In recent years technology seems to have become a blight on democracy. Rampant disinformation, hate speech, hackers, and AI-driven surveillance have led to a crisis of confidence in the promise of the internet. It has been a depressing decline from the exhilarating days of the Arab Spring, when internet-connected citizens brought down dictatorships. However, the story is not so one-sided: committed activists, civic leaders and reformist politicians are fighting to build more open, inclusive, and just societies around the world and technology remains a powerful asset in their efforts to organize for change.

Daily life has changed for the fifty percent of the world now online. Citizens increasingly expect easy access to accurate information from their leaders and to be able to share their ideas or concerns in ways that will be heard. Public interest watchdogs are eager to report problems or corruption, and motivated citizen groups want to be able use data to validate critical activities like elections. Unfortunately, many of these hard-working democracy and rights advocates are hobbled by a lack of access to online tools that can make them more efficient and effective in driving social change.

DemTools harnesses the power of free, open-source software to provide civic organizations, legislatures, and political parties with the capabilities to effectively engage 21st century citizens and build better democracies. NDI has worked with well-established and successful open-source communities to adapt their tools to an international audience, using human-centered design principles to improve usability, add translations, and develop functionality aimed at the needs of the developing world. However, free software still isn’t free to use; most social change organizations don’t have the luxury of full-time IT staff. That’s why NDI has set up our DemCloud hosting service. Running on Amazon Web Services, NDI takes on the burden of the maintenance, security, and support of DemTools for partner organizations.

Since 2014, DemTools has helped hundreds of civic and political organizations build deeper relationships with hundreds of thousands of citizens in their efforts to drive positive social change, build more inclusive communities, and strengthen democracy.

“Citizens are demanding a say in their self-government more often than at election time. They expect their local and national governments to listen and respond at the speed of the Internet.”
- Secretary Madeleine Albright

“Digital technology is neither good nor bad, but what we all make of it. By helping citizens be better organized and governments more accountable, DemTools seeks to harness technology’s constructive potential and promote democracy’s lasting success.”
- Ambassador Derek Mitchell
Digital Tools for Governments, Parties and Civic Groups

Internet access and powerful communication technologies are spreading around the world at an extraordinary rate, transforming the way citizens live and interact with each other. Social media drives a global conversation of ideas. Smartphone cameras produce on-the-scene reporting of events that can be put up for international analysis. Massive amounts of data are collected and made accessible in compelling visualizations. With the many benefits that citizens experience from these advanced technologies, there is also the expectation that leaders in government, civil society, and politics will keep up and meet them where they are – online.

Meet Civi
Organizations are about relationships. Civi is a powerful contact and relationship management system that lets civic organizations, political parties, members of parliament or others build lists of their supporters, track their contacts, schedule events and connect with citizens via SMS, email, or Facebook Messenger.

Meet DemGames
Gamified learning platforms offer a unique opportunity to provide light-touch, broad-reach training for youth with a technology approach that meets them where they are – on their phones. DemGames hosts simple games for youth engagement at scale for civic organizing, political inclusion, and other democratic concepts.

Meet Apollo
Civic watchdog groups play an important role in monitoring elections and other political processes to determine whether they truly represent the will of the citizens. Civil society groups need to collect reports from hundreds or thousands of observers, crunch the numbers to know what it all means, and then be able to present the facts to the public.

Meet FixMyCommunity
Citizens know where the problems in their societies are. With FixMyCommunity, created by MySociety, governments can crowdsources the identification of infrastructure or public service delivery issues and keep citizens informed as their leaders act on them.

