



PHOTON

ASSISTED PHOTO SHOOTING FOR THE BLIND

Fedor Tiršel - autumn 2010



Content



- introduction
- WWL and image sonification
- concept PHOTON-GATE-WEBGEN
- what we need
- image tagging
- known problems
- future work
- example of the image exploration

Introduction



- GATE
 - deploy utilities for easy image annotation
 - provide the blind with support for exploring image
 - develop system for image generation in means of dialogue
- WEBGEN
 - simplify the creation of web presentations to the blind
 - bridge to the GATE's Verbal Information Module

WWL and image sonification

- WHAT-WHERE language
 - WHAT is WHERE / WHERE is WHAT
 - questions are send to the server asynchronously
- image sonification
 - seven primary colors, black and white are handled specifically (special sound for each primary color)
 - any color is expressed as the mixture of the two closest primary colors
 - simultaneous playing of the three discernible sounds

Employment at University:

University: Masaryk university

Faculty: Faculty of informatics

Department: Department of computer science

Office: B 201

Office Hours: Monday: 10 a.m. - 12 a.m.

University Web Page: [Masaryk university](#)

Projects:

Project name: BrowserWebGen

Description: Web page generation using a dialogue

Co-authors: Paul Newman, John Stranger



Dialogue-based exploration

Sound-based exploration

[WebGen](#), 2009. Last Update: 30. 04. 2009

flickr [Welcome to Flickr - Photo Sharing](#)



Concept PHOTON-GATE-WEBGEN



- send my location and direction to server
- get set of near points of interest
- take photos
- add tags, make annotation
- publish on the web

What we need

- at least 3Mpix camera
- automatic focus
- GPS and digital compass
- multi-touch screen
- accelerometer
- voice control and voice over
- microphone and speaker
- Internet access
- current date and time



Image tagging



- location and direction
- date and time
- voice memo
- actual weather
- recognized objects, people

Known problems

- problematic control of touch screen
- uncertainty / unavailability of GPS (in cities)
- restrictions of EXIF
- slow hardware / small battery capacity
- limited upload speed



Future work



- finishing GATE and WEBGEN, start PHOTON
- real-time detection of objects and faces
- micro-navigation in buildings
- commercial use of whole concept

Thank you for attention!

fedor@mail.muni.cz
<http://lsd.fi.muni.cz/gate>
FI - B201