AURAL NAVIGATION FLOWS ON RICH ARCHITECTURES (ANFORA)

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Industry Sector(s): Internet and Wireless Computing
Product Category: Smartphone Apps, Mobile Computing

Opportunity Overview

ANFORA is a novel human-computer interaction design framework that defines the rules and mechanisms to pull content from existing web-based sources, re-organize such content in linear navigation flows by concatenating mobile web pages with self-activating links, and display this content visually and aurally for the use to experience and control while on-the-go. The invention includes semi-formal design rules for defining 8 types of aural flows that can be selected by the user, and a software and interface prototype in form of a mobile web application. [US Provisional Patent Application Pending No. 61/699,748, IURTC No. 13006]

Markets & Applications

ANFORA is a design framework for providing text-to-speech consumption of nonlinear, web architectures with little user interaction. ANFORA is designed to make web content easy to access when users are on-the-go and it is undesirable or unsafe to visually browse hierarchical, content-rich websites.

Competitive Advantage/Value Propositions

- Accessing the mobile web in a variety of contexts (e.g., walking or jogging) is becoming pervasive.
- Users may be engaged in another activity when it is inconvenient or dangerous to look at the screen.
- Existing visual interfaces often require focused attention.
- Recent studies indicate that audio-based interfaces are less distracting than visual interfaces.
- Well-designed acoustic interfaces support eyes-free browsing.
- Design should exploit the aural channel to alleviate focused attention on the interface mechanics.

Researcher Biography

Davide Bolchini, Ph.D.
Davide Bolchini, Ph.D. is Assistant Professor in Human-Computer Interaction at Indiana University School of Informatics (IUPUI). Before joining Indiana University, Dr. Bolehini was Visiting Senior Research
Fellow at the University College London (UK), after having held a Post-Doc research and teaching position at the University of Lugano (Switzerland), TEC-Lab (Faculty of Communication Sciences), lecturing appointments at the Politecnico di Milano (Italy) and visiting research positions at North Carolina State University and at the University of Toronto.

Dr. Bolchini is known for his important contribution to the area of requirements engineering models for content-intensive interactive applications and user experience design methodologies for large-scale web and hypermedia systems. His research has been supported by competitive funding grants awarded as Principal Investigator by the Swiss National Science Foundation and the U.S. National Science Foundation, as well as through industrial consultancy projects. Dr. Bolchini’s research findings have found applicability in various vertical domains where the modeling of the user experience and content-intensive communication are crucial concerns, including Cultural Heritage Communication, Bioinformatics, eLearning, and eGovernment. Dr. Bolchini has disseminated his research through more than 80 peer-reviewed publications in major international conferences and journals, and he actively serves as reviewer and program committee member on several international venues.

Development Plans/Needs:

1. Future research & development plans include:
   a. Adding headline-level selection capabilities for building a flow based on reader interest.
   b. Improving the modes of interaction through the addition of vocal commands as a means for navigating the flow.

2. Identifying potential partners for commercial development