

User Experience Design System

The Situation

MercaDolar was a web-based platform that had figured out a way to hack the volatile exchange rate and the discrepancy between the official exchange rate and the actual rate in order to be a better option to exchange Venezuelan Bolivar to US Dollars, it was intuitive, yes and it solved a real need in the market, had actual users but the abandonment rate was high and the application lacked consistency throughout.

The challenge was to generate a User Experience that would integrate existing functionality into a money wallet and keep it intuitive enough to be used equally by non-tech-savvy users in Venezuela and savvy online banking users in the US considering complicated parallel onboarding processes, without harming anyone's user experience, all while considering intermittent connectivity and mobile-centric usage with a key part of its traffic coming from older version Android mobile devices.

The Solution

MercaDolar's User Experience Design System.

First, we split lengthy processes into steps of digestible bits of functionality that move the user thru long sequences of user interaction designed to maintain the level of engagement and prevent abandonment by always letting the user know how many steps are left to complete any particular transaction and intuitive enough so that he/she can always come back to the same point in order to account for involuntary interruptions related to connectivity.

Then, we generated a visual system with a strict implementation of Google's Material Design language to make it super familiar to non-tech-savvy android users, keep the experience intuitive and level of frustration consistently low throughout lengthy onboarding and transaction forms throughout the entire application.

The Results

Our work was to translate the business of MercaDolar into a disciplined implementation of a standardized User Interface that encompasses each and every touchpoint of a User Experience. Epica's UX design team mocked up, uploaded to the Project Management System on a user story by user story basis, specified requirements, provided graphic assets for the entirety of the application and handed the production team a ready-to-implement a pre-designed User interface that had almost any room for error. The result in production is a set of requirements that act as a visual language that feels proprietary to the brand, familiarizes the user with the application by standardizing processes progression and is ready to be seamlessly turned into a Progressive Web App or to be reutilized to build more functionality on top of it in order to scale according to business objectives.

A word from our client...

We approached Epica initially because it's familiarity with our initial target market, they also seemed to understand very well the needs of a Startup at every stage of growth, in particular, the stage we were at when we first started working with them.

They demonstrated to become a true partner sincerely interested in the projected growth of Mercadolar and its mission, they did a great job understanding our KPI's and getting integrated with our team but most of all they worked hard with us to build a solution that worked for us in the long term and effectively translate it to on a UX solution for Mercadolar in order to make the most of our investment in technology.

Usually developing a business solution is hard because it is hard for technical people to fully understand the business and market needs, Epica's team is as well versed in technology as it is business savvy to the point that I could say that there was once a stage in the SDLC that they were amongst the few people that understood and recognized the differences between both versions of the system in its entirety.

Working with a company that seems as invested in the success of the project as you are, makes a great difference in how the project evolves. If you are looking into partnering with them to develop the next version of your platform I'm sure it will be a decision you will not regret.

- Hugo Padilla, CEO Mercadolar.com

Video demo

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Conversion tool for investors and renters

The Situation

Hi:hab, a Co-living Startup in the friends & family stage that aims to solve the problem of housing inaccessibility in overpriced markets with the use of technology by matching solo renters with owners in need of an autopilot solution to profit from their valuable assets.

Founders knew demand was there & had a great business model they knew could easily land investment. However, in order to build their first building though, they needed seed money and it had become clear that in order to find seed money they needed a proof of concept. They needed to show investors they were able to lead generate for renters and most important landowners, for what they needed to plug into cities' zoning databases, proof zoning viability, permits, and GIS restrictions to build their uber innovative modular gentrification plug and play system, and once having proof of viability, to be able to calculate and extend an online offer to be received in a matter of seconds while they still had the attention of people that are eerie of scammers and bad deals with their valuable pieces of land... all that, having in mind the burn rate of an F&F stage Startup.

