

# Engaging People: a Multidisciplinary Service Mobile App Study Case in Mexico

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important data to remark is that 65% of above people are below 35 years.

**Abstract -** *The global trends and the complex world are demanding technological solutions to save time and money in the processes. This paper aims to reduce the gap between people getting a service using an app suited for their main needs. In this paper we show an app adaptable to multiple environments and fields and some study cases.*

This paper is organized as follows: section 2 deals with the related work done; section 3 shows the app strategy and construction; section 4 deals with study cases; and finally, section 5 is devoted to the conclusions.

**Keywords:** Mobile App, m-Government, Manufacturing, Education Services, Social Technology

## 2. Related Work

Nowadays society is used to communicate by electronic means, in this section we will review some of them.

## 1. Introduction

Most of people are using smart phones around the world, but they mostly use this artifact to communicate or use social apps. This research address the opportunity to break normal process paradigms throughout a ubiquitous software. Usage of mobile apps has become the main use across mobile phone users. A study reported<sup>1</sup> more mobile subscribers used apps than browsed the web [2] on their devices: 51.1% vs. 49.8% respectively. Researchers found that usage of mobile apps strongly correlates with user context and depends on user's location and time of the day.

### 2.1. Wearable Devices

In 2016, around 101.9 million wearable devices<sup>3</sup> were shipped. Smart wearables like Microsoft's holo lens and Apple watch indicate an upcoming transformation in computing and transaction from basic to smart wearables. This provides an opportunity for app developers, vender's accessory makers. Smartphones will become the hub of a personal area including of wearable gadgets like smart jewelry, display devices (Google glass), smart watches, etc., these devices interconnect with a mobile application to supply information in a new manner. It influences the next generation of mobile app development strategies.

Mobile app development is the most actively expanding sectors. Around 179 billion applications download yearly. Generally, the mobile app is conquered by social media app. Many companies are starting to use mobile application for expanding their market, improving their customer engagement. Not only big brands small business are also using this trend for branding and marketing. An outstanding mobile app development requires an advancement of technology to vision, strategy for growing their business in future no only intended for marketing purposes but rather for improving people engagement with institutions and improving notifications to customers.

### 2.2. M-Commerce

The mobile transactions will increase, the influence of easy payments methods as google wallet and Apple Pay helps in accelerating the purchase to using mobile phones. For that, it is also required that developer creates a mobile application that can process the transaction without debit/credit or cash. Interaction design and UX design has been at the core of the m-commerce experience from its conception, producing apps and mobile web pages that create highly usable interactions for users. [3] However, much debate has occurred as to the focus that should be given to the apps. In recent research, Parker and Wang [4] demonstrated that within fashion mCommerce apps, the degree that the app helps the user shop (increasing convenience) was the most prominent function. They also showed that shopping for others was a motivator for engaging

In Mexico up to 2017 the 85% of active mobile lines were smart phones this equals to 95.9 million of people<sup>2</sup>. An

<sup>1</sup> <https://www.comscore.com/>

<sup>2</sup> <http://www.elfinanciero.com.mx/empresas/85-de-los-clientes-moviles-en-mexico-usan-smartphones.html>

<sup>3</sup> <https://www.codementor.io/marshasely/state-of-the-art-trends-in-mobile-app-development-6k2mcmhfo>

in m-commerce apps with great preference for close integration with social media.

### 2.3. Enterprise Mobile Management

EMM is the collection of people, processes, and technology [5] using mobile computing for simplifying their business. The main feature of EMM is security, application or financial management. This feature also consists mobile application management, mobile device management, and some features of enterprise file sharing and synchronization.

## 3. App Strategy and Construction

A dynamic and easy to use app requires an effective display of content and data on your mobile user interface. The various organization has created their new pattern representing interactive interface and intuitive design. Now, the designer also creating an app which adjusts mobile challenges like an interruption and partial user attention. Mobile Applications use technologies with their unique feature like circular design patterns interactive content layer, and management of content. This development targets the three main objectives: a) ubiquitous information, dynamic processes, real time data.

All the above objectives try to reduce time and speed up processes having the information right at their hand through a mobile phone.

### 3.1. Justification

In our society paradigms exists, many of them undetected by human mind. People use to seat in front of a PC and search for information and usually access sites that require passwords and many levels of searching to get the information. There is a innovative way to solve this and avoid long hours trying to reach fro data or information.

The design model of the proposed app is able to adapt to different scenarios accomplishing always the main objectives stated above.

## 4. Study Cases

The app was used in different scenarios to prove the versatility of design and to test it in heterogenous environments.

