



LEAN HCD

A Case Study in Human-Centered
Design in the Highlands of Guatemala

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Cover page photo: *Local data collection to inform the design of Somos Chiantla*

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Guatemalan men gather around an information kiosk on launch day in Chiantla



Introduction



“Successful digital initiatives are rooted in an understanding of user characteristics, needs, and challenges. User-centered design—also referred to as design thinking or human-centered design—starts with getting to know the people you are designing for through conversation, observation, and co-creation. Information gathered through this engagement leads to building, testing, and redesigning tools until they effectively meet user needs. By designing with the users, and not for them, you can build digital tools to better address the specific context, culture, behaviors, and expectations of the people who will directly interact with the technology. Designing together means partnering with users throughout the project lifecycle, co-creating solutions, and continuously gathering and incorporating users’ feedback.”

— *“Design with the User,” Principle #1, Principles for Digital Development*

Why Lean HCD?

Practitioners of digital development tend to struggle with the complexities of designing digital tools and interventions for populations that are foreign to the designers, often resulting in failed digital development initiatives. Designing for users, and not with them, leads to incorrect assumptions about technology access, usage, and cultural norms among the target population. By contrast, human-centered design (HCD) allows technology designers with little to no experience in a community to rapidly develop empathy and—through iterative trial and error—to create a tool that solves a problem for that community in a way that is culturally, economically, and politically appropriate. Using HCD methodologies results in better customization, increased uptake, greater alignment with concurrent efforts, and stronger engagement of local stakeholders.

HCD requires deeper engagement on the part of the design team than a traditional design process, which tends to start with the technology instead of with people's problems. This tech-centered approach may reduce uptake of the solution, since the client—the entity commissioning the product—will often have an anecdotal rather than empirical understanding of the target population, and the final product may accordingly align more with client perceptions than with lived reality. Human-centered designers, on the other hand, spend upfront time in the communities they seek to assist, gaining knowledge of the local environment, gathering qualitative and quantitative data, and seeking to understand the cultural, political, and economic factors that affect the people and problem in question.

One of the main challenges to implementing HCD is its sheer time and cost. Few projects or organizations have the budget and bandwidth to implement such an elaborate approach, so HCD is too often acknowledged as best practice while being dismissed as infeasible. This case study is an example of a design team finding a solution to this perennial challenge in the face of significant process limitations and resource

constraints. We call it a lean HCD approach. Lean HCD incorporates the methodologies and tenets of HCD into a design process while maintaining flexibility towards the logistical, budgetary and time constraints of the project environment.

Full, robust, “traditional” HCD is always preferred when possible. But for teams facing budgetary and logistical constraints such as limited travel to the field, lean HCD offers significant value. We hope digital development practitioners will find this account of our design and development journey, and the lessons we learned along the way, to be useful as they embark on their own HCD projects.

Project Background

Nexos Locales, or “Nexos,” is a local governance initiative funded by the U.S. Agency for International Development (USAID). Launched in mid-2014, the project is based in Quetzaltenango, Guatemala's second largest city and the unofficial capital of its Western Highlands region. Working in 29 municipalities, Nexos trains local officials in public financial management and transparency, helps civil society deepen its capacity to hold local governments accountable, and enables municipalities to plan for natural disasters and deliver better services, such as safe drinking water. Central to this work, Nexos creates feedback loops between citizens, civil society, and local governments.

In December 2015, Nexos received a call from Carlos Alvarado Figueroa, mayor-elect of Chiantla, one of the project's target municipalities. Mayor Alvarado asked for help delivering on his campaign promise to achieve full transparency in government activities. Given the growing number of constituents who own smartphones, he wanted to develop an app that makes the municipal budget transparent and encourages direct citizen feedback. As the request aligned with Nexos' approach, the project decided to support the mayor.

A year and a half later, on May 25, 2017, Mayor Alvarado stood on stage at Chiantla's Municipal Theater to announce the launch of the Somos Chiantla ("We are Chiantla") app. The Android app publishes the municipal budget in an easy-to-understand format; offers a 311-style public service so citizens can report potholes, public lighting problems, and water outages; tracks municipal development projects; and provides contact information for key government services.

Somos Chiantla is the result of a design process that engaged the public, civil society, Guatemalan tech companies, and local officials. Its goal was to understand the daily challenges faced by citizens of Chiantla, gather their perspectives on services they expect from local government, and bridge any gap. DAI's Adam Fivenson served as the lead designer, working remotely from Washington, D.C., for more than a year to develop the app. The following pages describe how decisions were made at each step of the design process, which maps closely to IDEO's three phases of HCD: inspiration, ideation, and implementation. ■

HCD Phase 1

Inspiration



“The Inspiration phase is about learning on the fly, opening yourself up to creative possibilities, and trusting that as long as you remain grounded in desires of the communities you’re engaging, your ideas will evolve into the right solutions. You’ll build your team, get smart on your challenge, and talk to a staggering variety of people.”

