

**INDOOR ORIENTATION SYSTEM
FOR VISUALLY IMPAIRED
EXAMPLE APPLICATION IN A LIBRARY BUILDING**

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Projects in **University Libraries**

University libraries are indispensable resources to reach academic and reliable information.

It is important for them to provide ease of access for visually impaired individuals in various areas by the projects they have developed.

Kastamonu University can be given as a good example to these centers that brings this type of projects to life.

Kastamonu University Library

Kastamonu University Library aims to enable visually impaired individuals to easily reach all points without the need for any help.

This is the reason why university library building was chosen as the place where the first step of the project will be realized.



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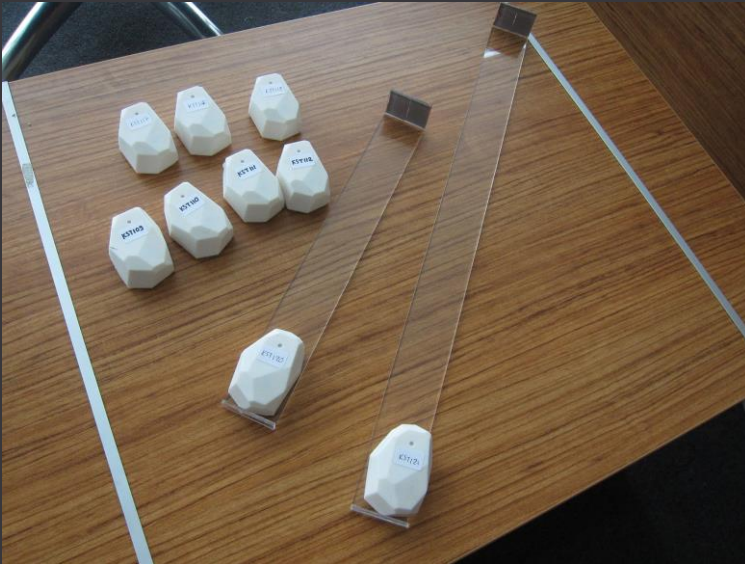
Indoor **Orientation System**

The system consists of four components:

- 1. Electronic transmitting network**
- 2. Mobile software**
- 3. Server software**
- 4. Mobile phone**

Electronic Transmitter **Network**

Electronic transmitters called beacons are placed on the walls and ceiling of the library building.

