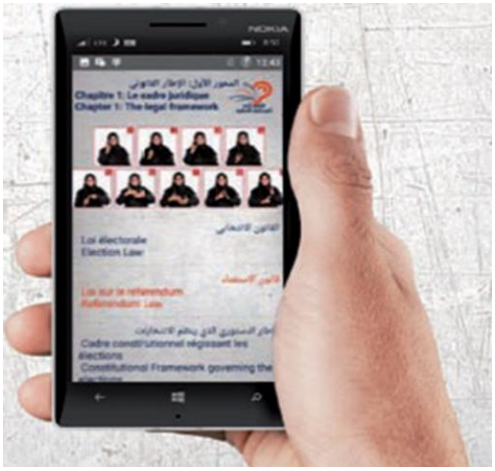
Disability Rights and Mobile Applications

With the rise of smartphones and tablets, mobile applications (or "apps") are becoming a popular method for human rights communities to engage with the public. Mobile apps are convenient as they are available on a device that many people use every day. Apps are also interactive, which can allow smartphone and tablet users to learn information in a fun and interesting way.

A successful mobile application requires planning. Though some disability rights organizations may not have technology developers or designers on staff, they can still brainstorm ideas and create a plan for some of the app's features. Then, they can work with a developer to figure out the best way to make the idea happen.



Here is an example of an accessible mobile app, which shows a sign language lexicon. *Source:* International Foundation for Electoral Systems

Before Creating a Mobile App

Here are some things to consider when creating a mobile app:

- **Is there a clear purpose for the mobile app?**

  A mobile app should help solve a problem. For example:

  - *Problem:* I don't know if there is a law supporting education for persons with disabilities.
    - *Solution:* The mobile app teaches me about disability rights laws in my country.
  - *Problem:* I am in a new part of town and need to find somewhere to eat.
    - *Solution:* The mobile app helps me find an accessible restaurant.

  In general, mobile apps are most successful if they focus on solving one problem at a time. Mobile apps should be able to help the user solve their problem right away.

- **Who will be using the mobile app?**

  - *Are there many people in the country who have smartphones or tablets?*
    If there is a large number of people who use smartphones or tablets in the country, it makes sense to create a mobile app. However, if there is a low number of people who use mobile devices, it may be better to find a different way to engage the audience.

  - *Who normally has a smartphone or tablet?*
    It is important to understand who is using mobile apps because that will affect the design and content of the app. In addition, there may be groups have more access to technology in general. For example, people in urban areas might have more access than people in rural areas. Men tend to have more access to technology than women.

Brainstorming Ideas for a Mobile App

If a mobile app makes sense, then it's time to begin thinking of different ideas for the mobile app. For inspiration, it may help to look at some popular apps and think about why they are used so often. Here are some questions that may help spark some ideas while brainstorming:

- **What will the app help people do?**
    - Share news? Audit a building? Learn a new skill?

- **How will users interact with the app?**
    - A game? A map? Reviews from other people? Videos? Interactive checklists?

- **What will make the app interesting?**
    - Design? Ability to share content? A new idea?

- **How will users navigate the app?**
    - Will there be a menu on the homepage? Will they have to swipe or tap on buttons?

Keep the final concept simple by choosing the elements that make the most sense when you are addressing your problem. For example, if the goal of the app is to help people find an accessible restaurant right away, an interactive map with a search engine would be helpful, but a game probably would not be.

A developer can also work with you to help finalize the concept for the mobile app. However, having some ideas for the app already will help the developer get a better sense of the goal of the mobile app.

Accessibility and Mobile Apps

It is possible for mobile apps to be accessible for persons with disabilities without sacrificing design or content. The accessibility guidelines for websites and mobile apps are similar, though there are some important differences.

One key difference is that mobile apps are used on a smaller, portable device (a phone) that requires touch to be activated, instead of a mouse. It is important to remember that some people with physical disabilities may struggle to press smaller buttons or perform complicated finger movements on the phone. Therefore, it is important to keep interaction with the mobile app simple.

An international organization called the World Wide Web Consortium (W3C) has put together a list of helpful resources on mobile accessibility at this link. W3C has also created the Web Content Accessibility Guidelines (WCAG), a popular set of online accessibility standards for websites that can apply to mobile apps as well. Perhaps the most useful resource is W3C's guide on Mobile Accessibility. The guide is still in progress, but contains valuable information that will be helpful.