—*Field Guide to Human-Centered Design, IDEO*



Cultural and Political Context

Before he contacted Nexos, Mayor Alvarado had won the September 2015 municipal election, running on a platform of budget transparency and citizen engagement, two themes at the fore of the citizen-led anti-corruption movement that swept through Guatemala in mid-2015. As part of a raft of municipal transparency-oriented reforms, Mayor Alvarado wanted to give his constituents the opportunity to hold him and his administration accountable for the decisions they made regarding public funds. The idea was supported by Guatemala's 2009 *Law of Access to Public Information*¹, which establishes a legal precedent of public transparency in all public institutions.

Given Nexos' primary objective of supporting local transparency and accountability, Chief of Party Connie Paraskeva jumped on the opportunity. She enlisted DAI ICT specialist Adam Fivenson, who had made two visits to the project, speaks fluent Spanish, and has

worked extensively in Latin America. Adam started with desk research on the historical, cultural, and political context of Chiantla, then verified these base learnings as prep for an initial call with the mayor.

GUATEMALA AND ANTI-CORRUPTION IN 2015

Guatemala's 2015 anti-corruption movement was spurred by revelations coming out of a UN-mandated commission of La Línea or "The Line," which implicated President Otto Perez Molina and Vice President Roxana Baldetti in a customs-skimming ring. The scandal, which resulted in the conviction of both politicians, raised public awareness of and support for transparency and accountability measures, and led many new players to enter the political arena, including Mayor Alvarado.

¹en.sipiapa.org/notas/1123385-guatemala-agrees-to-law-on-access-to-public-information



GUATEMALA'S WESTERN HIGHLANDS

Nexos Locales supports local governments in an area of Guatemala that is still recovering from 30 years of civil war (1960–1996) and remains wracked by ineffective and inefficient public management, long-standing poverty, illicit border trade, and emigration. One of the primary sources of northward migration, the region is a focus of the United States-led Plan for Prosperity in the Northern Triangle, which—starting in 2016—directs additional funding for Guatemala, El Salvador, and Honduras. The Plan for Prosperity seeks to promote stability through better governance, more inclusive economic practices, and improved human development.

Innovation, HCD, and Managing Client Expectations

By the time of the initial design planning call, there had already been some discussion about creating a mobile application. It's normal for a client to arrive with some expectations about what form a tool will take. Therefore, it's crucial that HCD practitioners begin by starting the discussion around user experience, rather than presuming a specific solution. For example, when it comes to the choice of a platform, HCD practitioners should aim to design for the media and tools that a target population is already using. If a population is already using mobile phones, for example, then designers know that phones are acceptable culturally, that local people know how to use them, that they have access to electricity, and that mobile repair services are available. Understanding existing usage and behaviors is key to walking eager clients back from their pre-defined concepts and introducing them to innovation processes such as HCD.

Framing the Design Process

The team's initial call with the mayor focused on the design process. The team advocated for an inclusive, iterative process, and explained the benefits of designing with instead of for Chiantlans:

- First, engaging the community in the design process would ensure the app's alignment with local needs.
- Second, an inclusive design process would simultaneously promote the product, generating local buzz and interest in the tool and in public accountability processes.

Taking a people-centered approach to temper the mayor's initial technology-driven focus on building an app, Nexos' design team discussed the need to validate the assumed prevalence of smartphones in the municipality before committing to designing a tool for smartphones, much less an app. "Human-centered design" was never mentioned; instead, the conversation focused on a process of bottom-up user engagement and democratized decision making, including the final choices of platform and key functions. The mayor agreed to the approach.

Design Process Limitations

Like many large development projects, Nexos has an ambitious workplan that leaves little budget or bandwidth for new activities. So the decision to dedicate resources to the initiative came with one important caveat: the D.C.-based design team would not be able to travel to Guatemala. This restriction presented an immediate challenge: first-hand experience with the target population is a fundamental tenet of HCD. Beyond that, managing any process, much less HCD, from a distance is a challenge. But rather than give up on the project, DAI's design team resolved to be pragmatic, creative, and flexible in their HCD process. This approach entailed involving as many local actors as possible in as substantive a way as possible—from the citizens of Chiantla to the growing civic tech community in Guatemala City.

Doing HCD from a Distance: The Drawbacks

1. Difficult to develop empathy with local people if you aren't there—requires outsourcing much of that crucial aspect of the process to trusted partners.
2. Designers are not present for user testing.
3. Communication across time zones can be a challenge.
4. Managing complex processes via email/WhatsApp/Skype is difficult.
5. Cultural and language barriers are accentuated.