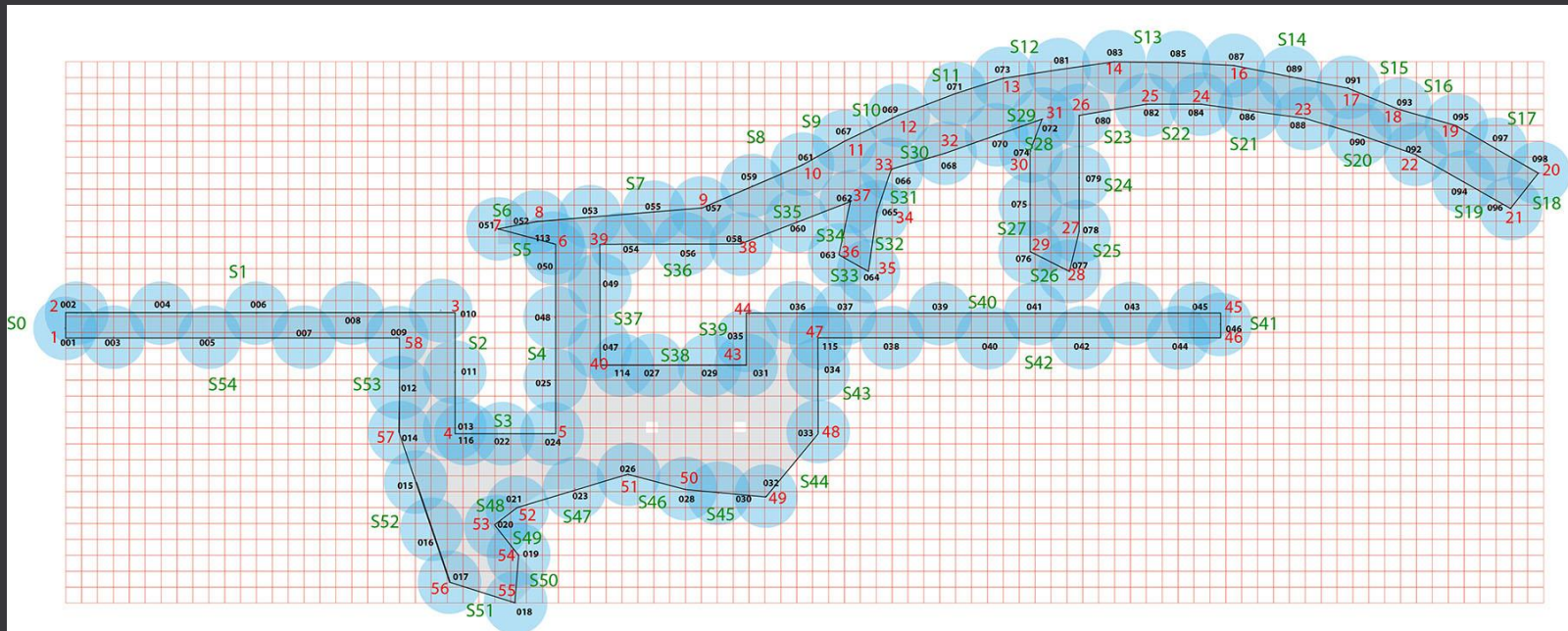


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Electronic Transmitter Network

Coverage area of an electronic transmitter starts at the point where the other ends. Thus, a coordinate system is formed in a continuous polygon-shaped area.



Mobile Software

Mobile software is called "Hear & Walk" in English. It detects the position of the user on the map via the data calculated by the server.

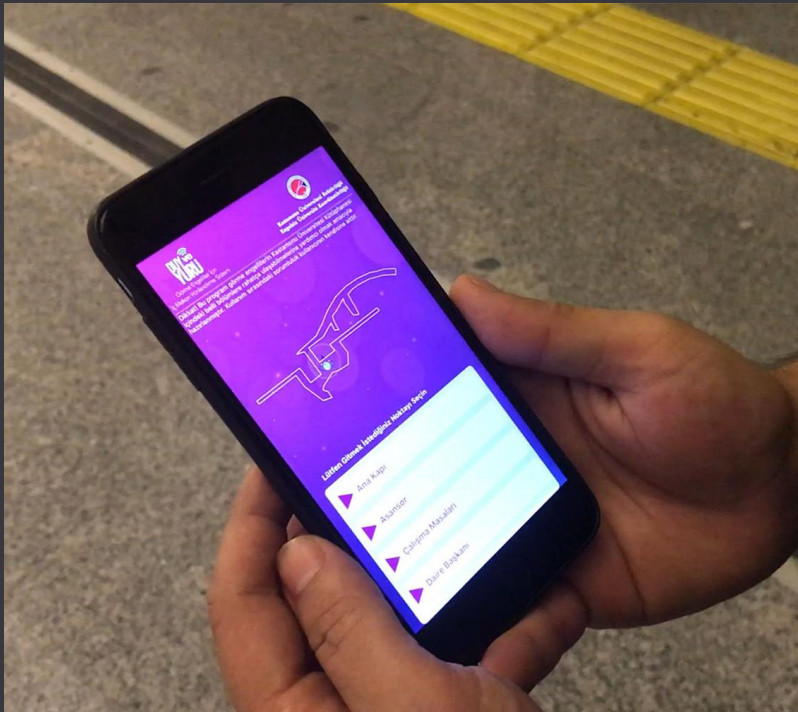


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Mobile Software

User opens the application before entering the library. It shows the map and also a list of some major points to go.

