

Projects for the Cuba Stand at the Informática 2020 Fair

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1. aiBalan: Constructive Balance System of Cuba (AICROS)

The aiBalan Suite – Constructive Balance System” is a strategic nation-wide system. It computerizes the process of Constructive Balance of Cuba, which controls the allocation of resources for investments and major repairs in assembling and construction sites, and also in building maintenance works.

The constructing entities plan the constructive capacities for a year. The investors and operators can plan investment lists of construction and assembly (CMIRC) and building maintenance (CMMC), including the agreements with the constructors and the producers of building materials. The system portrays the relations between the capacities and the demand, and it is a tool that helps balance makers from all levels, but especially those that work nationally so that the demand can be met by the capacities.

Key words

- Balance of the constructive capacity
- Construction
- Investments

2. Management System for Slowly Moving Inventory (CEDIPAD)

WHAT IS CILMO?

It is a promotional website managed by the "U/B Lento Movimiento y Ocioso" from the IT Marketing Company (CEDIPAD), which focuses on marketing idle and slowly moving inventories in the nation. It is the only one of its kind in Cuba, and has international reach, an attractive interface, an appropriate distribution, settlement prices and a qualified staff of workers.

SERVICES

Wholesale Marketing

A procedure carried out among legal entities with merchandise that because of its use value and characteristics could be used by another entity other than the one holding it. It is also a way of substituting imports.

Retail Marketing

This refers to the merchandise that is sold in the Retail Network because of its use value and represents a supply source for private workers.

Key words

- Inventory Management
- Slow Movement
- Idle

3. Consumer Management System (CEDIPAD)

The Offices for the Registry of Consumers (ORC) were created with the goal of controlling policies and programs that were designed to protect and supply food to the population, as well as to facilitate all the relevant procedures, to ensure the correct allocation of the basic regulated products.

Oregi is a web tool intended to automate the operations that are undertaken at the ORC in a quick and simple way.

The application has a database capable of storing substantial information about the consumers from every household in every municipality. It is also able to perform movements and operations related to the consumers, and it provides a series of interesting reports that allows its users to keep track of each one of the different direction levels of the Ministry of Commerce.

Key words

- Registry of consumers
- Distribution of products
- Basic regulated products

4. Virtual Educational Advisor (Cinesoft)

The Virtual Educational Advisor is an innovative technological solution that focuses on favoring the development of the learning process and therefore, on increasing the quality of education by fostering its development in Cuba and Latin America, through a team of highly qualified educational professionals.

It was conceived as an educational platform to provide help, advice and orientation to the community of students until the 12th school year, to acting educators and also to those in training, and to the family as well. The Virtual Educational Advisor features the specialized work of a highly qualified educational staff with a wide experience in pedagogy, who will provide answers and explanations about the contents of each one of the subject matters, and they will also provide advice and orientation to study and carry out school tasks.

The service is available on any device connected to the internet, and offers a paid modality with a monthly fee of subscription.

Key words

- Educational platform
- Teaching process-Learning process
- Advisory

5. Automation of the Temporal Immersion System at the "La Montaña" Development Center from the "El Salvador" municipality (Copextel)

This project proposes the automation of the temporal immersion system at the "La Montaña" Development Center, located in the municipality of "El Salvador", in the province of Guantánamo. At that center, we design and implement automation with a Master-K120S.

In general terms, this project produces favorable results because of the increase achieved in the production of explantations and sprouts from different species and during the period for the recovery of the investment. Through the traditional method, 3000 seedlings were accomplished and the rooting of the plant lasted between 4 to 6 weeks, meanwhile, through the automation, 8253 seedlings of greater quality were obtained and the rooting of the plant was accomplished in 21 days.

Key words

- Immersion system
- Automation
- Increase in the production

6. Tools to design and study Photovoltaic Systems connected to Electric Networks (Copextel)

The work entails the development of a computational application, created at Matlab-Simulink, which materializes a methodology formulated by the author that allows for an optimal dimensioning to be designed and for dynamic studies to take place in the photovoltaic systems that are connected to the electric networks.

The software that was developed features two tools, the first one was created at Matlab and allows the ones planning the project to optimally dimension the photovoltaic setup of the different components of the photovoltaic system, based on the electrical and technical requirements from the photovoltaic system. The second tool, devised at Matlab-Simulink, allows for dynamic studies in photovoltaic systems to take place, which makes it possible to carry out economic feasibility studies, as well as to predict the future behavior of the photovoltaic system before undertaking the investments.

