



# THE COMPUTERWORLD HONORS PROGRAM

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## CASE STUDY

### ORGANIZATION:

Yucatan State Government

### PROJECT NAME:

Unidad de Servicios Electrónicos – USE (Electronic Service Units)

### Summary

The Government of the State of Yucatan is delivering government services in a new truly way. Through the use of advanced technology, Yucatan is providing its citizens with highly innovative services implemented in Electronic Service Units (USE Modules) an easy-to-use, trustworthy, transparent alternative to traditional methods that provides flexible access to government services 365 days a year. USE Modules work like ATMs and provide 19 different procedures that range from the payment of some taxes to the issuing of drivers licenses. Transactions that used to take several days are now completed in less than 5 minutes. Conveniently located at several shopping centers in the City of Merida, they operate from 9am to 10pm, every day of the year.

### Introductory Overview

During the Yucatan's 2001 elections, a new governing party came to power for the first time in 75 years. Elected with a mandate to improve the quality of public services delivered to citizens, the new administration made a commitment to high quality, efficient public services. Yucatan is a society faced with many needs. According to the Human Development Index, calculated by the United Nations, the State ranked in the bottom 25% among the 32 states of Mexico. The average educational standard does not exceed 6 years of schooling. An external evaluation, done in the year 2001 on a national level, ranked Yucatan as one of the 5 most backward states in Information Technology at the service of the civilian population.

Making changes within this difficult social and economic environment demanded new thinking in the face of the existing complex and restrictive laws.

This situation was reflected in the quality of public services offered. Everything was done manually, carelessly, and was subject to error and abuse. For example, for a citizen to obtain a birth certificate, it took 2 hours; a driver's license took 3 hours to be ready, and paying for vehicle registration took up to 4 hours. All these procedures took place in an uneasy environment, with inadequate conditions, both for the citizen and the public servant.

Even the simplest tasks meant that the taxpayer had to visit several different public offices, with limited office hours -- usually from 8:00 am to 3:00 pm, Monday through Friday. For the

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average citizen, this meant a loss of time away from work and additional costs. Every chore was difficult and slow to process, which made some citizens decide to skip some procedures, until they were required to by law; this also meant that the State Government did not receive some of its revenue in a timely manner.

Facing this reality, the new administration started from scratch. The first order of business was automating the internal administration. Everything was redone, from buying equipment to developing the systems: accounting, payroll, budgets, accounts payable, accounts receivable, purchases, taxpayers and others. Today, after 4 and a half years of this administration, the same external evaluation has ranked the State among the 3 most advanced in Mexico in the use of Information Technology at the service of the civilian population.

Now, with a solid base, the search for new alternatives that offered better services for the common citizen was pursued. The first strategy that was implemented was Internet. In the year 2003 the first services were offered via Internet, but the expected response was not met, since only 13% of the population had access to Internet. Citizens still went to public offices and received poor quality service.

The challenge was to find another way to simplify the lives of the taxpayers, without complicating the internal operation of the Government. A major decision was made: deliver multiple services from different government agencies 365 days a year, for longer office hours, in places that were easily accessible to people. That is how the USE Modules were born.

Today, the USE Modules enable taxpayers to complete the following operations:

From the Civil Registry, they can acquire:

1. Birth Certificates
2. Marriage Certificates
3. Death Certificates
4. Divorce Certificates
5. Copies of the Unique Code of Personal Identification

From the Water Services of Yucatan, they can:

6. Balance inquiries
7. Water and Sewer payments
8. No debt certificates
9. Payment certificate duplicates

From the State Vehicle Tax Commission, they can:

10. Inquiries about taxes to pay
11. Payment of vehicle tax
12. Payment certificates of vehicle taxes
13. Payment for license plates



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From the Police Department, they can get:

14. Traffic Ticket inquiries from State Police and from the City of Merida Police
15. Traffic Ticket payments from State Police and from the City of Merida Police
16. Drivers license duplicates
17. Drivers license renovations

From the State Treasury:

18. Payment of property taxes
19. Payment of notarization of signatures

Taxpayers can access all these services in less than 5 minutes and payment can be made in cash, credit or debit cards.

To access these services, the taxpayer just has to go to the USE Module, choose the desired service, input the necessary data using a keyboard or a bar code reader, and if needed, make the payment. In exchange, the taxpayer receives the documents, the official payment invoice, and if needed, the change in cash.