DemTools By the Numbers

- 120 active Civi sites, with 30 new installations of Civi globally since 2018.
- More than 150 partners have managed relationships with hundreds of thousands of contacts using Civi.
- Over one million data points have been processed by Apollo from election observers around the world.
- In Kosovo, FixMyCommunity has been used by nearly 35,000 citizens.
- 87% of DemGames users would recommend the app to someone else.
Technology that makes real change starts with people, not code

Human-centered design is a simple idea with powerful implications for technology: make sure the people for whom you’re building are in the middle of the conversation, from initial design to final implementation. By listening to the real problems of the people you’re trying to help, you can solve the right problems in ways that the users will want to use. With DemTools, NDI puts people in the center of the process when designing solutions to improve the capabilities and usability of technology for civic engagement and social impact. User needs encouraged NDI to include SMS messaging in FixMyCommunity, mobile responsiveness in DemGames, and a streamlined user interface in Civi.

Human-centered design meets people where they are

To empower people, technology has to meet them where they are, speaking to their experiences and using their words. Open data is just numbers on a page if the electorate doesn’t understand how to interpret it. Civic engagement apps can magnify inequity if the disenfranchised don’t have smartphones. You can’t exercise your rights if they’re explained to you in jargon you don’t understand.

Human-centered design responds to this challenge. It is a methodology that is heavily used by technology companies and in a growing array of sectors including finance, healthcare, and - critically - government to ensure that their products and services are intuitive and impactful. At its heart, human-centered design is the key insight that successful products and services start with by identifying who a product or service is for and then placing them, rather than the the team or organization attempting to solve the problem, at the center. As generations of industrial designers, technologists, and service architects can tell you, this is hard but essential work. As generations of rights and democracy activists can tell you, local need, local expertise, and local context are paramount. Human-centered design is at the heart of our approach to DemTools and our partnership with civic, political, and government groups around the world.

The typical human-centered design
Expanding the Design Toolkit

NDI takes core insights and techniques from traditional, commercial sector human-centered design practices and adapts them to the needs of the democracy community and our partner organizations. This means wrapping human-centered design in an interdisciplinary approach that includes key strategic tools from the worlds of organizing, governance, sustainable development, iterative software delivery, and participatory action research, among others. The resulting framework for collaboration to action, which we call Co/Act, informs how we select and deploy DemTools and provides a low-cost, high impact curriculum for our partners around the world. Using the Co/Act model, NDI has incorporated design sprints, usability testing, and iterative development in Lebanon and Moldova to create new civic tools designed to increase civic engagement and fight corruption.

Local need, local expertise, and local context are paramount.

Human-Centered Design is for More than Tech

Human-centered design has broad implications for international development work with civic and political groups around the world. Programs are more effective and sustainable when they are developed together with the people who will be using them. To learn more, check out information from some of the original innovators in the world of user-centered design, IDEO: https://www.ideo.org/
Designing for inclusion ensures that everyone can take advantage of powerful online tools

Members of marginalized groups and persons with disabilities often find technology difficult or even dangerous to use. NDI has designed DemTools with these needs in mind - while continuing to work with our partners to actively ensure our products are inclusive and accessible.

Powerful web-based applications like DemTools create new ways for political groups to organize for social change, but they can also perpetuate societal inequalities—or create new ones. Political engagement online is often controlled by the same individuals with power offline, and the ability to use technology is often limited by existing social, economic, and political barriers. It is important to take into account the intersecting identities of members of marginalized groups - including gender, sexual orientation, race, class, disability and more - to build a robust understanding of the exclusion they face. Women are often subject to unique challenges because of their gender. They are less likely to own mobile phones or have access to the internet, particularly in low-income countries where cost is a key barrier. Women and girls are also subject to harmful socio-cultural norms that limit their access to training, decrease their confidence in using technology or convey that technology is for men. While online platforms are a space for citizens to voice their opinions - and can be particularly important in helping women become politically active – they are also a forum for disinformation, hate speech, abuse, and harassment. Online violence represents a direct barrier to women’s free speech, undermining democracy in all its key elements, and has a chilling effect on the ambitions of women.

Certain marginalized groups find the internet a welcoming alternative to physical gatherings, but they face other threats that make using online platforms like DemTools dangerous. For example, in repressive societies where homosexuality is punishable by law, ensuring
that online communications are secure and safe from surveillance is critical (more information is available in the DemTools Digital Security overview). Low internet penetration, limited literacy, and a lack of local language translations often lock large numbers of citizens out of online tools. To address these issues, NDI works with open-source communities to internationalize the language of their applications, localize into common languages, and minimize the bandwidth requirements to make apps as easy to run on limited internet connections as possible.

