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SCE Inc., Rep. of Korea

AUTOMATED MOBILE ACCESSIBILITY CHECKERS SOLUTION

Contact:

SCE Inc., Rep. of Korea

Email:



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Automated Mobile Accessibility Inspection Service

YONG LEE, COO, SCE INC. KOREA

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What is Mobile Accessibility?

Accessibility

- Refers to the design of products or services that ensures “ability to access” for everyone, including people with disabilities.

Mobile accessibility

- According to the *World Wide Web Consortium (W3C)* definition, “refers to making websites and applications more accessible to people with disabilities when they are using mobile phones.”



Mobile Accessibility Laws and Regulations

Discrimination acts in many countries, such as South Korea, U.S., Australia, U.K., Japan, and Hong Kong, focus on creating an environment in which people with disabilities can experience equality with non-disabled people. Under such a philosophy, information and telecommunication accessibility for people with disabilities is regulated.

South Korea

- Korea Ministry of Public Administration and Security promulgated the *Mobile Applications Accessibility Guidelines in 2011*, which included seven required items and eight advisory items.

U.S.

- Section 718 of the *Twenty-First Century Communications and Video Accessibility Act of 2010* explicitly addresses accessibility requirements for mobile devices.



Mobile Application Development Challenges



Complicated packaging

- Mobile applications (native apps)
- Mobile webpages (mobile web)
- A mix of both mobile applications and mobile web pages (hybrid apps)

Both *iOS* and *Android* mobile operating systems provide **standard accessibility assistive technologies** that can be applied to all of their applications

- VoiceOver (iOS)
- TalkBack (Android)



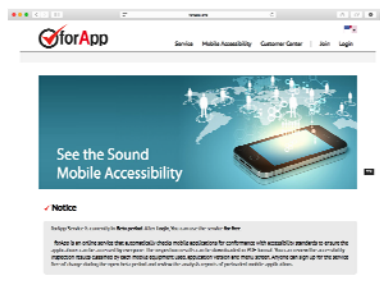
Two Key Components of Mobile Accessibility Compliance

Alternative Text and Focus

- Although there are many other features that need to be adjusted to maintain accessibility, developers should first check their source codes for two key components – *focus* and *alternative text* – in order to maintain compatibility with the system-provided accessibility tools.




About forApp






forApp is an online service that automatically inspects mobile applications for conformance with accessibility standards to ensure the applications can be accessed by everyone.



forApp service






- Automated Application Inspection Service**
 - Automatically inspects mobile applications for conformance with accessibility standards.
- Online Expert Consulting Program**
 - Developers can benefit from a finely tuned expert consulting service that assists in solving development issues with accessibility implementations.
- Accessibility Statistics database.**
 - forApp's statistics database is useful not only to identify the industry's current status on accessibility compliance, but also to analyze a wide range of usability and accessibility interests for mobile applications.

forApp features

- Supports user interface improvement**
 - forApp analyzes each user interface unit of a mobile application.
- Provides automated analysis reports of accessibility issues**
 - To help mobile application developers and operators improve their applications.
- For Android, only the executables that are or will be published to the application market are needed for inspection.**
 - For iOS, SDK is provided for insertion into the application code while in development, but no source code needs to be supplied to the service for inspection.
- Supports all types of mobile applications**
 - Native and hybrid mobile applications, mobile web pages for both Android and iOS are all supported.
- All testing is done on the actual devices**
 - Allowing for detection of any device-dependent issues.

Strong Points

forApp service classifies mobile accessibility inspection results by **version information, inspected devices, and the application's screen-specific information.**