### Benefits

USE Modules bring benefits to a great number of citizens:

- Several services from different public offices and government areas are offered in one place allowing the citizens to take care of business without having to go to different places.
- Office hours are from 9:00 am to 10:00 pm, every day year round. Public offices have limited working hours from 8:00 am to 3:00 pm from Monday to Friday.
- Because the USE Modules operations are so fast, there are no long lines, and average time for operations is less than 5 minutes. Public offices average time for operations is 4 hours.
- Office conditions are better since USE Modules are located in shopping centers, there is air-conditioning, good lighting, cleanliness, parking spaces and restrooms are available in shopping centers. Public offices do not have all these conditions.
- Since USE Modules are located in strategic points throughout the city, for citizens it's easy to access them quickly. Public offices are located in the down town.
- An important aspect for the perception of public services in Mexico is that with the use of USE Modules it's impossible for public servants to abuse the system.

For example: For a working woman, to get the proper papers to register her son at school, in the past she needed to go to one office for the birth certificate and to another office to obtain the Unique Code of Personal Identification. This meant that she needed to skip work twice. Today she can do these tasks at a time of her choosing, at the most accessible place, any day without affecting her office hours. And during the time she is taking care of these processes, she can pay the water bill and get her driver's license. If she does all 4 tasks, she will spend about 7 minutes at the USE Module.

For people paying the vehicle tax, exchanging license plates, exchanging drivers license and



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consulting traffic tickets, he or she can do the tasks in less than 10 minutes, taking into account the time spent in line. In the past he or she would have had to go to 4 different offices, which meant the loss of a business day.

For the State Government there have been also important benefits:

- The cost to offer these services has been reduced up to 28.8% on average, going from US\$0.07 to US\$0.04. Cents that amounts to big savings in tens of thousands of operations.
- The amount of vehicle taxes collected has grown 4.3%, which shows that today it's easier and quicker to pay on time.
- Drivers licenses issued grew 7.9% on revenue and the number of licenses issued grew 8% .
- The USE Modules have delivered an additional benefit for the government -- citizens have increased confidence towards the authorities.
- For other government levels and other public agencies, such as the City of Merida and the Water Services of Yucatan, offering services through the USE Modules improves capturing revenue that otherwise would have not been achieved; with the additional advantage of using the infrastructure without having to develop or pay for it.

Officers from other Government states have visited Yucatan to learn about the USE Modules, for possible replication. The USE Modules are a practice that any community or authority all around the world can install if they have the will to do it.

### The Importance of Technology

In order for the citizens to be able to get access to the USE Modules services, the integration of several hardware and software elements in one place was needed.

The fact that all state government applications were developed in one platform, PROGRESS SOFTWARE, made it easier to converge in one final point: the USE Modules. The modular nature of the applications made it easier to replace interfaces without affecting its core, and without having to develop new code. Even in the situations where it was necessary to develop new code, such as in the case of traffic ticketing from the local Police in the City of Merida, it was possible to take advantage of the routines already in place and the existing vehicle and drivers catalog in use.

In the case of the drivers licenses, which is the most complex service offered at the USE Modules, the core of the application did not change. However, there was the need to develop the routines for fingerprint recognition, register the signature and digital photograph and, finally, to link all these elements to the database registry of the motorist.

The technology permits the remote monitoring of the operation of the USE Modules, and at the same time that the supervisor can intervene from the control center.

In addition, some of the supervisory functions also were automated which reduced more human intervention. All operations of the USE Modules occur in real time, instantly impacting the accounting in a secure and trusted way.

The information that is handled is highly sensitive and requires high levels of security and confidentiality: data of the credit or debit card, taxes, fines, overcharges, electronic copy of the hand



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signature and image of the fingerprints for which the software developed needed to assure high security levels in all aspects.

The communication infrastructure must offer the service and protection against unauthorized interventions and against contingencies like the interruption of the electrical power supply.

Because of the specific technologies used, security and protection were of the highest caliber--without this neither the users nor the public officials would have accepted the USE Modules.

### Originality

The USE Modules are innovative because all the services offered needed to be approached from a different perspective. We asked ourselves how we could provide these services in the most user-friendly and efficient way. The resulting innovations occurred in many areas: Technical, administrative, financial and, especially, political. The technical aspect of this project demanded stable transmission and information processing mechanisms, among multiple IT structures. In the administrative field, it required the re-engineering of multiple processes of various institutions and of two different governments, the Yucatan state and the City of Merida. In finance, the participants needed to apply treasury methods that were completely new to their day to day practice. In the political field, it is an innovative practice because by respecting the autonomy of the local and other public offices, the State Government became a collaborator. This collaboration is one of the most important achievements because it breaks the historical schema established and is unique in Mexico.

Although other federal public agencies and other states have similar electronic modules, they are used for a dedicated purpose, and they only permit one service; the most common are used for balance inquiries and cash payments. The USE Modules are unique because they offer multiple services of multiple public institutions.