Creating a Project Plan

Our general approach was to consult with the mayor and his deputies, engage civil society, conduct a rapid field assessment to determine citizens' technology uptake and needs, and do several rounds of user testing, all to deepen the team's empathy with the people of Chiantla and feed that knowledge back into the decision-making process. In drafting the project plan, the team sought to leave room for adaptation in the process while providing enough specifics to warrant USAID approval. To do so, they proposed broad steps that were flexible enough for adaptation within the general scope of the initiative:

1. Consult mayor and administration
2. Conduct a rapid assessment of citizens
3. Co-develop the specifications of the technology with key stakeholders
4. Guide developer through development until launch

Consulting with the Administration

With the scope of work approved in April 2016, the design team worked with the mayor and his administration to get a better sense of how the municipality operated. The mayor also hired an ICT-focused staff member to lead the process from the municipality's side. Even after initial conceptual discussions, the team needed to determine the municipality's ability to support such a tool, understand its internal procedures, and assess its IT and ICT capacity.

Rapid Assessment

The next step was a survey to determine how Chiantlans use technology, how they seek and share information, and how they view their local authorities. Similar to DAI's Frontier Insights (formerly Digital Insights) work, the July survey aimed to understand the local population's preferences around media consumption and information flows, adoption and use of mobiles and smartphones, and use of platforms such as Facebook and WhatsApp. In this instance, the team also developed questions to identify pressing challenges in local neighborhoods, gauge citizens' awareness of municipal transparency, and have them evaluate the municipality and its staff. Lacking the ability to travel to the field, DAI's team leader trained the enumerators via Skype.

Developing Specs with Stakeholders

The team expected to make a decision about the platform based on the observed adoption and use of mobile technology, but deciding what the tool would actually do was a more complex challenge. The team incorporated a simple prioritization exercise at the end of the survey to determine what people most want to know from their municipality. The exercise consisted of a single page of "cards" with images and brief descriptions of 12 different types of information, which the enumerators would explain to survey participants (see Annex C on page 25 for the full card template). The 12 options were determined through discussions with the mayor, newly hired ICT specialist Erik Cifuentes, and members of the Association for Sustainable Youth Development (ADESJU), the local CSO that carried out the survey. Survey participants reviewed the cards and, with the help of the enumerators, chose the five concepts most interesting to them. The concepts with the most votes were selected for inclusion.



Frontier Insights in rural Honduras

FRONTIER INSIGHTS

What is Frontier Insights? In the rapidly evolving communications space, reaching a targeted population in a distant country presents major challenges. Traditional sources of mobile and social media adoption data—GSMA Intelligence, comScore, World Bank, ITU—provide little or no information on narrow demographic and geographic groups such as at-risk youth or rural farmers in a specific country or region. In response, DAI has developed Frontier Insights, which sheds light on how a defined set of people in a specific country, region, or demographic group seek and share information, both through traditional media and new technologies. This process allows DAI to rapidly customize intervention strategies and deploy contextually appropriate technology and communications solutions in communities around the world.

Surveys vs. Question Guides

In HCD, it is considered best practice to use unstructured interviews with question guides rather than defined surveys. Question guides are excellent when the lead designers are working face to face with the target population and can shape the interview around what they need to know in real time. They are more difficult to use when the designer has to outsource information collection. In response to this challenge, the DAI design team opted to present tightly focused questions, while charging the enumerators with asking additional questions as necessary to dig into unusual responses or pertinent response patterns.

The design team interviewed 100 Chiantlans: one-third in the urban center of Chiantla, one-third in the periphery, and one-third in the highlands. They included 50 men and 50 women between the ages 16 to 70, representing more than 40 communities, and used both quantitative and qualitative methods to ensure that both the “how” and “why” of responses were captured to inform decision making. ■

HCD Phase 2

Ideation

“In the Ideation phase you’ll share what you’ve learned with your team, make sense of a vast amount of data, and identify opportunities for design. You’ll generate lots of ideas, some of which you’ll keep, and others which you’ll discard. You’ll get tangible by building rough prototypes of your ideas, then you’ll share them with the people from whom you’ve learned and get their feedback. You’ll keep iterating, refining, and building until you’re ready to get your solution out into the world.”