Key words

- Design of projects
- Simulation and feasibility
- Renewable energy

7. “Correos móvil” for smartphones with the Android OS (Correos de Cuba Business Group)

In addition to the entrepreneurial information, the proposed application also integrates the tracking of the services of national and international money orders, telegrams and shipments, although, to perform those actions with a smartphone, it must be connected to a Wi-Fi network.

The “Correos móvil” app is useful for thousands of customers inside and outside Cuba. The application features a multi-language format for Spanish and English, designed for those who do not speak Spanish.

It features the following functionalities: Customer Attention, Tracking of Services, Issuance of National Money Orders, Inquiry about the Existence of Merchandise, Funds Existence Inquiry, Finder of Postal Offices, Fees Calculator, Payments Schedule, Geographic Localization of Postal Offices and a Synchronization Module.

Key words

- Tracking of Services
- National money orders
- Payments schedule

8. Solutions of Robotics - Palmiche, a Cuban Robot (CUJAE)

The work consists of the progressive development of an initial prototype (created almost completely using recycled components), until the *Palmiche* robot-racer was obtained. It was used in the UTFSM 2019 contest, which takes place in Chile.

The *Palmiche* project could be applied in a simple way to electric vehicles of greater size. The software and the electronics can be directly integrated with the electric mobile equipment with high levels of durability. Once linked to the *Palmiche* technology, it would be very easy to control them through a very intuitive interface.

Advantages

- 1- They are capable of picking up, transporting and delivering materials autonomously.
- 2- They offer top-tier security because they are able to work around people and obstacles.
- 3- They are autonomous on their routes, even to recharge their batteries.
- 4- They can manage the productive in a more effective way.

Key words

- Autonomous Vehicle
- Relation with the industry
- Recycled Components

9. Online Store integrated to Transfermóvil as a Payment Gateway (Datacimex)

Among the products developed by DATACIMEX, we can find the Platform of Online Stores, which have added the functionality of buying products with national debit and credit cards, and using the *Transfermóvil* as the payment gateway.

The Online Store is a type of shop where a Web Store is used as the main means to purchase the products, closing a cycle that includes: the localization of the product, the purchase, the payment and the delivery.

The first stage comprises the publication of the platform with stores that were selected because they are integrated with the use of *Transfermóvil* as their payment gateway, and later, the implementation with the rest of the stores will take place with the goal of reaching the whole nation; in addition to that, the next step is the inclusion of third parties that might join the effort of commercializing their products or services with this solution.

Key words

- Localization of products
- Online payment
- Home delivery

10. IT Platform for Integral Statistical Control. APlus (DATAZUCAR)

It is a system based on web technology, aimed at planning and statistically controlling processes from every level. Newest features:

- It is so flexible that every type of quantitative control is possible.
- Several areas of the production and services can be controlled with a single application.
- The periods in which the information can be analyzed may vary.
- Several organizational structures can be defined.
- The organizational levels of the entities may vary.
- The geographic entities can be cartographically drawn.
- It is possible to geospatially see the entities that have planned certain activities and if they have really carried out their executions.
- It is also possible to define variables of a plan, this makes it possible to compare real data in different planned scenarios and predict their future.
- It is possible to create reports completely customized by the users.

Key words

- Planning of the production
- Statistical control
- Customizable reports

11. Technological Solutions for Smart Reading of ID Cards (Datys)

The implementation of the new ID card is linked to a technological platform for the safe issuance and management of the biometric information of citizens to ensure their INDUBITABLE IDENTIFICATION.

This ID card features three security levels:

- The QR code contains the first names, last names, the ID number and the valuable form number. It is conceived for basic security environments and designed with public information.
- The Machine Readable Zone (MRZ) is designed for environments with higher security levels in the process of identification of the document's holder because it contains a code with a OACI standard format to be read by devices with a specific purpose.
- The PDF code, which contains the ID number and the fingerprint biometric data, was devised for controlled situations where the holder might be required to be biometrically checked.

Key words

- Biometric information
- Electronic authentication
- Indubitable identification

12. e-Government: DESOFT Integrated Platform for the Computerization of Cuban Society

In Cuba, e-Government arose to improve the information and the services that the citizens are provided with, to guide the efficiency of the public administration and significantly increase the transparency of the public sector and the participation of the citizens encouraged by the progress made concerning Information and Communication Technologies (ICT).