The solution

Knowing from the get-go we needed to stick to strict proof of concept level of investment, the renter perspective was doable, needs were pretty straight forward: an online form capable of logic jumps and geolocalization, connected to an email list provider with autoresponders mounted on a nice looking CMS. Now for the land-owner conversion part, we confronted a completely different challenge. We needed to generate a way for a simple CMS (we needed to keep UI investment low in order to put the bulk of clients investment towards backend) to be able to access Mexico's city zoning database and return an automated offer to the landowner/decision-maker based on the entered information and the data from the city right there on the spot while we had their attention. By combining a Restful API with an AI algorithm and online email automation tools we were able to qualify and convert both renters and landowners using a low-cost WordPress based UI that provides a custom User Experience.

The results

The result is a minimal viable product (MVP) that enabled Hi:hab to capture pre-qualified leads for future tenants and landowners, to send landowners a live offer for any feasible investment properties, and a fully functional lead generation system ready to be shown to prospective investors, a system that:

- Performs an on-demand data import process of pre-selected areas of spatial data containing property GIS (geographic information system) information, and Hi:hab's proprietary information.
- A Restful API that allows the system to generate an offer for any feasible property based on a match of the owner address and the imported GIS data, that by applying Hi:hab's proprietary algorithm is able to identify feasible properties that are co-investment viable and if so to generate a live offer.
- A CMS system (WordPress) with complex dynamic forms (logic jumps based on User Interaction and API callbacks) integrated with Google Places API and Hi:hab's proprietary Restful API that performs and feels equally appealing in every device.
- Most of all, a scalable, portable MVP. A Restful API in Node.js and MongoDB on a Linux server, docker containers, and best practices, to use this API as the starting point of Hi:hab's technological capital and be ready for the next iteration once Hi:hab has landed investment and is ready to scale.

A word from our client...

When we first approached Epica we had already identified the task at hand but were having a hard time finding a provider that could see the potential of Hi:hab beyond our budget at the time. We knew the key missing part in order to land the seed funding to become operable was to demonstrate we could implement an automated consumption of Mexico's city zoning database in order to qualify land lots that could be viable to be rented to build a Hi:hab community.

Epica's team was great as to lead us to a solution that would allow us to fully demonstrate the viability of the project by being able to generate renter leads and landowner leads that could receive an automated offer, look presentable to investors at the same time it'd meet our budget with a fully operable MVP.

They were knowledgeable yet realistic but most of all, they understood the stage of funding we were in was temporary and worked with us. Our experience working with them was pivotal in the definition of our tech strategy and to move forward in the funding process.

- Cuauhtemoc Perez, CEO hihab.com

Video demo

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Security R&D for Risk Management firm

The Situation

Ashton Tiffany is a Phoenix, AZ-based firm specializing in Risk Management services. Their suite of services include self-insurance, public pools, risk management consulting, construction insurance programs, claims, loss control/safety, enterprise risk assessment, etc.

Due to the nature of their business, security is vital internally but also represents a great business opportunity. The challenge was to implement a cost-effective methodology that would allow them to explore, test and validate internally securely utilizing their existing client base, evaluate the feasibility of different technologies and solutions and compare user acceptance, time resources, and effort of each of the different enterprise-ready options.

After working with Ashton Tiffany for 5 years creating new software solutions, features and supporting them Epica had earned the trust for them to entrust us with the Research and Development (R&D) to the new line of security products of the company.

The Solution

Become the clients R&D department and create a consistent three-step process, based on existing product design, software methodologies and best practices:

Phase one is Ideation. Here we start with the basic idea, and through a process of research, experimentation and Design Thinking we come up with a list of features and requirements of what the initial product will look like.

In phase two we generate prototypes, proof of concept (POC) software and mockups based on the Lean Startup methodology. The idea here is to start showing end-users what the end product can look like for validation before a major development. As a result, we end up with very refined features and requirements.

As a last step based on the level of detail of the requirements, we proceed to build a Minimum Viable Product (MVP) following Agile and DevOps Software Development Methodologies.