—*Field Guide to Human-Centered Design, IDEO*

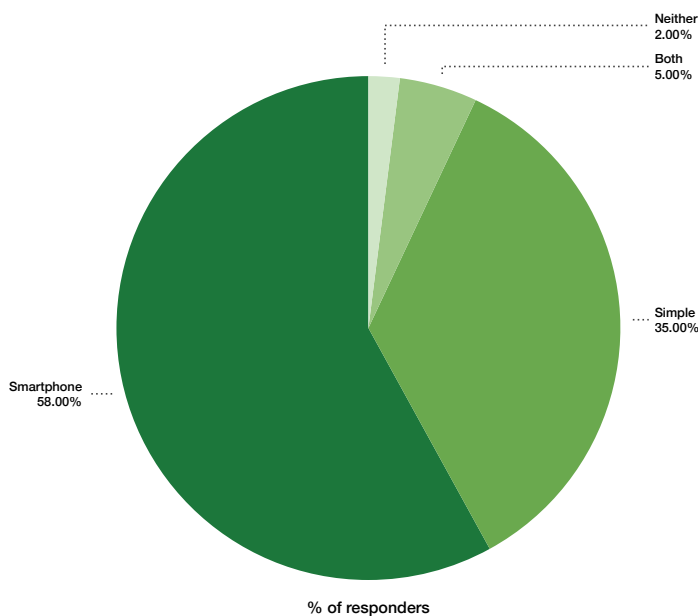
Survey Findings

The survey yielded information critical to the app design process. It turned out that almost all interviewees had a mobile, and nearly 60 percent had smartphones (nearly all Android). Interviewees got their news from radio, Facebook on mobile devices, and TV, and used calls, text messages, Facebook Messenger, and WhatsApp for personal communication. The team also found that interviewees were using the internet almost two hours a day, and that WhatsApp, Facebook, and FB Messenger were Chiantlans’ favorite apps. More than half of interviewees had downloaded a new app in Google Play.

Given these findings and those delineated in the following infographic, the team decided it was logical to develop a tool for Android smartphones. Even though 40 percent of the population didn’t yet have a smartphone, adoption was growing so rapidly that the team felt confident it could design for a smartphone-

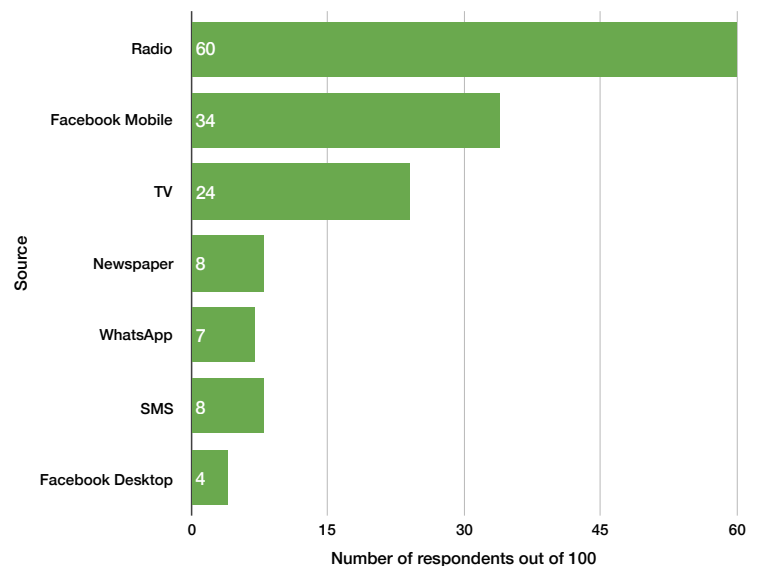
focused, Android-majority future—meeting users where they were going, rather than investing in soon-to-be-obsolete technology. The design team confirmed this conclusion with external ICT experts, who verified the growth trends and shared lessons learned from similar design processes in the region.

Beyond choosing the hardware platform, the design team needed to choose a format for the new tool. Based on the decision to go with a smartphone-enabled format, the two primary options were an app and a mobile-first website. The table *Mobile App vs. Website* on the next page summarizes the key distinctions between the two.



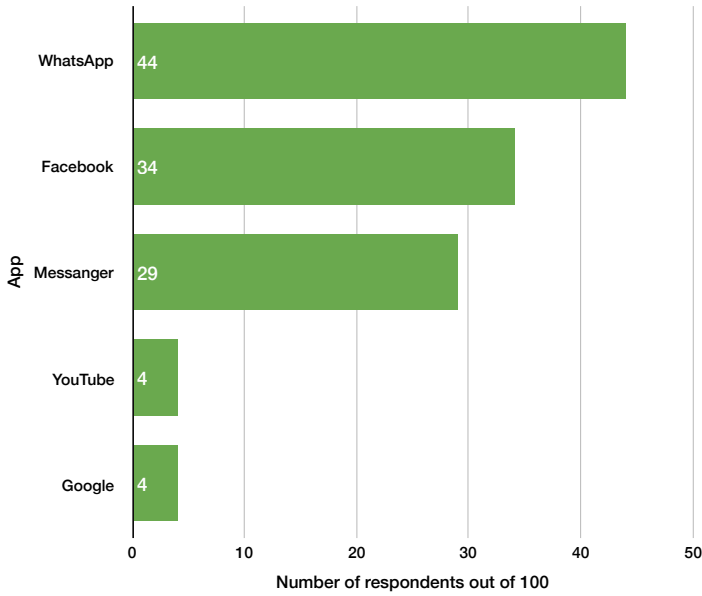
WHAT TYPE OF PHONE DO YOU HAVE?

It turned out that almost all interviewees had a mobile, and nearly 60 percent had smartphones (nearly all Android).



