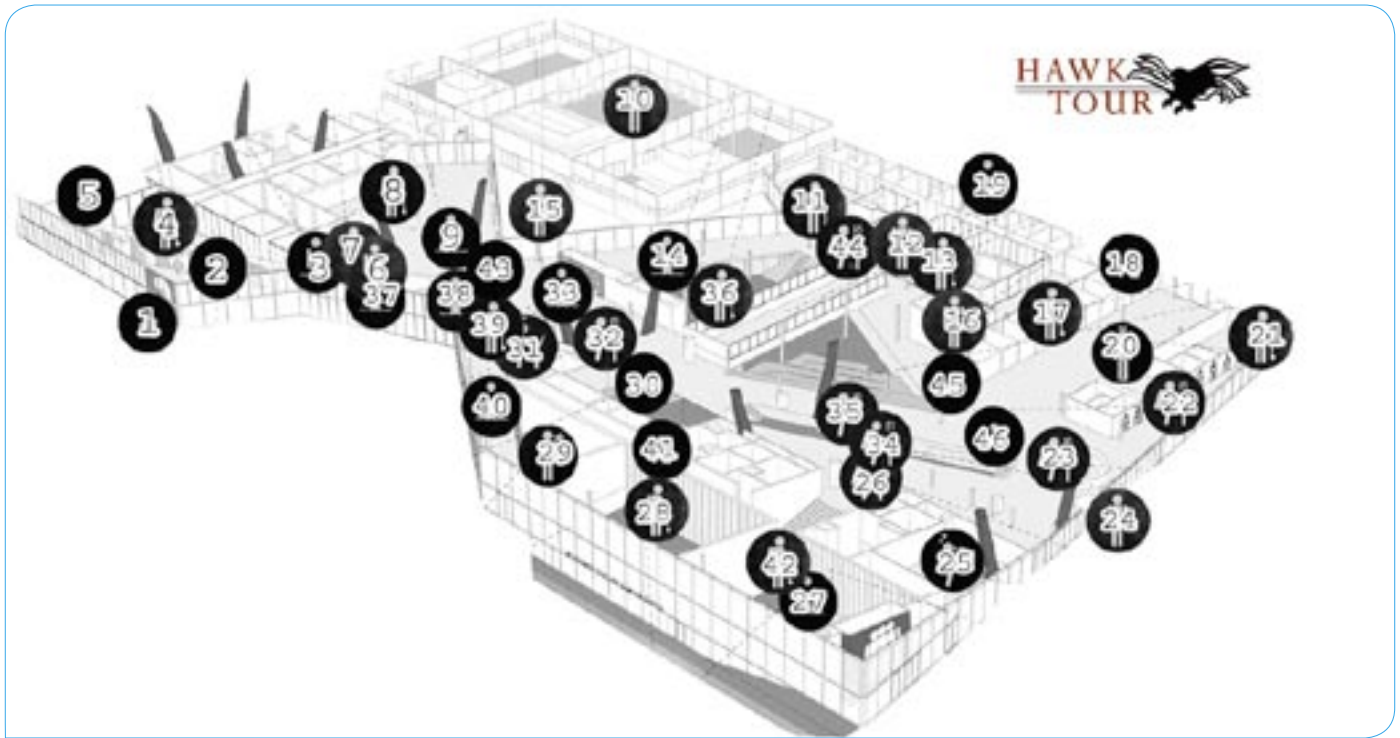


Hawk Tour – A Context-aware Visitor Guide



“Using Ekahau’s technology allows us to focus more closely on the other aspects of our project, and negates the need for us to worry about just how we’re going to get location information.”

Tyler Butler
Hawk Tour Team Leader

Challenge

In 2003 the Scalable Computing Software Lab in the Illinois Institute of Technology started a project for designing and implementing a digital visitor guide for the institute campus area. New students, their families and other visitors were to use this guide for exploring the campus area and its main attractions.

The vision of the team was to design and implement an application that will provide a completely new approach to touring the IIT campus. The application would run on PDAs or Tablet PCs and provide users with general campus information while guiding the user around the campus and would maintain continually awareness of the user’s current location and intent, thereby adapting the tour to the user’s own personal preferences and context.

Solution

The Visitor Guide, named Hawk Tour (<http://www.hawktour.net>), was launched in spring 2004. The solution consists of the Ekahau Positioning Engine, Content Database, Hawk Tour end-user application and Cisco WiFi network. For areas outside the coverage of the WiFi network an integrated GPS is used for providing the position to the end-user application. The solution was put together by the team in 12 months and covers a significant part of the campus area and provides 47 points of interest with context aware multimedia content.



HawkTour end-user application with a scaleable map, links to local points-of-interest and multimedia content.

Value

Hawk Tour is an excellent tool for students to learn about the campus environment and architecture. Another important benefit is that Hawk Tour saves the costs associated with human tour guides. The automated tour system is also very flexible and can be used anytime of the day.

The Hawk Tour project acts also as a showcase of the institute's know-how and as a basis for teaching development practices for systems and software to IT engineering students.

Applications

To determine the position of the user, Hawk Tour uses the Ekahau Positioning Engine, which makes use of the received signal strengths from Wi-Fi access points to determine positions of the user. The complete Ekahau solution includes the Ekahau Client that runs on the end-user's devices, Ekahau Positioning Engine, and Ekahau Manager that is a platform for creating positioning models of the area and analyzing positioning accuracy.

The location coordinates are provided to the end-user application via location service built with Java and deployed to an Apache Tomcat server. This location service queries coordinates from Ekahau and provides them to the application using the SOAP protocol.

The end-user application is a Java application that automatically presents a scaleable map of the local area and links of points-of-interest in the vicinity. The application loads multimedia content automatically from a content database based on the user's location.



Solution Benefits

No additional infrastructure costs as it makes use of the existing WiFi network

Can be used anywhere on the campus area

Saves costs associated with human tour guides

Can be used anytime of the day

www.ekahau.com
sales@ekahau.com
info@ekahau.com

West Coast Ekahau, Inc.
12930 Saratoga Avenue,
Suite B-9
Saratoga, CA 95070
Tel: 1-866-4EKAHAU
Fax: 1-408-725 8405
sales-america@ekahau.com

East Coast Ekahau, Inc.
620 Herndon Parkway Suite 200
Herndon, VA 20170
Tel: 1-703-481 9861
Fax: 1-703-481 9834
sales-america@ekahau.com

Europe Ekahau, Inc.
Tammasaarenlaituri 3
00180 Helsinki, Finland
Tel: +358 20 743 5910
Fax: +358 20 743 5919
sales-europe@ekahau.com

Asia Ekahau, Inc.
Suite 1002
Chuang's Tower
30-32 Connaught Road Central
Hong Kong
Tel: +852 3426 4770
Fax: +852 3426 4061
sales-asia@ekahau.com

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