The Results

The result is a process incorporating Design Thinking, Lean Startup and Agile Software Development that allows the client to bring their ideas to scalable software solutions, fulfill their internal security needs and evaluate the feasibility of adding these new security services to their existing offering. Some of the solutions in place are:

- An implementation of an email Phishing system that will allow the creation of fraudulent email campaigns and the monitoring and analysis of the data. This allows the client to understand existing vulnerabilities, and based on the results create awareness material and training to mitigate the associated risks of Phishing.
Technology Stack: Python, Angular, MySQL
- Integration of Single Sign On (SSO) Login following SAML 2.0 standards and Two Factor Authentication (2FA) between internal web applications and external providers. In return, users access the company's web applications with increased security and user experience.
Technology Stack: .NET Framework, SAML 2.0
- POC system to be able to extract security logs from windows servers, and transmit them to a central MS SQL Database in a secure way, via SFTP, for detection and analysis of vulnerabilities.
Technology Stack: .NET Framework, MS SQL, SFTP, Windows Servers Security Event Logs.

Video demo

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Public-Private effort for a common goal

The situation

The Brazilian Rouanet Law was created as a fiscal incentive for entities and physical persons designated as “*Incentivadores*” (patrons or investors) to patronize cultural projects and initiatives (shows, publications, museums, galleries and other forms of cultural expression) by allowing them to make use of what otherwise would be allocated as a tax contribution, obliging as well the receiver of investment to further distribute a portion of the proceeds in the form of formation, cultural promotion and training within the communities they serve.

The key to the success of this government initiative is to connect “Incentivadores” with creators, for which the Brazilian government implemented an online search platform of the database that contains all the information related to *Incentivadores* and projects registered in the program. The problem is, said platform is not able to be used by either end of the deal, nor third parties (private companies and government officials that represent either end) to effectively query the database to find matching counterparts. With a single search involving a process that would take

hours and even days of almost manual search returning many times incomplete results.

The Solution

A public-private partnership made it possible to reutilize the parts of the system that *did* work to create an online tool that could take advantage of the previous platform’s well-documented API the sizeable database of projects and investors already in the system and re-formulate data structure in a more efficient model that would eventually allow for the implementation of filters and other search criteria to better serve the user’s need to find the right investor/project according to parameters. We started with User Experience Research, thoroughly documented every step of the way having always in mind that as a public-private initiative special attention to the ease of distribution was required, we project planned to delivered partial releases using Scrum to finalize with the shipping of Version 1.0 that covered the ground up to the user training.

The Results

The result is an online system that went from frustrating and difficult to use to a system that:

- Is able to query the system with over 200 search criteria (allotted level of investment and preferred nature of project, discipline, project size, creators, history of investment, etc.) in order to cover 100% of the criteria for investors and projects and generate a report with relevant, efficiently organized results and in a matter of minutes, sometimes even seconds as opposed to days.
- It is compatible with mobile devices and has an intuitive User Interface developed in Angular using Material design system.
- Has a localized document-oriented data structure based on models, developed in Mongo and is synchronized with the government database via an API using a Node Express Backend implemented in a Docker Image running on a VPS optimized server.
- And daily crawls the government's system for new project/investor entries with the use of a CRON service in Node and creates a corresponding entry in the local database.

A word from our client...

"O time da Epica fez um excelente trabalho no desenvolvimento de uma plataforma para minha empresa que otimiza todos os processos de busca e monitoramento de projetos beneficiados com a aplicação da lei de incentivos da Rouanet no Brasil. Antes de realizar esse desenvolvimento, esses processos eram realizados de maneira semi-manual, porque o sistema mantido pelas organizações estaduais não cobre alguns dos parâmetros e indicadores necessários para gerar nossos relatórios. Esse desenvolvimento foi um complemento muito útil, permitindo economizar muitas horas de trabalho que precisaríamos dedicar usando os sistemas tradicionais. Somos muito gratos pela dedicação e profissionalismo que Leonardo Epica's líder tecnologico nos deu durante o desenvolvimento, a implementação e a manutenção subsequente do sistema."