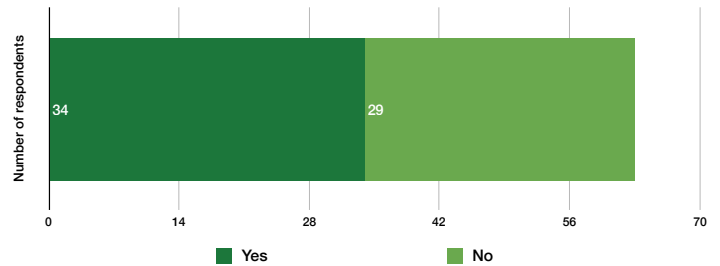
HOW DO YOU HEAR ABOUT LOCAL NEWS?

Interviewees got their news from radio, Facebook on mobile devices, and TV, and used calls, text messages, Facebook Messenger, and WhatsApp for personal communication.



AVERAGE OF REPORTED DAILY TIME SPENT ON THE WEB

Interviewees were using the internet almost two hours a day.



WHAT ARE THE THREE APPS YOU USE MOST?

WhatsApp, Facebook, and FB Messenger were Chiantlans' favorite apps.

HAVE YOU EVER DOWNLOADED A NEW APP?

More than half of interviewees had downloaded a new app in Google Play.

MOBILE APP VS. WEBSITE

APP	CRITERIA	WEB
<input type="radio"/>	Smaller download required for initial visit/use	<input checked="" type="radio"/>
<input checked="" type="radio"/>	Less data required for subsequent visits/use	<input type="radio"/>
<input checked="" type="radio"/>	Less data required for navigation	<input type="radio"/>
<input checked="" type="radio"/>	Full offline access	<input type="radio"/>
<input checked="" type="radio"/>	Integrates full functionality of phone (camera, notifications, balance, GPS, etc.)	<input type="radio"/>
<input checked="" type="radio"/>	Faster user experience	<input type="radio"/>
<input type="radio"/>	Less free disk space required	<input checked="" type="radio"/>
<input type="radio"/>	Less crash-prone	<input checked="" type="radio"/>
<input type="radio"/>	Ease of update	<input checked="" type="radio"/>
<input type="radio"/>	Broad compatibility (across phones, browsers, Android & iOS)	<input checked="" type="radio"/>

In the end, the team chose to develop an app. Factors favoring the app included:

- **Connectivity:** The advantages of a mobile-first website are compelling in environments where mobile data is unlimited or less costly, and where WiFi is more widely accessible than in Chiantla. Many Chiantlans have smartphones but only periodically have access to data. In such a diffusely populated, mountainous environment, where 3G drops off significantly outside the urban center, the case is strong for an application that has robust offline functionality in low-bandwidth settings.
- **Functionality:** A larger initial download, presumably while within 3G/WiFi range, means more functions can be accessed offline.
- **Technology ecosystem:** The municipality already had a web page, and creating a new web page could confuse the audience. Instead of dedicating resources to replicating the page, the team wanted to focus on developing the features identified through the citizen-centered process.

Prototype Design: Technology Specifications

The prioritization exercise outlined above gave the design team a clear sense of the features that most interest Chiantlans. On a tight budget and timeline, the team initially planned to choose the four most popular features, but in the end combined some of the ideas and dropped others that seemed too complex or costly. With the core components of the prototype identified, the team started work on the scope of work for the procurement.

The scope outlined four functions: 1) general information about Chiantla, including contacts, flash cards about the municipality, and development plans; 2) the full municipal budget; 3) the issue reporting module; and 4) a citizen engagement feature, undefined at this stage but linking to the municipal Facebook page. The scope also included consistent user engagement throughout the development process, employing field testing and face-to-face user testing with an initial prototype, and leaving time to iterate and improve before launch.

After a full-and-open procurement process, the team selected an organization called Explico for its experience in HCD and user testing, and its prior work on civic technology projects. The contract was signed in October and development started in December. The team had the prototype in hand by late January 2017. *Guidance on contracting and scoping technology providers can be found in Appendix A.*

User Testing

Explico proposed two types of user testing: field testing and face-to-face user testing. The field testing would be organized by Erik Cifuentes, the Municipality's ICT Specialist, and would include 40 people—20 men and 20 women—across a range of ages. The concept was to put the prototype into the hands of Chiantlans for two weeks, and ask them to use it with no additional instructions. Feedback on this process would not be collected face to face, but would be drawn from Google's Firebase monitoring tool, which tracks opens, clicks, pages visited, time spent, exits, and crashes (among other things) within apps. Subsequently, Explico would run face-to-face user tests with 32 people in Chiantla, exploring which parts of the app users did and did not like (and why), observing use of the app's interface, and surfacing opportunities for improvement.

Approach to User Testing

Questions the developer explored about the initial prototype in face-to-face conversations with users:

- Is the app intuitive?
- Is it easy to navigate?
- Can people easily use the features?
- Do all functions work in real time?
- Which elements could be improved?
- How can the information presented be made more comprehensible?



