and an easy visualization of the notifications previously created by the application and sent to the mobile device.

The mobile app was initially developed for Android operating systems, and was published on Google Play to make it available to users, having two versions available, a free version that provides only a limited number of records and the paid version, which provides unlimited records .

The mobile app **MY BABY PRESCRIPTION** in main concept was designed to be the main tool for the control of the medicines of babies or infants, but it also serves to control the medicines of any person. As the application has already been tested in its operation with real data, and works as expected, it is important that it is launched in the Apple App Store, to have greater reach and with users looking for mobile apps that provide them a solution to your important needs in that Store.

In the same way an application must be upgraded using the latest versions of the software with which the mobile app was developed, which provides not only many features that can be used as new features of **MY BABY PRESCRIPTION** but, technologies such as AR that could give added value to the app.

It was used as a development tool, two years ago, Genexus Evolution 3, because it provides the ease of power with a single code, develop mobile apps for Android and iOS as well as for the Web. Currently Genexus already has version 16 available, which is a huge leap since the X version came out in 2013, since it adapts the development IDE for new technologies such as .NET Core, which offers multi platform development, specifically for applications Web.

The market for this mobile app is all those parents who, like me, need to have control of our children's medications and that the tool that is used be reliable.

APPROACH TO THE PROBLEM AND HYPOTHESIS

The most complicated stage for a father, regardless of whether he is the first child or not, will always be from day 3 until he turns 5 years old. Not only because of that struggle and adaptation to the son's way of being, but also because of the number one issue of health, if we made a list prioritizing all the issues related to our son.

For all the health issue is important, because without it little or nothing can be achieved, because there will always be a limitation but not an impediment and there are many documented cases in this regard. But as parents we are always vigilant and ensuring that our children do not suffer from health issues, because even a simple fever alerts us because we are used to it, at least I live it that way every day, with the happiness and occurrences of our children. minute.

Given this approach and if we take into account that this complicated period as mentioned at the beginning is from 3 days to 5 years, we must have a way to keep a record and control of medicines that our children should and must take, either those that the treating doctor sends normally for growth, such as vaccines or vitamins or, when the doctor sends our children some medication for a common illness or, like my daughter, unusual diseases.

And why do I say from the first 3 days? For the first 3 days the baby is in the hospital and the medicines and their schedules are provided by the nursing staff, so as parents we do not worry about that, but everything changes when we leave the hospital and the baby arrives at home. From then on it is our responsibility and nobody else's, and if, as in my case, you are a single parent who deals only with your daughter, then every second must be calculated and everything organized to maximize the time available.

And part of that organization involves having a tool that tells us, time and dose of medicines for our children. And it is in that need that MY BABY PRESCRIPTION provides a simple, but reliable and accurate solution on the control and monitoring of medicines and the doses that children should take.

The application only requires that the profile of the child with its general data, the data of the attending physician, the relationship between the two (for example pediatrician-child, gastro-girl) and then define once the medication data are created. Prescribed indicating the dose, first time it is given and number of days. These data are sufficient for the application to automatically create and send to the mobile device the notifications that must be shown.

OBJECTIVES OF THE PROJECT

GENERAL

1. develop an app for mobile devices that allows the registration and control of medicines that should be provided to children.
2. Store all medications and their doses, dates and durations, that the doctor sent to the child.
3. Notify automatically, using the own system of the mobile device, when it is necessary to provide some medicine to the child.

SPECIFIC

1. Develop an alert system, initially, for children or infants, which will allow decisions to be made quickly and on time.
2. Keep a record of medications that have been sent to the infant, and can quickly and easily review them as a reference or to validate them.
3. Establish an efficient, automatic and reliable mechanism to maintain control over medications and the doses that should be given to an infant.
4. Eliminate the papers and the reliability in the mind, leaving the mobile app that creates for us the notifications for each medicine, for each infant.

EXPECTED IMPACT

With this mobile app it is expected to prevent the interruption of medical treatments sent by doctors to infants, because according to WHO data, the interruption of a medical treatment in general, implies that it does not meet the objective foreseen by the doctor.

Eventually, and after analyzing the results of the study of the app, this mechanism, notification support and control, is equally valuable to other patients such as the elderly, just as sensitive but also have a high degree of risk of not following correctly the medical treatments.