Focusing on accessibility in software design is a process that also ensures that everyone with visual, auditory, physical, speech, neurological, and cognitive disabilities can take advantage of powerful online tools. However, these steps are often seen as optional extras when it comes to technology development, particularly with volunteer open-source software communities. There are a range of accommodations in design that ease the use of web applications that NDI has prioritized in DemTools. Some examples include ensuring that text is large enough to read, with options for font magnification; creating detailed descriptions for buttons and links; including alternative text for images, particularly for screen readers; and ensuring color vision isn’t required for comprehension of text, graphics, or images. NDI is experimenting with new ways to connect with information online through voice access systems for products like Amazon Alexa or Google Assistant.

Work on accessibility is never complete and always evolving. As NDI continues to support democracy and rights activists around the world, we will work together with open-source communities and marginalized groups to design and fund improvements to these powerful tools to expand the reach.

Inclusion Helps Everyone

Designing for persons with disabilities or at-risk populations doesn’t only help marginalized communities - it can assist others, too. Anyone at times can face short-term disabilities or temporary physical challenges, from misplaced eyeglasses to broken fingers to holding a baby with one arm. Everyone benefits from thoughtfully designed technology built with inclusion considered from the start.
Security, in all its forms, is critically important for safely using DemTools

While web-based technologies can be empowering for civic organizations, governments, and political parties, they can also create new forms of risk to these groups and the citizens who have entrusted them with their information. The personal information of people and internal governmental reports should remain confidential. Election data or lists of citizen complaints must be free of manipulations and spam. Public platforms giving voice to those at risk of censorship must be kept accessible despite attempted censorship from hacking or denial-of-service attacks.

Supporting Open-Source Communities

Each open-source system distributed through DemTools is a unique and complex piece of software supported by a different community of users and developers. For tools developed by NDI staff or consultants, like Apollo, NDI collaborates with independent security experts to perform an in-depth audit of the code. For externally developed systems, we support the communities behind the projects with third-party assessment and vulnerability testing whenever possible.

NDI takes the obligation to protect the data entrusted to our DemCloud hosting platform very seriously. Our DemCloud infrastructure is hosted on Amazon Web Services, which provides a powerful set of security and systems management tools to keep DemTools stable and secure. NDI monitors alerts for security vulnerabilities; and critical patches are applied as quickly as possible, with standard patches applied on a regularly scheduled basis. DemCloud is also shielded by Cloudflare’s state-of-the-art web application firewall, which provides protection against common types of hacking and denial-of-service attacks. All DemCloud servers are backed up nightly with copies preserved on a rotating basis. These backups are designed for recovery in the event of a catastrophe; generally speaking, individual sites cannot be recovered to restore lost data without special arrangements.

The data in DemCloud servers belongs to the citizens and organizations who put it there. As the system administrators, NDI has access to the data stored on DemCloud, but will never disclose user-contributed information to a third party unless compelled by law. NDI will gather usage metrics and track engagement to better manage services, assess user needs, and inform DemTools donors of the impact of their contributions. Administrative access to DemTools servers is strictly controlled and regularly audited.

Security is a Team Effort

NDI performs holistic risk assessments to determine how best
to protect the users of DemTools, and works to inform partners on the range of security threats they face. It is important to recognize that all security systems have flaws, and while NDI exercises due diligence, there is always the risk of a new vulnerability being exploited. As such, we encourage everyone, particularly security experts who want to have a positive impact on global civil society, to support this effort and responsibly disclose their suggestions for improvements to the DemTools programs. We are grateful for community feedback and are committed to rapidly addressing security gaps that are identified.

NDI pledges to communicate proactively with DemTools users to alert them to potential threats or exploits. Furthermore, uncovered issues and vulnerabilities in the various open-source projects in the DemTools suite will be shared with core team members upstream to better protect all users of our open-source communities.