Explico's Eduardo Mata (R) talks with a user in Chiantla's Municipal Theater

The design team was consistently surprised by the insights that user testing uncovered. For example, field testing showed that the purely informational section of the app—cards about Chiantla’s demographics, languages spoken, the Law of Access to Public Information, municipal contacts, and Chiantla’s development plans—was the most popular feature. The team had discounted this section and included it only belatedly, but user testing inspired them to expand it, adding contact information for the municipality’s health centers and upgrading the section on development plans with additional context and interactive features.

The testers liked the budget module, calling it the “credentials” of the application, and were impressed that the data was drawn directly from their municipality’s budget system. Explico noted that most people did not explore this section in full, given that it contains hundreds of categories and line items. From an interface perspective, Explico saw that many testers got lost or didn’t dive very deeply, so the team added a “metro stop” style navigation feature to give context and direction to the module.

The issue reporting module was well reviewed, but testers were concerned that the municipality would have a difficult time responding personally and quickly to the reports. In response, the team worked with the

mayor to ensure that Erik, the local ICT specialist would take charge of receiving reports, updating statuses, and communicating with the relevant department heads. Explico modified the app to require citizen reporters to include their name and phone number, as the municipality was concerned that insufficiently detailed reports would make it difficult for them to respond, particularly without contact information.

For Technology to Succeed, Human Systems Must Work Too

In the technology sector, we tend to focus on the successful operation of a tool while ignoring the complex human processes that make the tool work. The team’s recognition of a potential pain point in municipal response time and its consequent focus on building out the “human” side of that app feature is an example of how to think through the broader ecosystem a technology exists in and relies on.

The team produced 21 iterations of the tool before launch, working closely with DAI’s design team lead and Chiantla’s mayor and ICT specialist to collect feedback and improve the tool. ■

HCD Phase 3

Implementation



“In the Implementation phase you’ll bring your solution to life, and to market. You’ll build partnerships, refine your business model, pilot your idea, and eventually get it out there. And you’ll know that your solution will be a success because you’ve kept the very people you’re looking to serve at the heart of the process.”

—*Field Guide to Human-Centered Design, IDEO*

Finalization

Following user testing, Explico revised the app to better align it with the feedback from the citizen testers while the design team continued to solicit administration-side feedback and work with Explico to determine the feasibility of the municipality's requests. The biggest challenges were reducing crashes and ensuring strong functionality on the wide range of phones Chiantlans use. With only two weeks until launch, a concern arose about loading times. In response, Nexos' IT Specialist, Juan Rodrigo Motta, visited Chiantla to conduct basic user testing, which led Explico to reduce the app's data download timeout period from 30 to 7 seconds. Nexos also incorporated an initial data set, which further reduced the app's initial loading times.

Launch

On May 25, 2017, Mayor Alvarado stood on stage at the Municipal Theater and launched Somos Chiantla before of an audience of 600. The mayor described the app as a continuation of Chiantla's traditional methods of accountability, which date back as far as 1882. Chiantla followed the launch event with radio promotion and posters around the urban center, and has continued to promote the app on its Facebook page.

As of early October 2017, 650 people have downloaded and used Somos Chiantla, making a total of 33,000 clicks throughout the application. The most popular sections have been the information and budget modules, each receiving 11,000 clicks. The reporting feature has been effective, with 27 reports sent since launch, of which 14 have been resolved while nine remain in progress. The other four were either re-reports or tests.

Next Steps

With a live product now on the market, the design team has shifted focus to understanding public reaction to the tool. Currently, the team is gathering feedback on the app's performance among Chiantlans and looking to expand in two new Western Highlands municipalities. ADESJU, the CSO that ran the first community survey, is launching an evaluation process including a more comprehensive community survey, focus groups, data analysis, and additional user testing. The new community survey will cover 500 people and explore citizen awareness of and response to Somos Chiantla, deepening the design team's understanding of citizens' interaction with their municipality and informing a second iteration of the app.

Mayor Alvarado launches Somos Chiantla



To identify the two new municipalities, the team is working with Nexos' Municipal Outreach Specialists to select five first-round municipalities that have a high potential for success: the right mix of political will, citizen participation, and technological factors necessary to support the development and management of the app, its administrative back-end, and associated internal processes. With a proven tool, the design team will be traveling to Guatemala to work closely with a local consultant to launch a small-scale Request for Applications. The Request will ask the selected municipalities to contemplate how the app will work in their communities and specify how they will open the design process to citizen stakeholders.

As the team moves forward, the goal is to learn from citizens' reactions to the product. ADESJU's continued involvement as a development partner, closely engaged in social audit and accountability, will be key. For DAI's ICT team more broadly, the goal will be to distill lessons from this process to apply them to future initiatives, in Guatemala and elsewhere. ■

Recommendations



Be prepared to sell the HCD process from the beginning.

Understand that your entry point may not be the ideal “problem statement,” and that walking clients back from the concept in their head is a delicate balance. To get buy-in from the beginning for HCD, by its nature a more empirical decision-making process, it is important to be ready to explain its benefits and contrast them to the risks of using traditional approaches.



Communicate the risks inherent in technology-centered approaches.

