

"We knew that people were downloading digital music illegally from the internet. As Turkey's leading internet service provider, we felt obliged to provide a lawful way for our subscribers to take advantage of this service. We told iNNOVA's software development team what we wanted to do and the result was the TTNET MUSIC portal."

Serhan Algim, TTNET Retail Marketing Manager

"We created TTNET MUSIC in a remarkably short time by blending huge music data base, TTNET's subscriber management system, and Türk Telekom's hosting services into a single platform. In fact one of the reasons why we chose Microsoft SharePoint in the first place was the ease and speed with which this could be done. The fact that we've not encountered a single problem so far and have had favorable feedback from users tells us that we took the right approach to this project."

V. İbrahim Uğur, iNNOVA Applications Development Manager

FUTURE READY SOLUTIONS

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Turkey's biggest internet service provider, TTNET was set up as a subsidiary of Türk Telekom in April 2006. According to year-end 2007 figures, some 97% of all internet subscribers in Turkey are being served by TTNET.



iNNOVA IT Solutions, Turkey's leading software integrator, provides platform independent IT solutions and services to enterprises in the telecommunications, finance, manufacturing, public and service industries with a professional staff of 320. iNNOVA is ISO 9001:2000 certified and our installed base of systems provide service to more than 180 million subscribers and process more than three billion transactions a year. Founded in 1999, iNNOVA has joined the Turk Telecom group of companies in 2007. The company operates out of offices in Istanbul, Ankara, Izmir and Dubai.

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Turkey's first lawful digital music archive...

Awarded as
**Most Successful
Project of the Year**
by Microsoft

“Someone who composed a song even thirty years ago still receives the benefit of his efforts when the music is listened to on the TTNET MUSIC platform: that's the beauty of lawful music downloading...”

Serhan Algim, TTNET Retail Marketing Manager



TTNET MUSIC PORTAL

Microsoft
**Office SharePoint
Server 2007**



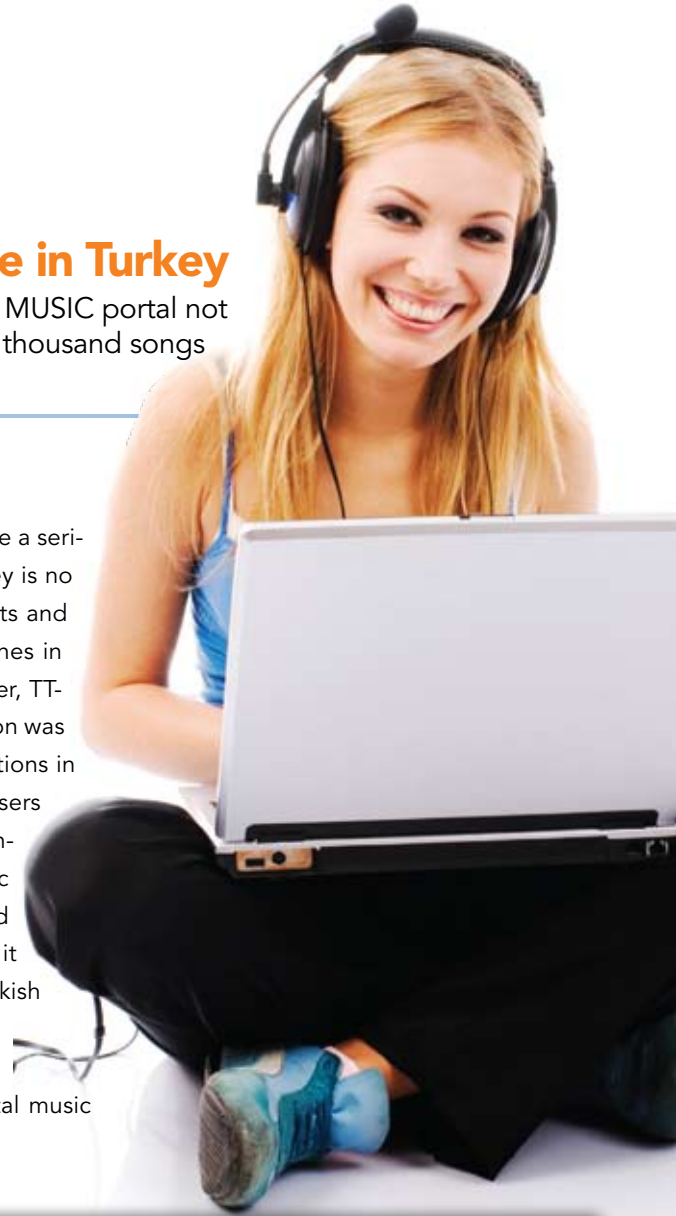
The most extensive digital music archive in Turkey

TTNET's millions of subscribers can take advantage of the TTNET MUSIC portal not just to listen to an outstanding collection of more than a hundred thousand songs but also to download the music to their own computers as well.