Though it is not necessary to be an expert in accessible coding and development, the developer may need extra support in thinking through all the different accessibility features, as many developers are not used to making mobile apps accessible. Therefore, it is helpful to have an idea of what features are available so that they can incorporated in the development of the mobile app.

Checklist for Mobile Application Accessibility

Though this is not a comprehensive list of accessibility features, here is a checklist of items that are worth considering while the mobile app is being developed.

Hiring Mobile Application Developers

- ☐ Does the developer have experience developing accessible mobile apps?
- ☐ Are they able to provide suggestions for accessible features?
- ☐ Does their portfolio contain examples of accessible mobile apps?

App Backend

- ☐ Is the backend accessible so that app managers with disabilities can use it with ease?
- ☐ Is there alt-text for photographs and images?

App Content

Navigation and Directions

- ☐ Does the app have a page entitled “How to Use this App” or “Accessibility” that explains the accessibility features on the app?

Text

- ☐ Is there minimal text and content, in order to match a smaller screen?
- ☐ Is content organized clearly and logically?
- ☐ Is text also offered in an easy-to-read format?

Video and audio files

- ☐ If videos are included in the app, are captions provided?
- ☐ Are transcripts provided for audio files, such as podcasts?

App Design

User options

- ☐ Is it possible use the app in devices that are either in horizontal or vertical positions?
- ☐ Is there code to tell screen readers what the orientation of the app is at any given time?

- [ ] Can users change the background from light to dark (or vice versa) to increase contrast?

- [ ] Are there options to increase the text size, **or** directions on how to increase the font size?

    - For example, can users easily zoom in or out to change the text size?
    - Or, sometimes the device has an accessibility feature built into it – are directions available on how to use these features?

- [ ] If there is a zoom feature, can the text still be read on the page without having to scroll sideways?

- [ ] Is there an option to listen an audio version of the app (text-to-speech)?

Touchscreens

- [ ] Are the touch buttons at least 9 millimeters high by 9 millimeters wide?

- [ ] Is there enough space between the different buttons that people won't accidentally touch the wrong button?

- [ ] Are the buttons placed in locations where a person can easily reach them if they are using one hand, regardless of whether the device is vertical or horizontal?

- [ ] Can the user use only simple gestures (a single tap or swipe) instead of more complex gestures?

Color and font

- [ ] Is there a default text size that most people would be able to easily read?

- [ ] Are the text and hyperlinks matching the width of the screen, not running off the edge?

- [ ] If you ignore color, is it easy to tell the difference between a title, a subtitle, a hyperlink, or another type of special text?

    - To help make text different, use larger or smaller text, or bold, italic or underlined text

- [ ] Is a sans serif font (which is easier to read) used most of the time?

    - Examples of sans serif fonts are Arial, Tahoma, Trebuchet MS, and Verdana.

- [ ] Are there less than 3 different types of fonts being used?

Testing Mobile Apps

- [ ] Before the mobile app is launched, have persons with different types of disabilities tested the mobile app? This could be a requirement of your contract with the developer.

Examples of Accessible Mobile Apps

Libya

In Libya, people who are deaf and use sign language struggle to receive information about elections. To help break that barrier, the International Foundation for Electoral Systems (IFES) created the first electoral sign language lexicon in the Middle East and North Africa that contains over 300 electoral terms for persons who are deaf to participate meaningfully in the electoral process. The lexicon supports Deaf communities, sign language trainers and other interested groups to learn essential electoral signs.

Designed as a simple and easy to navigate resource, the lexicon can now be downloaded as a smart phone application that provides instructional photos and videos of the lexicon's terms being signed. The app comes in Arabic, English, French and sign language. It works on Windows, Android and iOS platforms.