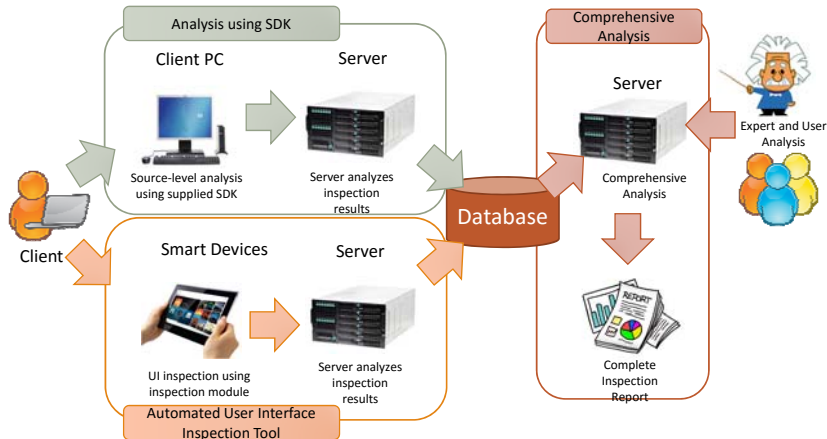
Even when updates occur, companies can keep track of the complete accessibility compliance history. This allows developers and companies to evaluate their accessibility compliance and manage old versions and the current version concurrently.

Users can continue to improve mobile accessibility by reviewing the report. This feature is critical for applications in the development phase and applications that are continuously updating.

forApp service lets users **automatically create a mobile accessibility report.**



How It Works



6 Common Issues Identified by forApp Services

Focus Issues

- Focus sequence is not consistent with logical sequence of the screen
- Unnecessary focused components
- No focus assigned to necessary components
- Components are not grouped properly

Alternative Text Issues

- No alternative text or content description
- Meaningless text or content description



Issues #1: Focus sequence is not consistent with logical sequence of the screen.



Focus sequence must be logically consistent with the screen. If the focus is not aligned correctly, the logical structure of the content will not be properly presented, and users of screen readers may be misled by the information provided or may be unable to use the service or content altogether.

Figure on the left illustrates an unaligned focus sequence that may mislead users. A visual inspection of the sequence reveals a focus that is obviously unaligned. Moreover, focus numbers 9, 10, 15, 16, 17, and 18 are all redundant, causing unnecessary difficulty in navigation for users of screen readers.



Issue #2: Some UI components may either have focus unnecessarily or be unnecessary themselves.

Some UI components may either have focus unnecessarily or be unnecessary themselves.



Figure on the left depicts such unnecessary focused components. Focus numbers 15 through 18, highlighted with a red box, have either no image components or meaningless images, and no meaningful text or content description, but take focus. Such seemingly unnecessary components will only mislead and inconvenience users.



Issue #3: some necessary components may not have focus.

Conversely, some necessary components may not have focus. If this is the case, users cannot access necessary functions or content.



In the example presented in the figure, two buttons seem to have functions but have no focus. In this case, users of screen readers cannot select those two buttons; they don't even know the buttons exist.



Issue #4: Components are not grouped properly.



In many cases of image buttons with text labels, two components must be grouped together and should have single focus and single alternative text.

The example presented in the figure depicts two components that are not grouped together. For focus numbers 3 and 4, one is an image and the other is the text part of the same logical component, but they are separately focused. In this particular example, the image components do not have alternative text or content description, which may increase confusion even further.



Issue #5: No alternative text or content description



When a component has focus and a meaningful function, it should have meaningful descriptive alternative text or description. Alternative text is recommended for text labels and text content, and text description is recommended for non-text content such as images and videos. There is no reason to include both alternative text and content description, but at least one should be in place to describe the meaning of the focused components.

Figure on the left shows an example in which alternative text and content description are absent. Focus 49 is a button, but users of screen readers may not know what this component is, as there is no text or content description available, and users may be unable to determine the exact use of this component even though the component has focus.



Issue #6: Meaningless text or content description

Sometimes alternative text or content descriptions are present, but the text description does not properly illustrate the use of the components.



Figure on the left illustrates one type of meaningless text. This is a hotel reservation and review application, and the screen is meant to present detailed information about a hotel. Focus number 6 is a check button for users who have been to the hotel displayed. The icon is labeled "Been," and the alternative text associated with the icon seems properly assigned the text "Been." However, for users of screen readers, there are no other clues, just the message "Been." Unlike users who are able to visually inspect the whole screen, users of screen readers may not infer the meaning of "Been" in this case. A more helpful content description would be something like this: "If you have been to this hotel, please check this button."



Thank You!