### 4.1. Education

Mobile apps for educational institutions have done a great thing for the students, making the learning process fun and easy. Also, the various app features boost engagement through knowledge-oriented activities. This app is not directed to educational classroom issues, this app focus on university services to students and faculty.

The first step towards the implementation was carried out by interviews to users (Students and professors) and also with a questionnaire to assure the main services to model.

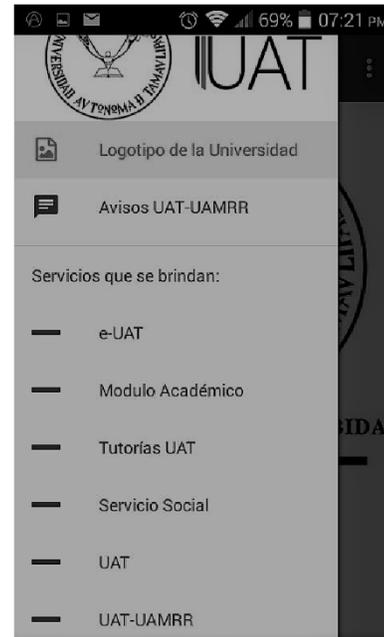


Figure 1. University App Main Menu

The step two was the design, model and programming of the app. (See fig 1) and the last step was implementing it in a university scenario the study case population hits 3000 students and faculty.

The app performed fast and easy to use by students and faculty. This app es planned to be implemented in all units and faculties of the Tamaulipas Autonomous University which are 37,000 students and 2500 faculty staff. Also, is planned to be implemented in Nuevo Leon University, this university is next to Tamaulipas State.

### 4.2. Government

Electronic Government (e-Gov) is an important application field [1] for the transformations and innovation that governments and public administrations will have to undergo in the next decades. Citizens are demanding digital and ubiquitous services.

This project is following Mexican research priorities in Mexico and also includes main research topics at the e-Gov domain, the project main objectives is to evaluate the existent technologies used at Tamaulipas e-Gov strategy, impact and interoperability. The app facilitates the services offered by local and regional governments.

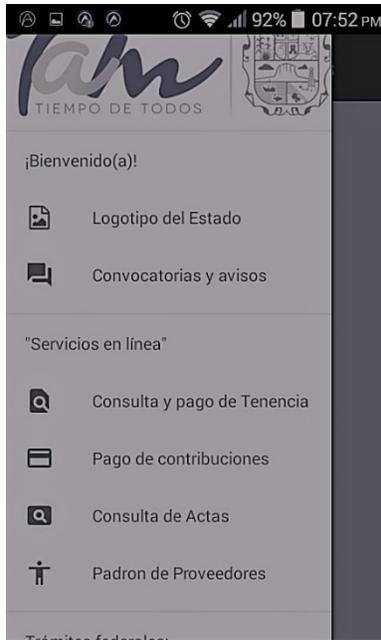


Figure 2. Government App Main Menu

The app objectives (figure 2) is to close the gap between services offered by governments using the main services in an easy platform reachable to most citizen.

### 4.3. Manufacturing

The huge volume of data managed at manufacturing companies push managers to find a ubiquitous real time solution. The scope of this app is to enclosure all the data need it for running production lines (e.g., Quality, scrap, production, materials, human resources) With this app managers, supervisors and support personnel benefits from agility and accuracy of data.

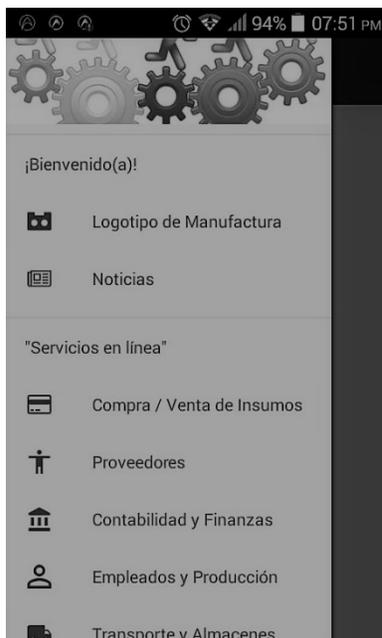


Figure 3 . Manufacturing App Main Menu

The main scope of this development (figure 3) is to bring the attention of issues on production floor in a complex and real time environment. The ability to prevent quality defects, scrap, personnel opportunities and maintenance task are key to have a plan running.

## 5. Conclusions

In this paper we have presented the multidisciplinary app intended for heterogenous environments and fields. The experiences on implementation are easier than a regular software, the main success element is that people is knowledgeable and prefer to use mobile phones than personal computers. The future work is implement them first regionally and evaluate the benefits. Also to develop and innovation center to continue helping society to adapt and use new technologies.

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