A screenshot of the Libya electoral sign language app shows the sign for "Electoral Law"

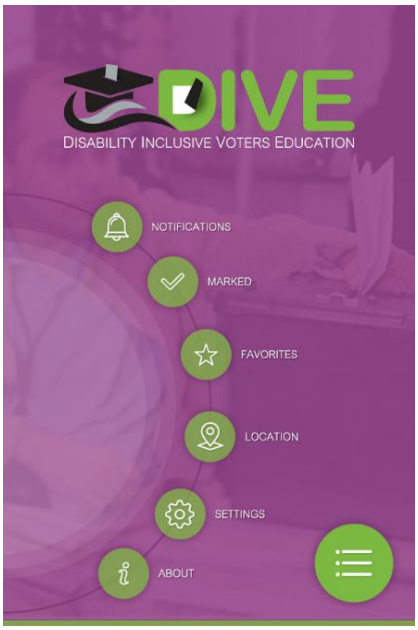
India

In India, Disability Rights Alliance, Tamil Nadu (DRA) will soon release "Election Audit," an app that allows users to share information on polling center accessibility. The app asks users a series of questions about features such as the quality of lighting, ramps, and availability of seating areas to determine if the polling station is accessible to persons with disabilities.

DRA plans to organize workshops for newly registered volunteers to learn how to use the platform. Eventually, it is anticipated that this information might be made available to elections officers to make them aware of barriers that exist in their polling stations. Election Audit can be downloaded through the Google Play store for Android devices, but is currently available only to those who are registered as volunteers with DRA.

Pakistan

The Special Talent Exchange Program (STEP), a disability rights organization in Pakistan, recently developed an Android mobile application to connect persons with disabilities with information on disability rights in elections. The Disability Inclusive Voter Education (DIVE) app provides information to enable persons with disabilities to learn about their rights and related opportunities in general and specifically to become actively engaged in political life.



A screenshot of the Pakistan DIVE app shows the homepage menu.

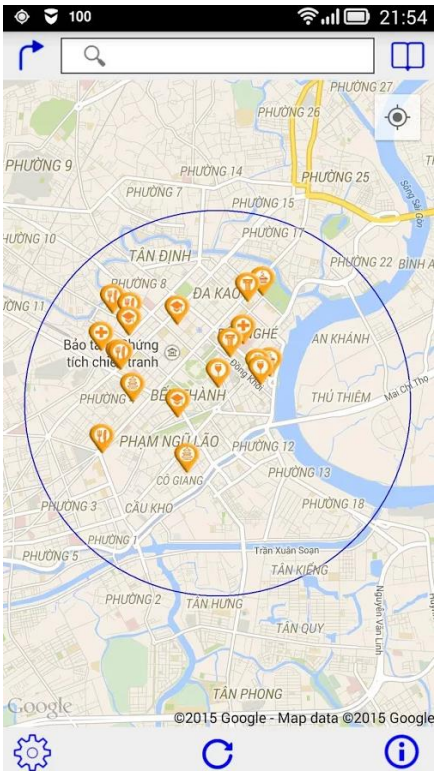
Through DIVE, persons with disabilities, DPOs, and other stakeholders can learn about how to take part in elections. DIVE also provides information about the services available in districts

throughout the country. The app serves to fill the gap in the availability of information on civic and human rights of persons with disabilities. The project, supported by IFES, is a "one-stop source" for news on elections and voter education information, such as registering as a voter or running for an office. The app can be downloaded on Android devices through the Google Play store.

Taiwan

In 2012, OurCityLove – a Taiwanese organization – partnered with disability rights activists to create a "Friendly Restaurant" app that documents the accessibility of restaurants in 12 Taiwanese cities, as well as Japan, China, Hong Kong, Singapore, and Malaysia. The app includes a short description of each restaurant and what type of food they offer. Users can rate each restaurant based on their accessibility for persons with physical, visual or hearing disabilities. Over 4,000 restaurants have been rated using the app.

Vietnam



A screenshot of the Vietnam DMAP app shows a few accessible locations in Ho Chi Minh

DMAP (pronounced De MAP) is a free accessibility map application developed in 2012 by students with disabilities at the Hoa Sen University, with support from a local disability rights organization called Disability Resource and Development (DRD). It identifies more than 1,000 public locations in Ho Chi Minh, including shopping malls, coffee shops and parks, where accessibility support is available for persons with disabilities, especially persons using wheelchairs. The app can also provide directions to each accessible location, using either buses or motor vehicles. The app can be updated by any user and is available for Android platforms through the Google Play store.