



# LESSONS FROM IMPLEMENTING A PDF/UA-CENTRIC MOBILE READER

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# YOUR PRESENTER

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# WHY A PDF/UA- FOCUSED MOBILE READER?

## THE SITUATION

- PDF mobile experiences to date primarily focus on visual accuracy
- Presentation transformations tailored to re-presenting PDFs in general cases

# WHY A PDF/UA- FOCUSED MOBILE READER?

## THE NEED

- Significant proportion of mobile device users have impairments to the typical small screen PDF experience
- Accessibility-enabled PDFs – PDF/UA files - are becoming more common
- Equitable access to mobile experiences becoming more vital for all users



A photograph of a person's hands holding a smartphone, with a blue-tinted background and a diagonal split. The left side of the image is a solid blue color, and the right side is a white background. The hands are holding the phone, and the screen is visible. The person is wearing a ring on their finger.

# WHAT IS AN ACCESSIBILITY FOCUSED MOBILE DOCUMENT EXPERIENCE?

**ACCESSIBLE PDF/UA FILES BRING  
OPPORTUNITY FOR A MORE OPTIMAL  
MOBILE EXPERIENCE:**

- An experience supporting platform-native read-aloud and other accessibility features
- An experience allowing tailored presentations for different users with different needs
- An experience that respects user privacy preferences

# LESSONS LEARNED ALONG THE WAY



# LESSON: YOU ARE (LIKELY) NOT YOUR TARGET AUDIENCE

- Most people have read enough documents to recognize what qualifies a good reading experience
- Most software developers have enough software experience to recognize what qualifies a good application
- Most people involved in developing software have no true experience relying on software accessibility features



**BUT THERE IS NO  
SINGLE TARGET  
AUDIENCE**

**ACCESSIBILITY IN DATA  
PRESENTATION COVERS A  
MULTITUDE OF FACETS**

**ACCESSIBILITY FOR PEOPLE WITH  
SIGHT LOSS IS A COMMON EXAMPLE,  
BUT IS NOT THE ONLY SIGHT-RELATED  
CONCERN TO CONSIDER:**

- Users with higher contrast content needs
- Users benefitting from presentation changes to better differentiate types of text
- Users who are temporarily unable to visually read documents



# LESSON: USERS DON'T WANT A PDF/UA READER

- Users need access to information in documents
- Users need useful document presentation and navigation
- Users appreciate accessibility-enabled PDF files
- Users don't care about strict PDF/UA reader conformance



# ACCESSIBILITY ISN'T JUST FOR PEOPLE WITH SIGHT LOSS

## WHILE MANY PEOPLE WITH LOW VISION CAN STILL READ VISUALLY:

- Some can't follow a continuous scroll & need a page-by-page scroll instead
- Some can't usably view a page image and need a continuous scroll instead
- Some have different view preferences – pages vs. flowing content – for different types of content

# READING CHALLENGES: MORE THAN VISION

## CHALLENGES FOR DOCUMENT CONSUMPTION CAN STEM FROM OTHER FACTORS:

- Cognitive disabilities leading to letter, word, or sentence reading difficulties
- Attention differences leading to situational comprehension difficulties
- Physical limitations on possible interactions with devices leading to navigation and interaction difficulties

There are many other reasons a user may have reading difficulties with documents







# READING CHALLENGES: MORE THAN DOCUMENTS

## ACCESSIBILITY NEEDS TO CONSIDER THE ENTIRE READING ENVIRONMENT

- Document presentation needs to be accessible
- Application presentation also needs to be accessible
- Document and application navigation need to be accessible
- State changes need to be predictable and unobtrusive



# LESSON: MULTIPLE USE CASES

## CUSTOMIZABLE TRANSFORMATIONS MAKE DOCUMENTS ACCESSIBLE TO MANY DIFFERENT AUDIENCES:

- Users completely reliant on assistive technology
- Users temporarily utilizing transformation capabilities
- Users benefitting from different layout, formatting or appearance changes
- Users preferring alternate means of content access

# LESSON: MULTIPLE INTERACTION MODALITIES

- Flexibility in tailoring content is essential
- Flexibility in interaction is essential
- Predictability in experience flow is essential
- Users may have multiple disabilities
- Users will have different interaction needs and preferences

# DEVELOPMENT CHALLENGES

## PRODUCT DEVELOPMENT CHALLENGES ALONG OUR JOURNEY SO FAR:

- Cross-platform Android & iOS development works... most of the time
- User interface components are accessibility enabled... some of the time
- PDF/UA documents are conforming... except when they're not





# DEVELOPMENT CHALLENGES

## INCLUSIVE EXPERIENCE DEVELOPMENT IS NOT A COMMON DEVELOPMENT CONSIDERATION

- Fight the “We like it, so everyone will like it” impulse
- Accessibility thinking is a skill to be developed
- User focus and empathy needs to come foremost



# LESSON: PLAN FOR LEARNING & CHALLENGES

- Consider needs of as many different users as possible
- Ask users their needs and wishes instead of assuming
- Provide accessibility training for all involved in product development
- Build time in for accessibility testing and experience refinement

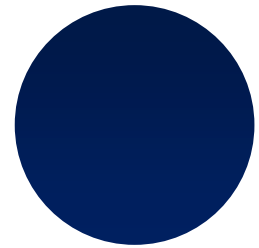


# CALL TO ACTION: INTEGRATE ACCESSIBILITY

Integrate consideration for all users into product development

## THREE EASY TESTS TO START WITH:

- Can I use my application if it's in monochrome?
- Can I use my application if it's magnified?
- Can I use my application if it's read aloud to me?



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## ABOUT ABLEDOCS

- Founded in 2019, AbleDocs has become a world leader in digital accessibility.
- Offices in Australia, Canada, Denmark, Germany, Israel, Kuwait, Switzerland, United Kingdom, and the United States
- AbleDocs offers products and services to organizations that help to ensure high volume document accessibility compliance, document accessibility testing, accessibility training, and web accessibility compliance.
- AbleDocs is the only company in the world to guarantee the compliance of every file they produce and back it with a \$10,000,000 liability guarantee.



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