Combating music piracy...

With the spread of the internet, music piracy has become a serious problem all over the world and in this respect Turkey is no exception. Websites hosting pirated music caused artists and publishers huge losses and there were significant declines in album sales. As Turkey's biggest internet service provider, TTNET felt called upon to deal with this problem. Its solution was to enter into agreements with music producers' associations in order to create an internet portal that would permit its users to listen to whatever music they wanted lawfully and without having to pay anything. Thanks to this portal, music copyright owners would continue to be compensated when users listened to a piece online or downloaded it to their own computers. Collaborating with MÜ-YAP (Turkish Phonographic Industry Society) and with other professional organizations, TTNET overcame the legal problems involved in making the most extensive legal digital music



AT A GLANCE

PROJECT OBJECTIVES

- A platform suitable for the lawful distribution of Turkish music.
- An infrastructure that allows 5 million TTNET subscribers to easily listen to and download about 100 thousand Turkish songs over the internet.
- A music portal that contains information about the latest news and developments in the world of music.

INFRASTRUCTURE

- Microsoft Office SharePoint Server 2007 Internet Edition
- MS SQL Server 2005 Enterprise Edition

RESULTS

- An infrastructure that is scalable both horizontally and vertically.
- Complete integration of the portal into the TTNET environment.



archive in Turkey available to users over the internet. That done, now it was necessary to create a trouble-free portal that millions of subscribers would be able to use to listen to songs and download them from this gigantic archive... And that was when iNNOVA's deep knowledge and experience with internet portals came into play.

Microsoft Office SharePoint Server 2007

As a result of discussions between iNNOVA and TTNET it was decided that the best solution was to construct the music portal on a Microsoft Office SharePoint Server 2007 platform. There were two important reasons for this decision. The first was cost considerations and the second was limited time constraints.

Designing an IT architecture

Creating from scratch an internet portal through which millions of people would be able to listen to a gigantic archive of 100 thousand songs would have meant authoring the biggest music portal ever undertaken in Turkey. Given that each one of the songs was at least 3 megabyte in size, dealing with the technical aspects of the portal was a matter of vital concern.

Each song had to be indexed according to dozen or so criteria such as artist name, album name, album cover art, production year, genre, and so on. Considerable time also had to be spent on addressing the search infrastructure and navigation system so that users would be able to easily find what they were looking for in such a vast archive. One of the first decisions made was that TTNET subscribers should use their own TTNET e-mail account ID information to access the website rather than create a new account solely for that purpose. Once a user's ID had been authenticated by the TTNET mail server, the other information about him could be plucked from the TTNET CRM (Customer Relationship Management) data base. Various limits, such as the number of songs that could be downloaded in a month, also had to be imposed on use depending on a subscriber's rate schedule.

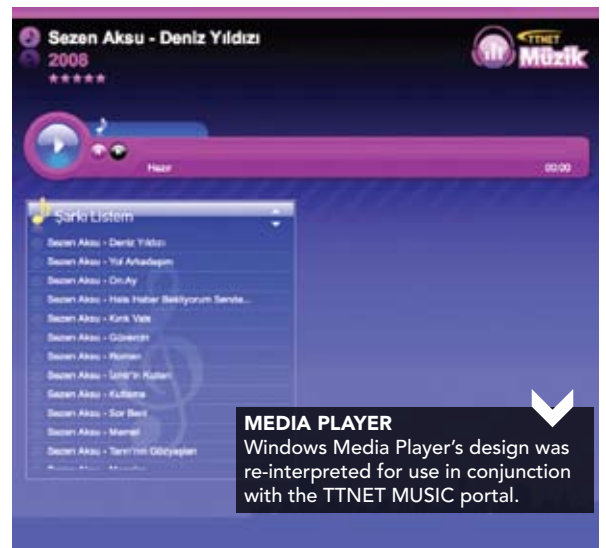
Latest music world news

Another concern was that TTNET subscribers should be given access to the latest music world news while



WHILE LISTENING TO MUSIC ON THE TTNET MUSIC PORTAL, USERS ARE ALSO GIVEN ACCESS TO THE LATEST NEWS AND INFORMATION ABOUT THE TURKISH MUSIC INDUSTRY. IN ADDITION, THEY CAN VOTE ON EVERY PIECE THEY LISTEN TO AND MAKE RECOMMENDATIONS ABOUT IT TO OTHER USERS.

listening to music online. Ajax programming techniques were employed so that the website's text could be easily read without having to reload a page when creating playlists. After creating playlists of the pieces they want to listen to on TTNET MU-



SIC, users can share them by sending them to their friends if they want. Each song can be voted on by users and the results of this poll are used to create "most popular" charts that are shown on the website's home page. Other content on the portal's pages can be updated instantaneously by TTNET MUSIC editors as circumstances require.