Ultimately, security is a shared responsibility and users must feel empowered to do their part. For this reason, NDI encourages individuals in the DemTools community to practice good digital hygiene, such as using strong passwords, setting up two factor authentication, responsibly sharing access to webapps, and performing regular software updates on their own computers—all elements that impact the safety of everyone.

Hosting DemTools on Your Own

If you choose to host a DemTools site on your own, please be aware that hosting any web application can be difficult. Be careful to ensure that your users are protected and that you are following best practices to secure your servers and applications—and the people you are serving.
Enabling government officials, political parties, and civil society groups to connect with and respond to the needs of their constituents and members online

Organizations are all about people. To be effective in driving social change, leaders need to know who their supporters are, understand their concerns, know how to reach and mobilize them, and target undecided citizens. Civi, a constituent relationship management (CRM) system, keeps track of relationships and enables easy outreach and input via SMS, Facebook Messenger, and email. Civi can help political parties, civic organizations, and elected officials manage daily operations, engage in mass communication, coordinate campaigns, plan activities and events, raise funds, and view reports on all those activities. Civi is used by over 10,000 non-profits and has been deployed by NDI in over 30 countries.

Overview of Features

- **Communicate via multiple channels**, such as Facebook Messenger, SMS, email, and printed mail merge.
- **Manage casework and organize campaigns.**
- **Available in dozens of languages**, including English, French, Spanish, Ukrainian, Arabic, Russian, and more.
- **Accessible online** from anywhere with minimal bandwidth requirements.
- **Strong access controls** can limit access to targeted individuals.
- **Secure sign-in with two-factor authentication.**
- **Updated Shoreditch theme** makes Civi more accessible, inclusive, and user-friendly.

Facebook Messenger Extension

- Helps political parties, members of parliament and civic groups **connect affordably with constituents** where they are often most active - Facebook.
- Enables civil society organizations to **build out their membership databases and volunteer lists directly**.
- Political parties can mobilize potential voters where they already exist and **gather direct feedback** to better inform outreach strategy and policy communications.
- Government officials can **set up “conversations”** with constituents to answer common questions.

Civi in Action

Since 2015, NDI has partnered with various political parties and members of parliament in Ukraine to train them on Civi, which has allowed them to manage engagement, communicate with broad networks, identify key supporters, and track the history of member activities. Civi promotes campaign best practices and new tactics, such as A/B testing of political messages and voter mobilization. Next steps for NDI in Ukraine will be to create voter files, conduct surveys, organize e-petitions, canvass voters, and manage phone banks through Civi. NDI regularly solicits input from our Ukrainian partners in order to improve the functionality of Civi.
In response to past political turmoil, civil society organization POECI (Civil Society Platform for the Observation of Elections in Côte d'Ivoire) worked together with NDI to implement a parallel vote tabulation (PVT) process for Côte d'Ivoire's 2015 presidential election. Using Apollo, POECI aggregated reports received from 755 observers across the country, which enabled the group to effectively assess the credibility and fairness of the electoral process. The success of the effort, and the ease of using Apollo, led POECI to use the system again in both the 2016 parliamentary elections and 2018 county elections - with only limited support from NDI.

Apollo in Action

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Overview of Features

- Used in dozens of countries for systematic observations of critical elections.
- Useful for management of any large group of people collecting structured form data, such as monitoring government services, medical centers, or collecting survey data from citizens door-to-door.
- Automated processing and aggregation of data from easy-to-use forms.
- Accepts submissions via SMS, smartphone app, or web entry.
- Provides real-time information on citizen-submitted reports.
- Built-in graphic interface makes it easy to build data forms.
- Ability to upload detailed observer information including contact phone numbers and location data.
- Permits analysts to verify data from multiple observers in the same location.
- Automated SMS response for incomplete or inaccurate submissions.
- Blast text messaging and observer management for consistency and validity.
- Proven ability to process thousands of data points in minutes.
- Ability to export information for further analysis.
- Multilingual interface compatible with non-Roman alphabets including non-Unicode fonts and characters.
DemGames
A civic education platform that hosts simple games for engagement at scale for civic organizing, political inclusion, and other democratic concepts