Starting with the technology (“We want to build an app”) rather than the objective (“We want to enable citizens’ civic engagement and transparently share budget information”) often leads to poor design and hence wasted resources and poor uptake. User-centered approaches such as HCD mean greater investment during initial design, but—if executed carefully—they have the potential to deliver greater uptake and better results in the long run. In short, it’s more expensive in terms of time, money, and brand perception to “fail big” and have to return to the drawing board than it is to fail small and iterate many times before launch.



Acclimatize the client to ambiguity.

HCD is based on iteration, which makes some clients uncomfortable. The point of HCD is to put users (or beneficiaries) in the driver’s seat when it comes to the big decisions around platform, format, and function, which puts the client in the back seat. Getting clients used to this aspect of the process can be a challenge, particularly when they come in with a specific vision in mind, but trusting the process to surface answers to those “big” design questions will result in a far more effective final product.



Lean HCD is better than no HCD.

So you can’t spend three months in the field doing a full HCD process with multiple rounds of prototyping and observation—does this mean you resign yourself to a technology-centered design approach? No! This case study shows that lean HCD implemented with as much rigor and local constituent engagement as possible—even under tightly budgeted circumstances—can be successful. Find a happy medium with your team and your client that honors as much of the HCD approach as possible within project limitations.

**Create coalitions with local actors.**

For HCD projects to succeed in the international development sphere, designers must engage local partners early and often, not simply as users to validate a concept but as partners in managing the design process, collecting data, and making design decisions based on that data. Partners such as local leaders, community-based organizations, or local governments have cultural cachet and networks of constituents that they can draw on to enrich the design process. Their help will be critical for promoting the tool once it is launched.

**Seek outside perspectives and criticism.**

Talk about the project. Tell people what you're doing, why you're doing it, how you're doing it, and what decisions you're making along the way. Ask them what they think, what you might be missing, and how you can improve your approach. These interlocutors don't have to be technologists; in fact, you should actively seek the feedback of laypersons without a background in design or technology. Find people who know your population of interest well, understand your technical theme, or have done similar work elsewhere, and ask what they think. The smaller your team and its networks, the more important this step becomes.

**Don't rush it.**

HCD is a complex, multiphase process, especially when practiced from a distance across cultural barriers and time zones. As data filter in, the full importance or meaning of certain information might only come into full view in the context of something learned later on; ideally, then, design teams should build in additional time to allow ideas to gestate, and to make connections between data points sometimes collected months apart. Design teams should be ready to lay out the higher-level phases of the approach for clients and reconcile them to flexibility in the process and timeline. And remember: the “launch” of the product is really just another beginning—gathering user feedback after the rollout will be crucial to identifying and addressing any issues you may have missed in the design process.

**Trust yourself.**

There's a perception in the design field that there's a right way and wrong way to practice HCD. Certainly, some practices are more effective than others. But if you're familiar with the different models and can reason out why you're approaching the problem the way you are, trust your decisions. Outside of your design team, no one else has the context and understanding of the challenge at hand. ■

Additional Resources on Somos Chiantla

- **Blog posts about the app and design process can be found on Digital@DAI in Spanish and English:**
<https://dai-global-digital.com/tags/?tag=guatemala>
- **Link to app on Google Play:** <http://bit.ly/Chiantla-App>
- **GitHub link to download app source code:**
<http://github.com/munis-transparencia-gobierno-abierto/municipalidad-de-chiantla>

Definitions

- **Design.** In the technology space, design refers to the decision-making process around platform, function, and interface of a tool or process. Design attempts to answer:
 - Who do you want to help?
 - What problem are they facing?
 - What are the dynamics of that problem?
 - How can we change these dynamics for the better?
 - Should technology play a role?
 - If so, in what way?
- **Platform, form, and function.** Platform refers to the hardware the tool sits on; form refers to the content presentation of the tool itself; function refers to what the tool actually does.
- **Civic tech.** Technologies that serve the public good. Often developed by third-party nonprofits or individual technologists and based on open government data (for example, a bus tracker application built on open government transit data). For more on civic tech, read *GovTech: What is Civic Tech?* ■

Different methods of design use different approaches to define problems and solve them. HCD is one such method.

- **Human-centered design (HCD).** A methodology that works with and puts the user at the center of the design process; used in developing digital products to make better informed decisions around the platform, function, and interface. HCD is characterized by multiple rounds of testing prototypes with users to refine a product.
- **Target population.** The group of people that a tool, product, or service is meant to serve.

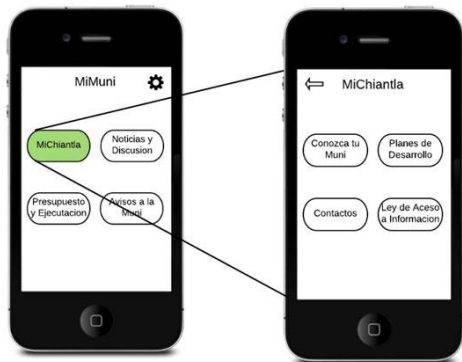
Contracting and Scoping Technology Providers

Working with a technology provider—be it an independent programmer, software development firm, or hardware provider—can be challenging for development actors unfamiliar with the technical language, cultural norms, and work processes of the technology sector. Nexos and the design team used the following process to form a successful relationship with their technology provider.