As for the forms of payment the USE Modules are the only ones offering several options: cash, credit and debit cards. The USE Modules can even give cash back as change in currency bills or coins.

An innovation that has had an important effect in the public perception is that in the case of the payments with credit card the citizen can opt for a 6 month financing without interest, with certain credit cards.

Because they are modular, it's easy to introduce new services while the existing services are in operation.

In all the cases, the operations are carried out in real time. In other similar modules the services that are offered are off-line.

There are two services that emphasize its originality: the issuing of driver's licenses with all the elements already mentioned and in only 5 minutes, and the payment of traffic tickets of 2 different Governments, the State and local Police. For the citizen, this is totally transparent.

The USE Modules are original because they changed work habits and broke paradigms. Public officials' initial fear was surpassed by their confidence in the new system's capabilities and advantages. And every innovation respected the legal framework in force.



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### Success

After 15 months in operation, the USE Modules are considered a success story for all the participating public agencies. The reasons are several: in the first place for all involved it has showed that the citizens are capable of making adequate use of the most modern technology, even if the state has low adoption rates of advanced technology. In second place, citizens have been enthusiastic and accepting. Previously, they had to spend several days to carry out simple procedures. Now they can perform a wide range of transactions, in one place in just a few minutes. At the traditional ticket windows the demand for the same services that the USE Modules offer has diminished significantly, ranging from 2% to 20%. Finally, the increase in tax collection revenue has enabled the government to offer more services.

102,800 users have carried out more than 152,000 procedures at the USE Modules as of January 31, 2006. And those who do go to the traditional ticket windows now wait in shorter lines.

Merida's metropolitan area has almost 900,000 habitants. All of them at one time of their lives will require at least one of the USE Module services; so all of them will benefit from these convenient, automated services.

Because the installation of the first USE Modules was so different from any other form of technology to offer services, it was not possible to forecast goals, daily users, and collection. There was no way of knowing the number of operations that would be performed during work days or other days. In summary, there was no basis to propose numerical goals. Yet results have surpassed even the highest expectations, so now the citizens are demanding the opening up of more USE Modules.

In all cases, the revenue collected in the first month of operation of each USE Module has paid off its cost.

USE Modules already have collected more than \$3.4 million USD, meaning an additional collection of more than \$1.5 million USD; that revenue has been used to provide more and better services.

The project has been so successful that others cities in the Yucatan are already contemplating the implementation of USE Modules. Today, even the same senior officials that had doubts about the project are satisfied. The office responsible for the operation of the USE Modules has received additional resources for the installation of more Modules.

Even the cashiers, service managers and window clerks recommend that citizens use the USE Modules.

But the most important thing is that historically established habits are being modified, like using a whole work day to obtain public documents. That is why the USE Modules are considered a highly-effective and productive social project.

### Difficulty

Among the technical difficulties that needed to be resolved was lack of vendors in the national or international market that offered the units with all the needed elements: touch screen, anti-theft keyboard, bar code reader, digital camera, fingerprint and hand signature reader, among other devices.



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Buying the first USE Module meant a significant expense for the department in charge of the project. Also, there were no similar previous cases that would aid in the decision-making process. The financial resources needed were obtained from savings generated by general operation because there wasn't extra budget.

But the main difficulties involved the work and collaboration of several organizations, and all had institutional goals and specific legislation. Each of the services was viewed as a special case, and required negotiations with the proper public agencies. At the end, more than 100 public officials, from all levels, from 12 agencies, needed to arrive at consensus and collaboration.

In addition, they anticipated resistance from the final users: the citizens. Several studies were made in advance, surveys and Focus Groups. Based on the results, a massive marketing campaign was launched in the media.

Some government officials showed distrust towards the reliability and security of the data and access to the systems; specific control and monitoring systems were installed.

When the first USE Module installation was programmed, none of the participating government agencies wanted to be responsible for it. So the department in charge of the project had to perform some functions that weren't its own. Later, when success was evident, tasks were divided into revenue gathering, monitoring, consumable reloading and others.

All the services offered that require a payment from the taxpayer generate a printed invoice; but each government office used a different preprinted form. There was the need to agree to unify the forms.

Within the Mexican judicial tradition, the original stamp and hand signature have an important weight. To replace the hand signature and original stamp, the existing administrative framework had to change.

The ultimate goal of this project is to deliver innovative services to citizens. Reliable, secure, speedy, and convenient services – that objective has been achieved. Today, we have the experience to develop more services, the various offices have more trust, and the users expect more and are more satisfied with the level of service their government provides.

The Yucatan state government is adapting to the way people want and deserve to be served.