Interactive learning platforms offer a unique opportunity to engage with youth on democracy - with a technology approach that meets them where they are - on their phones. Games for good can build behaviors and reinforce concepts that lead to widespread social impact. DemGames brings together NDI’s tested civic education best practices with an engaging, fun platform. Taking a human-centered approach, DemGames makes it easy to set up your own game and gives program implementers an innovative way to reinforce absorption and retention of knowledge.

Overview of Features

- Self-paced multiple choice and matching quiz games offer quick reinforcement on important terms and concepts.
- Elaborate choose-your-own-adventure narrative scenario games mimic practical decision-making and build high level reasoning skills while exploring a virtual world.
- Users earn and lose points to advance in the game based on their answers.
- Players are incentivized for learning success, needing to earn a minimum score to unlock new levels.
- Web application optimized for basic smartphones in low bandwidth environments.
- Intuitive interface that makes learning easy and engaging.
- Simple, inexpensive, and secure hosting.
- Designed as a lightweight, “edutainment” platform specifically for youth.
- Accessible to a wider audience via voice interface, such as Google Assistant.
- Tailor level of difficulty and choose between the different game types to better fit program objectives.
- Ability to customize themes and other features to fit audience interests.

DemGames in Action

DemGames for Debates - developed in partnership with NDI’s Citizen Participation and Latin American and Caribbean teams - provides users with a fun way to practice the terms and concepts associated with crafting arguments, identifying evidence, and justifying rebuttals. After introducing the game during three-day bootcamps on the fundamentals of engaging in debate, over 90% of youth bootcamp participants from Coban, Xela, and Guatemala City played matching quiz games to reinforce their bootcamp training and prepare for regional and national debate competitions. At the end of the program, surveys demonstrated how much participants enjoyed the platform.
Citizens document, discuss, and submit reports to local government via SMS or web.

- Ability to attach photos to reports helps provide context and urgency.
- Citizens can view the problems their neighbors face and understand common concerns.
- Government leaders can demonstrate and document the actions they are taking in response to citizen issues.
- Provides government leaders with the ability to run reports on responsiveness and time to resolution for identified issues from their staff.
- Citizen reporters receive automated updates on report status and can track their issues online.
- Integrates with common government databases via API or submit reports via email.
- Full SMS reporting and follow-up capabilities support those in low-tech environments.
- Customizable themes makes access to data more efficient and appealing.
- Report status dashboards let managers track progress towards resolution.
- Analysis tools let leaders see the most common problems and areas most affected.
- Easy hosting and management with Docker containers.
- Proven effectiveness in over a dozen countries with millions of reports received.

Overview of Features
User Story: Apollo

Côte d’Ivoire

Given the tumultuous history around recent elections in Cote d’Ivoire, with over 3,000 killed when the former president refused to concede defeat in 2010, it has been crucial for Ivoiriens to have trustworthy, independent electoral information to prevent civil unrest. POECI (Civil Society Platform for the Observation of Elections in Côte d’Ivoire), a coalition of civic groups that came together to conduct nonpartisan election monitoring through systematic observation, adopted Apollo to help in this high-stakes election data collection and analysis process.

POECI conducted the country’s first-ever sample-based citizen observation for the 2015 Presidential election, which used Apollo to collect data on the conduct of the election to provide credible, independent analysis on the quality of the process. POECI observers used cell phones, SMS messages, and standardized checklists to provide real time data on key aspects of voting and ballot counting, including the opening and closing times for polling stations, presence of appropriate electoral materials, successful deployment of new biometric authentication technology, and adherence to the electoral code. Their observation also enabled an independent estimate of the election results.