Contracting

In deciding how to approach the partnership with the developer, the team weighed two options: 1) hiring a programmer directly, and 2) hiring a partner firm.

As the lead designer was working remotely, the team decided it would be best to bring on a fully capable partner, with project management, HCD, graphic design, and software development capabilities in-house. Doing so meant crafting a more general scope of work, outlining the four modules based on the results of the survey and prioritization exercise, while leaving ample space for learning, iteration, and creativity in the process.



Wireframe from initial procurement

Scoping Vendors

The team interviewed more than a dozen Guatemalan developers to get a sense of their capabilities and put them on notice about the pending procurement. Initially, they had hoped to find a developer in Chiantla, in nearby Huehuetenango, or in Quetzaltenango instead of Guatemala City. Why?








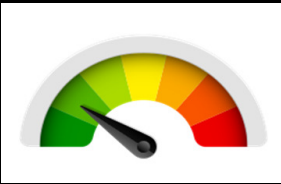
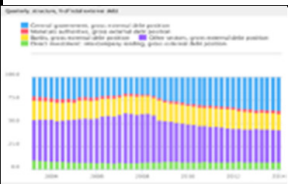
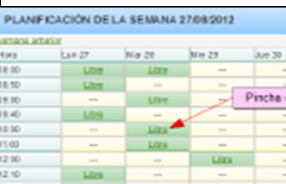

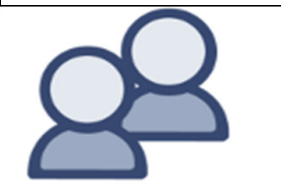
1. To ensure a strong cultural link and built-in empathy between the developer and the population of Chiantla. Some historical context is useful here: the cultural divide between Guatemala's Western Highlands and Guatemala City is vast. The highlands are home to the heterogeneous, indigenous Mayan populations, while Guatemala City is home to the Ladino, Spanish-descended population. Chiantla is actually majority Ladino, and yet retains its highland identity.
2. To ensure that Chiantla would be easily accessible to the designer throughout the development process, facilitating more interaction with and feedback from citizens.

In the end, all of the proposals the team received came from firms in Guatemala City. As noted in the report, the team selected an organization called Explico for its experience in HCD and user testing, and prior work on civic projects. The contract was signed the contract in October and development started in December. The team had the initial prototype in-hand by late January 2017. ■

Somos Chiantla Timeline



Prioritization “Card” Exercise

7. Aplicación municipal de la transparencia			
a. ¿Si el municipio contara con una nueva aplicación de transparencia municipal, la descargaría?		<input type="checkbox"/> Sí <input type="checkbox"/> No	
b. Estamos considerando una variedad de herramientas de transparencia dentro de la aplicación móvil. Ayúdenos a priorizar indicándonos cuáles le parecen más útiles. Por favor elija los 5 más interesantes, y luego colóquelos en orden donde 5 es el más interesante.			
1. Mapa de la Comunidad	2. Avisos a la municipalidad	3. Opinión del vecino con respeto a un tema	4. Actividades de la municipalidad
<i>Muestra los puntos de servicios municipales, espacios públicos, lugares de votación</i>	<i>Informa el municipio sobre luces de la calle dañadas, baches en la calle, banquetas en mal estado, focos de basura</i>	<i>Encuesta de miembros de la comunidad por el municipio o individuos</i>	<i>Noticias de la municipalidad, calendario de eventos y del municipio</i>
			
Numero [__ / 5]	Numero [__ / 5]	Numero [__ / 5]	Numero [__ / 5]
5. Presupuesto municipal	6. Pago de servicios municipales	7. Los planes de desarrollo municipal	8. Monitoreo de avance de los proyectos municipales
<i>Como se gasta el dinero en la municipalidad</i>	<i>Electricidad, agua, pagos de facturas en línea</i>	<i>Publicaciones y documentos relacionados</i>	<i>Propuesta, el progreso, resultados</i>
			
Numero [__ / 5]	Numero [__ / 5]	Numero [__ / 5]	Numero [__ / 5]
9. Control de la deuda municipal	10. Programador de citas	11. Ley de Acceso a la Información	12. Directorio de contactos en el municipio
<i>¿Cuánta deuda tiene el municipio?</i>	<i>Reuniones agendadas con representantes municipales</i>	<i>Contacto con el encargado de la Oficina de Acceso a la Información Pública</i>	<i>Nombres, títulos, teléfonos y correos</i>
			
Numero [__ / 5]	Numero [__ / 5]	Numero [__ / 5]	Numero [__ / 5]

Otra idea _____