

# Muhammet TURŞAK

- Curriculum Vitae -

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 **Date of Birth** : 1982

 **Place of Birth** : Kocaeli / TURKEY

 **Nationality** : Turkish

 **Military Obligation** : Performed (*completed in 2008*)

 **Driving License** : A Class (*since October 2005*)

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## **1. CAREER OBJECTIVE**

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### **Vision:**

*To make impactful contributions to global software products that exemplify technological excellence, deliver strong business value, and influence the broader ecosystem. I aspire to be a driving force behind innovative solutions that define industry standards and set new benchmarks in their respective domains.*

### **Mission:**

*As a seasoned Chief Software Architect, my mission is to lead the design and development of large-scale enterprise software systems. I focus on guiding core development teams in building **frameworks**, key infrastructure components, and reusable tools. I specialize in delivering proof-of-concept solutions that are **cost-effective**, **scalable**, **easy-to-maintain**, **secure**, **high-performance**, and **traceable**—ensuring delivery within time and **budget constraints**.*

### **Leadership Roles & Experience:**

- **Software Group Director** - 12+ years
- **R&D Director** - 5 years
- **Project Manager** - 10+ years
- **Software Architect** - 12+ years
- **Software Team Lead** - 10+ years

## **2. PROFESSIONAL OVERVIEW**

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<b>25</b> years of <b>Professional Experience</b>	<b>20</b> years of <b>Management Experience</b>	<b>22</b> years of <b>.NET Experience</b>	<b>25</b> years of <b>Web Dev. Experience</b>
since 2000	since 2005	since 2003	since 2000

- 50+** Total Projects
- 10+** Research & Development Projects
- 10+** International Projects
- 5+** National Projects
- 5** Major Domains

# 24 YEARS OF EXPERIENCE

## 3. WORK EXPERIENCE

	<b>Jengai LLC</b> 2023 - Present	Director of Technology & Senior Software Architect	
	<b>Gamyte LLC</b> 2019 - 2023	Director of Technology & Senior Software Architect	
	<b>ERC Group Engineering, Consultancy and R&amp;D Services Co.</b> 2013 - 2019	Senior Software Architect and Group Leader	
	<b>DataSel Information Systems Co.</b> 2012 - 2013 2011 - 2012	Senior Software Architect and Group Leader Senior Software Developer	
	<b>Fonet Software Co.</b> 2010 - 2011 2009 - 2010	Research & Development Director Software Team Leader	
	<b>Halıcı Informatics &amp; Software Co.</b> 2007 - 2008 2005 - 2007 2004 - 2005	Software Production and Planning Director Project Manager and System Analyst .NET Application Developer	
	<b>METU Computer Education and Instructional Tech. Dep.</b> 2003 - 2004	Web Programmer and Designer	
	<b>METU Informatics Institute</b> 2003 - 2004 2002 - 2003	Software Developer Web Developer & Designer	
	<b>Labris Technology</b> 2003 - 2004	Web Developer & Designer	
	<b>IEEE METU Student Club</b> 2003 - 2004	Chief of Web Team	
	<b>METU Communication Club</b> 2002 - 2003	Web Developer & Designer	
	<b>Netteyim.net</b> 2001 - 2002	Webmaster	
	<b>Informatics Association of Turkey / Youth Branch</b> 2000 - 2001	Webmaster	

## 4. AWARDS

### XI. Technology Awards Finalist in Turkey - 2014

 Issuer: Tubitak, TTGV, TUSİAD

AviCenna VKBS is selected as finalist in XI. Technology Awards organized by TTGV, TUBITAK, TUSİAD in Turkey. It is a R&D projects about DRG Costing Calculation that also used by MOH of Turkey in 2011 and the first DRG costs and DRG weighted values are calculated by AviCenna VKBS in Turkey.

## 5. PROJECTS

Domains

 Health Informatics  20+ projects 7+ years of exp.	 E-Learning  10+ projects 8+ years of exp.	 ERP & CMS  10+ projects 7+ years of exp.	 E-Commerce  5+ projects 5+ years of exp.
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Project Types

 Software Development Frameworks  5+ projects 10+ years of exp.	 Enterprise Portal Systems  15+ projects 15+ years of exp.	 Backend Services  8+ projects 15+ years of exp.	 Online Video & Conferencing  5+ projects 8+ years of exp.
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### Other Project Types:

- Desktop Applications
- Console & Windows Desktop Applications
- Network Applications
- Automation Systems and Web Robots
- Editor/Designer Applications
- Video and Live Broadcasting Applications
- Games, Multimedia Projects & Graphics Design