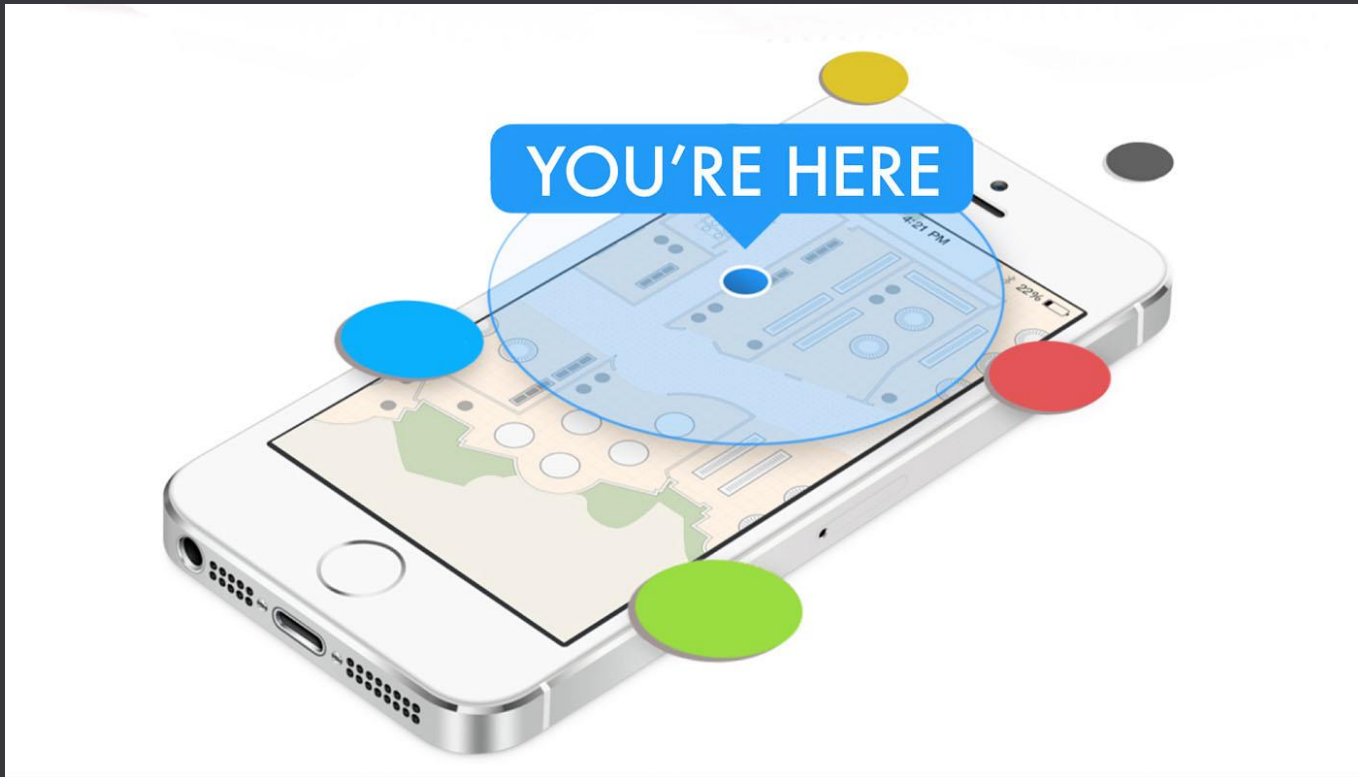


- Gates,
- Book landing desk,
- Reading rooms,
- Restrooms,
- Stairs,
- Elevators...

are some of the major points that are listed.

Mobile Software

Application shows the location of the user on the map simultaneously.