On election day, POECI deployed observers to a representative sample of 755 polling stations across the country, covering each of the 14 districts, 31 regions, and 107 departments of Côte d’Ivoire. Observer reports, in the form of coded text messages, were aggregated in Apollo, for rapid review and processing by trained statisticians. POECI ultimately received 5,285 observer reports via 38,000 text messages, which included 396,375 data points – and 100 percent of the data expected from every single observer.

POECI observers reported that the process of voting went smoothly; nearly all polling stations had the right supplies and staff and followed the correct procedures. The observation statement noted scattered incidents, including intimidation or violence towards election officers, but no nationwide trends raised questions on the overall credibility of the elections. The evaluation of the process as free, fair, and credible, along with the verification of the outcome, helped candidates and political party members accept the results and advise their supporters to remain peaceful, win or lose.

In the 2016 parliamentary elections and 2018 regional and municipal elections, POECI continued to improve its capacity to deploy observers, collect data and communicate seamlessly across the organization. They have used Apollo and integrated communication tools to mass message observers for activity reminders, as well as to customize survey question responses from groups of observers on the fly. POECI is planning to continue to use Apollo as they look ahead to monitoring the presidential elections in 2020.
User Story: Civi

Ukraine

Following the 2013 Euromaidan Revolution for Dignity, Ukrainians have come to expect greater transparency, accountability, and engagement from their political and legislative leaders. The Civi DemTool, a contact management system, has supported these reforms by empowering Ukrainian political parties, members of Parliament, and civic organizations to connect with citizens and track their concerns.

Despite their best intentions, many political leaders and organizations lack the strategies they need to effectively communicate with citizens. In Ukraine, Civi helped address these problems by providing leaders with a centralized platform to manage engagement, communicate with broad groups of citizens, identify key supporters, and track the history of party member activities.

NDI introduced Civi during government-to-citizen trainings in April 2015 as a mechanism for managing interactions between Members of Parliament (MPs) and their constituents. In a pilot program, the offices of four members of parliament adopted Civi and NDI trained 24 assistants in constituent outreach and casework management. Offices used Civi to store contacts, tag them by categories and interests, track engagements, record constituent issues, and assign staff to respond. By taking advantage of NDI’s in-depth trainings and technical support, these MP offices were able to more effectively engage with their constituents. Given the enthusiasm of pilot MPs, NDI plans to expand use of the Civi database to more elected officials in Ukraine.

NDI also works closely with political parties in Ukraine to strengthen their voter outreach and volunteer engagement capabilities through Civi. Two political parties have adopted the Civi DemTool and NDI trained two political party database managers at headquarters, as well as 22 party regional personnel. One party is working to integrate Civi at its headquarters and, more importantly, at its branch offices across the country, where they are able to take advantage of Civi’s customizable email settings and location-based security and privacy controls. Civi has been used as a training tool to promote campaign best practices and innovative tactics, such as A/B testing of political messages and new forms of voter mobilization.

The civil society community in Ukraine has found Civi useful as well. Two Ukrainian NGOs have adopted Civi and trained four database administrators in each NGO, one with 15 regional database coordinators.

NDI regularly solicits input from our Ukrainian partners in order to improve the functionality of the Civi database. We remain committed to helping partners adopt new, innovative tools that will make their work more effective, while strengthening Ukraine’s democratic institutions and processes.
Acknowledgments

A great many people have contributed to the DemTools initiative, and while we cannot name them all, we did want to thank a few who made particular efforts. First: the amazing open-source developers who have created this powerful software and provided it as a gift to the world. CiviCRM, mySociety, NuCivic, Aegir, and the White House Office of Science and Technology Policy have built tremendous platforms, and NDI is honored to partner with them in sharing them globally. We’re also very grateful for the software developers who have built, improved and managed DemTools, including Tim Akinbo, AGH Strategies, Coop SymbioTIC, Democracy Plus, ThirdSector Design, HashedIn, and Emercoin.

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Most importantly, this work is dedicated to the citizens using DemTools in their struggle to build more open, inclusive, representative, and democratic societies. The world is a better place for their efforts.

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