The main modules that are currently being used are the following: Management of Accountability Reports, Meetings with the Delegates, Management of Opinions, Meetings with the Presidency and National Consolidated Figures.

Besides, the project integrates other solutions like E-ProgTV, a management system of the electronic guide of programming and the *AnúnciateCuba* web.

Key words

- Governmental Website
- Civic participation
- Management of the delegate

13. ERP Odoo (LC) and IoT Platform, Solutions Management of Entrepreneurial Resources and Interconnected Objects

The ERP Cuban Localization of Odoo (ERP Odoo LC), in addition to having integrated applications to manage different processes, completes itself with a platform designed with the same technology, commercially branded as the ROIC Platform; which is enough for the implementation of IoT or Industry 4.0 projects that involve the collection of data that is broadcast from objects connected to a network.

The ERP Odoo LC integrates external and internal management information from the organization and manages most of its functional areas; for example, accounting and finances, manufacture, sales and purchases, inventories, upkeep, CRM, as well as the management of surveys, events, e-Commerce, etc.

Key words

- Management of processes and objects (IoT)
- Integral management platform
- Software as a service (SaaS)

14. BIMAS: Executive System for Monitoring Organizational Strategies (DESOFT)

“BIMAS” is a product that provides officials from any organization with the possibility of following up on strategies by monitoring the performance indicators that are linked to the accomplishment of goals. It starts from the definition of the organizational chart (organizations and sub-organizations) and provides tools for every level that focus on the Strategic Direction based on Objectives. Each represented organization or sub-organization extracts the data from their management systems by using a distributed agent called BIMAS Smifor, and they design and monitor their strategy by means of their own Balanced Scorecard through BIMAS Server.

BIMAS makes it possible to manage perspectives, strategic goals and their relations (Strategic Map), taking into account that the accomplishment of each goal depends on the strategic indicators that are linked to it.

Key words

- Strategic goals
- Indicators monitoring
- Balanced scorecard

15. Cuban Network of Science (CITMATEL)

The Portal of the Cuban Network of Science, which features 24 million visits in 2019, was first put online on January 6, 2006 to honor the Day of Cuban Science. In 2007, it was granted an award at the World Summit Awards in the e-Science category and in 2014, it earned the “Calidad Web - Cuba2014” award, granted by the Ministry of Culture.

In July, 2019, a new version was put online, version 2.0, and with it, a group of services among which there's a platform of virtual communities and a repository of publications from the Cuban Network of Science.

Key words

- Virtual communities
- Scientific information
- National patents and models

16. Transfermóvil:

Transfermóvil is an IT platform developed at the Mobile Services Division from ETECSA, it was designed as an alternative to carry out payments of public services through any mobile terminal (low-end, mid-end or high-end, with any operating system) that was subscribed to our mobile telecommunication network, using short codes to access it (USSD-Unstructured Supplementary Service Data) and featuring different means of payment (magnetic bank cards and Kinacu pouch for telecommunication agents).

It is a flexible and scalable platform that facilitates current and future interactions. Its services are currently divided into two categories: Telecommunication Agent Module and Bank Module (Mobile Banking). The mobile banking module was specifically developed by the joint efforts of ETECSA, BPA, BANDEC and BANMET.

Key words

- Banking services
- Mobile voting
- Online payment

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17. Andariego Fénix (GEOCUBA)

Geographic Information Systems (GIS) allow for thorough territorial analysis to take place in the most diverse environments. They are versatile tools with a wide range of application in any activity that might require a spatial component.

Andariego Fénix uses those tools to construct a system implemented over the Genesig Platform to manage different events when facing natural and technological disasters. The constructed technology can be adapted to different situations.

Goal: To satisfy the demand concerning updated statistical and spatial information from the territories that might make it possible to represent inventory and field studies with several uses in the field, accompanied by geo-referenced pictures and videos.

Key words

- Geo-localization of natural disasters
- Management of disaster victims
- Decision making

18. Andariego Vial (GEOCUBA)

Andariego Vial implements a System of Linear Referencing over the Genesig Platform to manage spatial networks, adjusted to the characteristics of cartographic data bases available in the country.