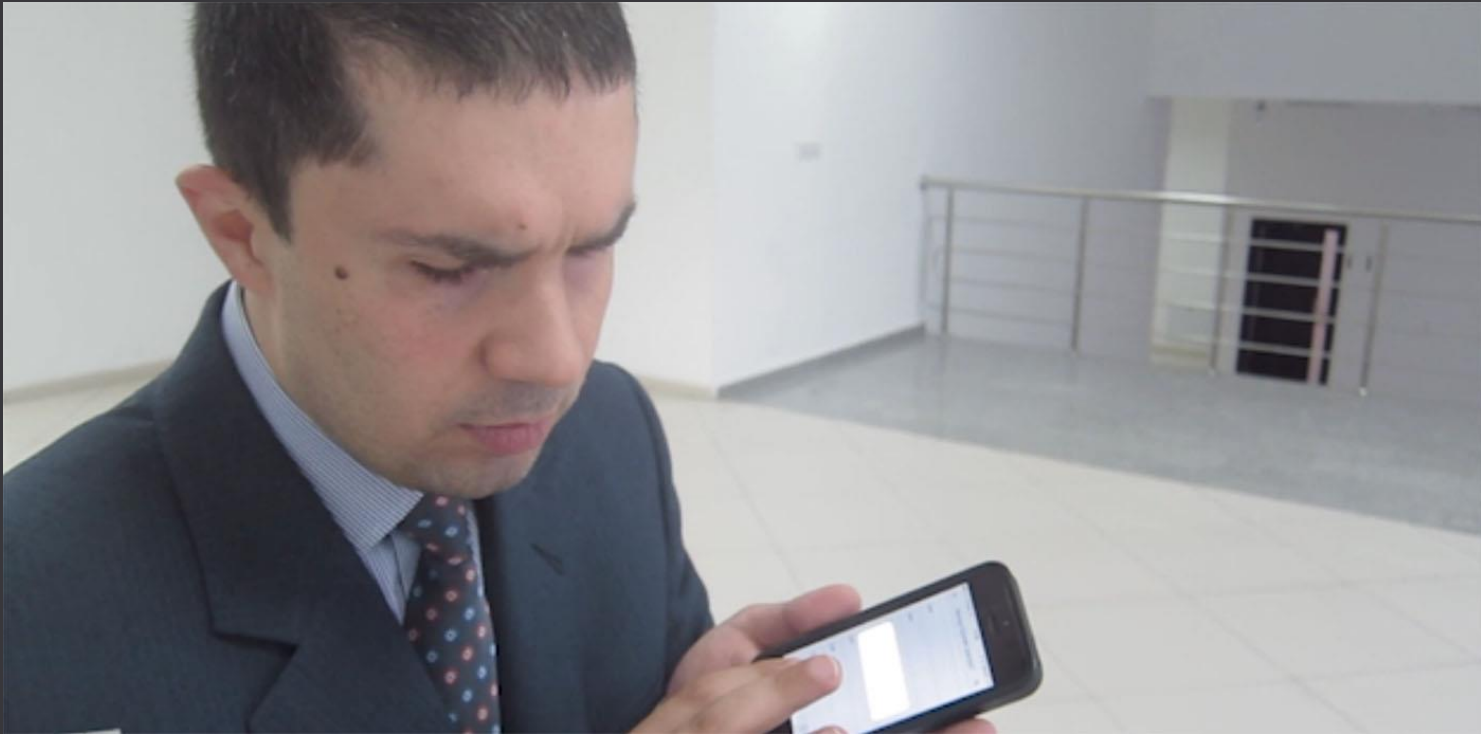


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Mobile Software

Information about points close to user location are automatically detected and spoken. It also directs user to the chosen point vocally.



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Next Step

It is in our future plans to spread this useful project out of the boundaries of the library and spread it all over the campus.

This practice is important in terms of opening up different ideas which will be developed after it and which will use similar or more advanced technological methods.

Thank You