

**ISTANBUL TECHNICAL UNIVERSITY
ELECTRIC - ELECTRONICS FACULTY**

**MOBILE TRANSPORTATION ASSISTANT
WITH ARTIFICIAL NEURAL NETWORKS**

Graduation Project

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To time travel and parallel universes,

Special thanks to all of our teachers, especially our advisor Yrd. Doc. Dr. Feza Buzluca, to Google and to all of our friends.

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MOBILE TRANSPORTATION ASSISTANT WITH ARTIFICIAL NEURAL NETWORKS

(SUMMARY)

MobiT helps you find your way in the public transport systems (subway, bus, trams ...) with a given criteria (quickness, economical, comfortable, reliable, touristical) in a particular city. It supports PocketPC's and WAP enabled devices. It uses a decision engine built from a multilayered artificial neural network. Therefore it is a smart system with learning capabilities.

With using a mobile device, you can arrange your criterias and then ask for the optimum path according to your criterias and can send a feedback about the path to personalize the smart agent behind the system.

All requests with mobile devices are transferred to XML Web Service and it connects to database system or smart agent and obtains the results and sends them back the mobile devices. All these operations are handled with layered software architecture with full modularity.

Traveling is modeled as a graph and a depth-first algorithm is used to travel over it. The costs of the vertices are calculated with an artificial neural network, according to user's criterias and the road's capabilities.