

Improving Mobile Reading Experiences while Walking Through Automatic Adaptations and Prompted Customization

MOTIVATION

Situational impairments such as walking can affect user abilities to read on mobile devices



- Visual ability (to view text content)
- Fine motor ability (to navigate documents)
- Cognitive ability (to comprehend text content)



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User-Specific Walking Detection



Real-Time UI Interventions

Contextual dialog window for suggesting and customizing a single parameter when someone STARTS walking



Show full text setting for customization when someone STOPS walking

Observing Customization Behavior

Our system observes customization behavior to refine further recommendations previous user-specified value for text setting • the last user-adjusted parameter





PRELIMINARY USER STUDY

Key Takeaways

Avoiding frequent changes, occlusion, and losing track of text

Variation of user preference over automation and direct manipulation

System Refinements & Next Steps



Improve UI intervention design Visuals to assist reading resumption



Gestural instead of button control



of mixed-initiative adaptations

Capture additional situational parameters about user context

5:32 Face Distance: 22.44 cr Lighting: 1076.94

Carthage According to Timacas of Tauromenium, she purchased the land from a local tribe. They agreed she could buy what could be covered by an oxhide. Dido cut the oxhide into fine strips so that she had enough to encircle an entire nearby hill. That would become their new home.

The Carthaginian republic became one of the longestlived and largest states in the ancient Mediterranean. The founders were Phoenician settlers from the Near East. They spoke Canaanite, a Semitic language and followed