It is an ongoing joint project with the National Center of Transportation. It is currently in the experimental deployment stage.

Goal: To satisfy the demand for updated statistical and spatial information at the National Network of Highways and for the interventions that they have been subjected to. To allow the unification and expansion across the whole nation of the geographical management of data from the road network and its environment, facilitating the management of the available information on the country's road network, as well as to use the data collecting mobile application in the field and its integration to the GIS.

Key words

- Planning and analysis of roads
- Geographical management
- National Network of Highways

19. Internet Management System ZUNnt (GET)

One of the main services that the tourists look for is the access to the internet. Currently, in order for touristic entities to have access to that service, they must buy internet cards from ETECSA, which they later sell to the clients.

ZUNnauta (ZUNnt) is a system that makes it possible to manage internet time for clients at the hotels without the need to use paper cards.

ZUNnt is a web system with a friendly interface that was developed using open technology and works for the operating systems Windows and Linux.

Key words

- Internet access management
- Nauta
- Tourism

20. Cuba Travel Portal (GET)

CubaTravel Portal, official space of Cuban tourism on the Internet that promotes the touristic attributes of the destination and its centers. It also enables the commercialization of tourism products and services.

Hotels, non-hotel facilities and self-employed workers have a space where they can publish, promote and commercialize their inventories on a secure Internet platform. The portal has integrated international payment gateways for the use of foreign tourists and *Transfermóvil* will soon be available.

Cuba Travel has useful information for traveling to Cuba, a safe destination in the Caribbean. You can book hotels, trips and more.

Key words

- Commercialization of products and services
- Bookings
- Online payment

21. The eLTE Network as part of the Computerization of Cuban Society (Movitel)

Huawei's 4G network with eLTE technology has as its greatest strength the capacity to offer voice, video, messaging, data transmission and geo-localization as part of the trunking services.

Movitel, based on the capabilities of the eLTE network for data transmission and the possibilities offered by the GE860 CPE wireless router manufactured by Huawei, has designed different technological solutions that make it possible to offer customers the ability to transmit data for connectivity needs, wireless access for the connection of industrial and automation devices, video broadcasting, voice over IP solutions, among other services and thus contribute to meeting the needs of telecommunications infrastructure essential for the information process of our society.

Key words

- Voice, video and data transmission
- Geo-localization
- Wireless access

22. System of Telemedicine + Digital Medical Records (Softel)

Telemedicine System

The provision of remote medical services. It is a solution based 100% on free and open source software technologies, ensuring the technological sovereignty implemented in the country.

It includes a Video-Chat System used mainly in Tele-consultations, Second Opinion Consultations and Medical Tele-classes.

Digital Medical Records

Digital medical records include information about a patient's health history. All health care providers in charge of a patient can view and use the digital medical records to help them make recommendations about the patient's care.

The “Manuel Fajardo” Hospital is the first healthcare institution to use digital health records in Cuba.

Key words

- Second opinion consultation
- Medical documentation
- Tele-consultation

23. Habanatrans 2.4: Application to provide Information about Public Transportation in Havana (TCP)

HabanaTrans 2.4 shows detailed information about the routes and itineraries of public transportation in Havana, the visual representation on the map of the routes and the nearest stops from the user's current location.

HabanaTrans 2.4 allows users to consult the most convenient route to reach a certain point in the capital city, taking into account the nearest stops in relation to the user's current location, the distance of the route, or the cost of the fare of the route they wish to take. In addition, it provides as much information as possible on terminals, stops, routes and itineraries of the different public transportation routes in Havana, such as: the Main, Feeder and Railway Network, Metrotaxis, Ruterros and HabanaBusTour.

Key words

- Itinerary
- Routes
- Fare cost

24. Logistics System for the Fuels of CUPET (TECNOMATICA)

The Fuel Logistics System (SISTLOG) was designed to facilitate this work, optimize the use of available storage and transportation resources and reduce logistics costs. Its main objective is to minimize the impact on the economy caused by fuel shortages, adjusting logistics planning according to the existing situation.

The system is aimed at planning, monitoring and controlling the primary and secondary distribution of fuels nationwide. It does not include the tertiary distribution that takes the fuel to the final customers. Although all the transportation means that are used are taken into consideration: pipeline, maritime, rail and automotive, the main focus is on maritime transport.