- Armando Appel, Consultor independente lei de incentivos da Rouanet

Eng. translation

"The work team from Epica made an excellent job developing a platform for my company, the platform, optimizes all the processes to find and track of all the projects that can potentially or benefit from the application of the Rouanet Law of incentives in Brazil. Prior to the development, these processes were performed in a semi-manual way, because of the gaps in the system provided by the government organization responsible of the program didn't have the technical capability to build one that would cover all the parameters and indicators needed to generate the necessary reports in a comprehensive time frame. The final product turns out to be a very useful complementary system that saves a huge amount of work hours that we would need to invest using the conventional system. We are very thankful for the dedication, professionalism that Leonardo Epica's tech Lead provided during the development process and the consequential maintenance after the conclusion of the project.

- Armando Appel, Independent consultant for Rouanet Incentive Law

Video demo

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Gamification of Crowdsourced Business Solutions

The Situation

“Camino”, a leader in Efficiency and Productivity Corporate Training in Brazil, developed over the years a series of easy application in-person workshops for professionals in these workshops where the participants are able to interact with each other and act as agents of change by the means of group dynamics of crowdsourcing solutions to resolve business challenges. Camino had already managed to go from struggling to maintain the level of engagement with an audience that gets easily distracted to the point of turning them into fun games and activities that usually surpass by far success rate in the industry.

In order to amplify the workshop’s impact and distribute these tools to broader audiences, where its usual format doesn’t allow for wasn’t viable, proving hard to obtain participation of the entire audience which lower the level of engagement, crippled the ability for real-time iteration, impeding the obtention of correct data in order to elaborate conclusive reports.

The Solution

After a thorough UX Research based on the live workshops (user reactions to the different techniques, implementational challenges, desired obtained data and reporting) we were able to ideate a solution and had a clear definition of a scope for a project that would consider challenges like venues where connexion is slow, intermittent or crowded by participants and define the technology to use having in especially in mind scalability and use-life of the system.

We developed an online platform of corporate games that allows for industry-agnostic crowdsource of business solutions for productivity and efficiency challenges. The platform allows for the integration of videos, imágenes and other multimedia resources that participants can use to fundament their participation, the gathering of data, the levels of engagement, churn, activity analytics and the reports of it all with the foreseeing capability of integrating new games.

The Results

- We delivered UX design, frontend, backend & back-office training and documentation of an online platform with multi-role security, and modules with different sets of features designed to fit the need per user role: players, instructors, super users (executive team) and administrators in which each module is independent and state-less executed as a microservice.
- We made it scalable by executing each microservice in a separate Docker container in order to make sure there was no limit to the number of microservices running at a time optimizing speed and access to modules by preventing idle resources running by being used on-demand only launched per users request.
- It is 100% responsive, providing a consistent User Experience in every device, from the user on a mobile phone (most frequent given game dynamics), the ones in a small group on an iPad provided by a workshop facilitator to a computer screen or a touchscreen projector.
- Also, in order to address foreseeable connexion issues, we made it a PWA, where once the application has loaded in an area where the connection is stable all graphic resources are stored in a matter of seconds in the cache in order to maintain gaming experience regardless connection stability.
- User activity provides valuable insight from game participants, reactions, agreements and disagreements, decision making patterns that are organized in a comprehensive online report available to the executive in charge to implement new policy and strategies throughout clients' organizations.

A word from our client...

A equipe da Epica IT em particular Leonardo lider tecnologico do Epica, tem grande conhecimento das tecnologias mais avançadas e necessárias para a construção de negócios digitais atualmente. O grupo tem uma grande capacidade de aprender. Um profissional com quem é fácil de se trabalhar. Recomendo.

- **Carlos Eduardo Somaggio, Diretor Executivo na Camino Entretenimento**

EPICA's people particularly Leonardo Epica's tech lead has a great knowledge of the most advanced technologies needed to build digital businesses today. The team has a great ability to learn is extremely professional who is easy to work with. I recommend.

- **Carlos Eduardo Somaggio, Executive Director for Camino Training**

Video demo

Watch

A hand holding a colorful sugar skull against a background of green foliage. The skull is painted in vibrant colors, including red, green, and yellow, with intricate patterns. The hand is wearing a watch with a white face and a brown leather strap. The background is a dense thicket of green leaves, possibly from a plant like a fern or a similar species, creating a textured and natural setting.

EPICA {it}

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