

Department of Computer Science Institute for System Architecture, Chair for Computer Networks

Application Development for Mobile and Ubiquitous Computing

DVB position information

Second Presentation

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Application Scenario



Map with moving signs for each bus/tram in monitored area



Application Scenario



User's position and live distance between him and vehicles





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- Loosely coupled system, ready for future extensions
- Data producer
 - Data from sensors are processed and available via remote interface
 - Position is predicted for few seconds into the future
- Data consumer
 - Periodically reads predictions according to request from clients
- Renderer
 - Mobile device asks periodically for current position and for predictions for approx. 10 sec.

How will caching be implemented (if)? We didn't want to compute predictions on each request, but have them already computed in real-time (if I remember correctly). If you want, you can add here some comments about how this will be done. tobias; 17.12.2009



Architecture





- Data producer
 - Enterprise Application
 - Data processing in Enterprise Java Bean (EJB)
- Data consumer
 - Web application (Server part)
 - Requests are handled by Servlet
- Renderer
 - Web application (Client part)
 - XHTML with JavaScript
 - Access to native functions is provided via PhoneGap (next slide)





- Gap between web applications and native applications for mobile devices
- Access to specific device behavior using JavaScript
- Multiple supported platforms
 - Android, BlackBerry, Palm and Symbian WRT (Web Runtime)
- Common API
 - Device properties, location, accelerometer, contacts, orientation, camera, vibrate, sound, phone calls
 - Code can be reused across platforms
- Disadvantages
 - Different build environment for each platform
 - Framework is still under development



- Request /Response Delays
- Different time on server and client
- network bandwidth

Client time, F	equested lines, (Locatio	on)
LINE #		
Clienttimestamp	Longitude	Latitude
3#66#99#		
Fri Dec 18 18:57:38 CET 2009	- Long: 13.7459679269339	9 Lat: 13.7459679269339
Fri Dec 18 18:57:40 CET 2009	- Long: 13.7459228557102	2 Lat: 13.7459228557102
Fri Dec 18 18:57:42 CET 2009	- Long: 13.7458720716939	9 Lat: 13.7458720716939
Fri Dec 18 18:57:44 CET 2009	- Long: 13.7458259887847	7 Lat: 13.7458259887847
Fri Dec 18 18:57:46 CET 2009	- Long: 13.7457853327392	2 Lat: 13.7457853327392
Fri Dec 18 18:57:48 CET 2009	- Long: 13.7457550249546	6 Lat: 13.7457550249546









Challenges

- Multiple clients
 - PhoneGap





Merge back end with front end



More clients



TECHNISCHE

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Work plan