The analyzes made during the test time of the application, were satisfactory, and allowed to have an accurate control of the medications that, in the specific case, my daughter had to take.

With this mobile app it is expected to give peace of mind to parents or caregivers of infants, that medical treatments and medications that must be provided, will be given in the correct dates, times and doses.

The study also resulted in the opportunity to improve the mobile app. Being the most important, being able to have the app available in the Apple App Store, and not only in Google Play. To be able to upload the version with which the mobile app was developed, to evaluate the new features and functionalities of the development tool, and to improve the functionalities of the application.

DIRECT AND POTENTIAL USERS OF THE STUDY

The direct users of the mobile app will be the parents or responsible for the infants, which will be those who directly use the mobile app through the devices..

The potential users of the mobile app are the treating physicians, the elderly, patients with chronic diseases who need a safe but reliable form of medications and doses, sent by the doctors.

FRAMEWORK THEORETICAL AND THE STATE OF THE ART

FRAMEWORK THEORETICAL

It is crucial for the parents or those responsible for the medicines of the infants that they are given precisely and in the specific amounts indicated by the doctor. Beyond technological advances in health and technology, there is no reliable or precise mobile system or app on the market that can give parents the peace of mind that the infant will always receive their medication at the indicated time..

This security is the same as that obtained by the father or the child's caregiver if he were in the care of the nursing staff in a hospital, where, bearing a medical record or file of the infant, the medication would be given at the indicated time.

Organizations and institutions as well as doctors have established that the total interruption or not following the indications on the medication can have consequences in the patient. For example, an infant who has been prescribed a medication to fight a flu and the medication is discontinued if the symptoms are no longer present can cause the cold to persist for a longer period of time or to get worse.

A doctor who keeps himself updated will send the medication in a reasonably correct time to mitigate a condition, time that is not long so that the body does not become resistant to the medication and long enough to help the body fight it and be able to generate the antibodies that to enter the body again, to be able to eliminate it effectively without the need for medication.

Control is the key to avoiding these or any other risk situations in infants who are prescribed medications. And the constant monitoring and the security of a notification at the precise moment in which the medication (s) must be provide the key to having a solid base to make decisions in order to guarantee the quality of life of the patients and to recover or preserve your health and quality of life.

STATE OF ART

There are advances in the market and specifically in the Google and Apple Apps Store, some apps that allow the registration of medications, but not the notification or the possibility of maintaining the information of the treating doctor.

Advances in technology allow a mobile app to be developed that gives users, in this case, parents or caregivers, a reliable tool for notifying medications and doses of infants, as well as the attending physician. , your information and the relationship with the infant.

METHODOLOGY

To achieve the objectives the application was used Genexus development program, version Evolution 3 Update 12, an development platform agile that allowed development rapid of the application mobile, creating a single code that could be used to develop a back office or, which is one of the goals of improvement of this business plan, the creation of the mobile app for iOS devices.

The mobile app was developed so it allows the registration of the doctors, the registration of the infants and the relationship between them, as well as the registration of the prescribed medicines, will automatically create all the notifications corresponding to what is indicated by the attending physician and in the same way that the device will register said notifications in the system of notifications of the operative system.

The techniques are simple to use but require a professional with expertise in .NET, C # and Genexus Evolution 3 and knowledge of developing systems cycle and basic knowledge of mobile systems, update and adapt the mobile app to achieve the specified objectives.

The flow of events for sending alerts and notifications is as follows: the first step is the registration of the infant's information: photo, full name, alias, date of birth, etc., then the record of the doctor's information : name, specialty, location, telephones, etc.

Then establish the relationship of each doctor with the infant. For example you could have registered the information of two infants and the information of three doctors, so you should specify what relationship there is between them, for example, a doctor treat the two infants but the other two only have a relationship with one from them.

Once this information has been registered, each medication sent by the attending physician, the type of medication, the dose, the daily periodicity and the number of days can be registered. Once that information is registered, the mobile app will make the process of determining each of the hours in which a notification must be sent and the number of days, save that information in the application and send the notification to the operating system of the device to be displayed. in the precise moment.