Key words

- Optimization of resources
- Transportation
- Planning, monitoring and control

25. Cuban Websites Monitor (UCI)

The Websites Monitor is a tool whose main objective is to help Cuban contents achieve greater visibility on the Internet. This aspect is guaranteed through the work synergy of the following three applications: The Websites Directory that allows the characterization of the national web, the Websites Evaluator that diagnoses the optimization level of the sites and the infrastructure that supports them and the online SEO analysis application WebMas, the latter provides a group of good practices to be considered by users. It is a tool thought for decision makers, webmasters, editorial teams and other entities that interact with the web, allowing the integration of aspects of the Communication Policy and the Computerization Policy of the Country.

Key words

- Web Site Evaluator
- Web positioning
- Good practices

26. Cuban Internet Platforms (UCI and ETECSA)

Projects executed between ETECSA and UCI known as:

1. Android Applications Center. *Apklis*, capable of offering an official and reliable service for the distribution, updating and moderation of Cuban and foreign applications.
2. Audiovisual Content Management Platform. *Picta*, as a space to publish audiovisual materials through video on demand services, from the national network.
3. Cuban Collaborative Messaging Platform. *toDus*, facilitating communication among Cubans and with Cubans. Among the main functionalities are the exchange of messages and files, the search of contacts, the creation of groups and diffusion channels, through the Internet.

Key words

- Android applications store
- Videos on demand
- Exchange of messages and files

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27. Implementation of the Procedures Management System for Housing and Habitat in Villa Clara (UCLV - Xetid)

The Procedures Management System for Housing and Habitat in Villa Clara makes it easier for citizens and entities involved in the procedures to carry them out. To this end, an e-Government platform was implemented to complete these procedures more efficiently by reducing deadlines and costs, ensuring greater control over the traceability of actions, minimizing the use of paper and generating statistical information for decision making.

As part of the solution, the system proposes a new Housing and Habitat Procedures Office, which will have a physical and virtual presence, as a single window linking several entities in charge of these processes.

Key words

- Virtual office of procedures
- Physical paperwork office
- Single window

28. Enabling Digital Transformation in the Cultural Sector (UIC)

The objective of the project is to promote a process of digital enablement in the cultural sector to contribute to the elevation of the general culture and spiritual enrichment of different audiences, from a community perspective, which promotes education in the conservation of cultural heritage.

It consists of several subprojects:

- *El Callejón de los Milagros*
- Digital public good screens of the República Street
- Mobile application on the patrician Ignacio Agramonte Loynaz
- Mobile application - Virtual visit to the Casa Natal Ignacio Agramonte Loynaz Museum
- Mobile application - "Ciudad que vivo, ciudad que soy" (City I live, city I am), by the Office of the Historian.
- Mobile Application - Hermano Saiz Association, Camagüey
- Mobile application - Orientation and Consultation Office of the Historic Center of the Office of the Historian of the city of Camagüey.

Key words

- Cultural Management
- Culture elevation
- Local development

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29. Bienestar Platform for e-Government and Civic Interaction (Xetid)

The objective: to implement in an organized, controlled and staggered manner, the Platforms for the Integration of Services and Management of Procedures to the population.

Scope: Governments and Agencies involved at the provincial level and in all municipalities of the province, the entire population.

Citizens initiate the procedures, from any place where there is connectivity to the country's intranet from their mobile devices or computers. They attach their personal data, the Statement, Complaint, Denunciation, Violation of legality, etc., and a photo as evidence of the presented issue. All these data are sent to the Platform and are visualized in a digital map through it and from that moment on all the entities involved in the management of the process visualize it and begin to act to devise its solution.

Key words

- Management of population procedures
- Information transparency
- Public services

30. e-Commerce and Financial Transactions Platform EnZona (Xetid)

The ENZONA Platform can be accessed through the website enzona.xetid.cu or the application for Android devices. In this new channel for financial transactions and digital business, the Cuban population will be able to use magnetic cards of Cuban commercial banks.

In addition to the app, the website is available for both customers and state-owned companies, cooperatives or private companies. An example of implementation of this service can be the *Super Fácil* Shopping Center, or the Virtual Store of *Correos de Cuba*.

The software has the capacity to lay the foundations for the expansion of e-commerce and e-government in Cuba, managing transfers and payments from devices and without the mediation of cash.

Key words

- Boulevard
- Product search engine
- Two-factor authentication