The notification that is created and sent to the notification system of the operating system is simple but precise: alias of the infant, medicine, dose and time.

For the tests, the application was installed on an android mobile device and for a period of two months, medications sent by pediatrician and gastroenterologist were registered for periods of one to two weeks.

WORKPLAN

Introduction

The study was based on the premise that the care and control of the medications that treating physicians send to infants is one of the most important aspects in the care of them. following the treatment in a precise and effective way, guarantees that the infant can enjoy not only good health but its growth is adequate.

We understand by control to the security that a medicine will be supplied in the specific way in which the doctor indicated it. time, dose and number of days, and of course, the correct patient (because there may be more than one sick infant at a time).

During a period of two months the mobile app was developed to begin the unit tests, quality control and final tests. For the development of the application, a laptop was requested as a loan for a maximum period of three months and the Genexus X Evolution 3 development software was installed.

After the final tests and the review of the data used, we proceeded to upload the app on Google Play, following the guidelines of that Store and configuring the properties of the application in Genexus for that purpose.

Now it is required to achieve the objectives of this plan, acquire a laptop to continue with the adequacy of the mobile app, uploading the development tool version, taking the version for the Apple Store and adding new features and improvements to the app .

General Objectives

- Install the new version of Geneux, version 16
- Upload the mobile app to the Apple App Store

Specific Objectives

- Buy a license of SmartDevicesPlus and one of WorkWithPlus to improve the UI of the mobile app
- Pay a year of subscription as a developer in Apple Developer to to be able to upload the application to the App Store
- Buy a MacBook Pro Laptop as a work tool
- Buy the Parallel virtualization software

Goals

The main goal of the work plan is to improve the mobile app **MY BABY PRESCRIPTION** increasing its functionalities thanks to the new version of Genexus, and making available to other potential users, the mobile app in the Apple app store.

Improve the user interface (UI) giving the user a better experience when using the application, thanks to the SmartDevicePlus functionalities and create a back office with a good user interface, using WorkWithPlus.

Review and evaluate the new features of version 16 of Genexus, which includes virtual reality or AR, improved graphics and Big Data components, apps in the iWatch, which can be useful in an application like **MY BABY DESCRIPTION**.

Indicators

The measurement indicator for this study will be the generation of the app for the iOS version and be able to upload it in the Apple Store, improve the usability of the mobile app, using the strength of SmartDevicesPlus in the UI or user interface.

Activities

The activities related to the study to achieve its objectives are:

1. Buy the equipment, laptop, with the necessary features..
2. Buy and install the developer Genexus 16.
3. Buy and install WorkWithPlus and SmartDevicesPlus.
4. Pay the Apple Developer Program fee.
5. Buy and install the Parallel program.
6. Update the mobile app **MY BABY PRESCRIPTION**.
7. Make the tests of the application after the upgrade to version 16 of Genexus.
8. Upload the app in Apple's App Store and upload the new version of the mobile app for Google Play.
9. Review the new features and evaluate each of them to include them in the application.

DETAILED BUDGET

In order to develop this plan you need:

DESCRIPTION	AMOUNT	TOTAL
Laptop	1	3,200.00
Programming software for mobile devices (GeneXus)	1	2,500.00
Parallel 150.00		
Work With Plus	1	1,500.00
Smart Devices plus	1	1,500.00
Apple Developer Program	1	100.00
<i>Miscellaneous (may include warranties, briefcase, etc)</i>		<i>1,000.00</i>
TOTAL		9,950.00

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EXPECTED RESULTS

1. To make the mobile app a tool for daily use for parents, or for anyone who requires and needs a notifier of the medication that needs to be taken.
2. Improve the mobile app **MY BABY PRESCRIPTION** for the Google Play version as well as obtain the mobile app for the Apple App Store version.
3. Improve the user interface of both versions, improving the user experience when using the application.

STRATEGY TO USE FOR THE TRANSFER AND COMMUNICATION OF THE RESULTS TO THE POTENTIAL USERS

1. Make use of the social networks to market the application, creating important content referring to the characteristics of the application.
2. Participate in IT events to make the mobile app known to other IT professionals.
3. Show the application to one or two doctors so that through them there is a reference

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