## ***Customers***

### ***International:***

- SPMS - Portugal
- SMS - Spain
- So.Re.Sa - Italy
- Lifewatch AG - USA
- Ministry of Health - KSA
- Ministry of Interior - KSA
- Ministry of Health - Uzbekistan
- UNHCR
- Papers & Rogers
- Democratic Left Party

### ***Turkey:***

- Lifewatch Turkey
- Ministry of Health
- Ministry of Education
- General Directorate of Security
- Public & Private Hospitals
- National Productivity Center
- Turkish Democracy Foundation
- Turkish Intelligence Foundation

### **Major Projects**

1. Jengai Portal (SaaS)
2. Avicenna PDFW Web Framework
3. Fonet Framework
4. Avicenna Product Development Framework
5. Fonet Studio
6. Avicenna Telemedicin Platform (ATTP)
7. Lifewatch Telemetry Monitoring Portal
8. Avicenna ATTP Mobile
9. Avicenna Case-Mix Information System (Vaka Karması Bilgi Sistemi)
10. Avicenna Clinical Coding Quality Rule Engine (CQRE)
11. Eczacıbaşı Sağlık Takipçim (ATHP)
12. Remote Patient Management System (RPMS)
13. Fonet Advanced Log Module
14. Avicenna Emergency Information Management System
15. Avicenna Ambulance Information Management System

## ***Business Partners***

### ***International:***

- Gnomon - Greece
- CERTH - Greece
- Promptly - Portugal
- Medisante - Switzerland
- GPI - Italy
- Ucell - Uzbekistan
- Etisalat - UAE
- HAAD & GreenRain - UAE
- Welch Allyn - USA
- Cisco - USA
- IBM - USA

### ***Turkey:***

- TTNET
- Avea
- Eczacıbaşı
- Koç System
- METU

16. Avicenna Clinical Management System (Cms)
17. Halsoft e-Learning Portal
18. Halsoft Portal
19. Online Course Management System (OCMS)
20. General Directorate Of Security Distance Education Portal
21. Distance Education Portal Of Ankara University
22. Democratic Left Party (Official Web Portal)
23. BÖTEB Online
24. The UN Refugee Agency Turkey (Official Web Portal)
25. Customer Support Center
26. METU Communication Club (Official Web Portal)
27. XMessenger
28. Efsane
29. EDİSA (E-Learning Content Authoring Tool)

## 6. TECHNICAL SKILLS

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*My expertise is centered around Web Technologies, Cloud Services, and .NET Solutions.*

### Details

#### ◆ CLOUD

- AWS
- Azure
- DigitalOcean
- Heroku
- Google Cloud
- Alibaba Cloud

good  
excellent  
good  
good  
beginner  
beginner



#### ◆ IDE

- Visual Studio .NET
- VSCode
- Eclipse
- Blend for Visual Studio
- Macromedia Dreamweaver

excellent  
excellent  
excellent  
excellent  
excellent



#### ◆ ALM Tools

- Git
- Gitlab
- Github
- TFS
- Mercurial
- Nuget
- Npm
- ProGet
- Docker Registry
- Nexus
- Grunt
- Maven
- Apache Ant
- Visual SourceSafe
- SVN

excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
good  
excellent  
good



#### ◆ DEVOPS & SYSTEM

- Jenkins
- Docker
- Docker Swarm
- Kubernetes
- VMware
- Linux Shell Scripting
- PowerShell Scripting
- Prometheus
- Grafana
- Zabbix
- Traefik
- Portainer
- Swarmpit

excellent  
excellent  
good  
beginner  
excellent  
good  
good  
good  
good  
good  
good  
good  
excellent  
good



## ◆ PROGRAMMING/SCRIPTING LANGUAGES

C#.NET  
Java  
JavaScript  
VB.NET  
C++  
C  
Python

excellent  
good  
excellent  
excellent  
average  
average  
average



## ◆ WEB - SERVERSIDE TECHNOLOGIES

ASP.NET  
ASP.NET MVC  
ASP.NET WebApi  
ASP.NET Core  
SignalR  
NodeJS  
ASP  
JSP  
PHP

excellent  
excellent  
excellent  
excellent  
excellent  
good  
good  
good  
excellent



## ◆ WEB - CLIENTSIDE TECHNOLOGIES

Angular  
AngularJS  
Ionic2  
TypeScript  
HTML5  
CSS3  
Silverlight & XAML  
Ajax  
JSON  
JQuery  
KnockoutJS  
RequireJS  
Bootstrap  
Sass & Less

excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent  
excellent



## ◆ WEB - SERVERS

IIS  
Apache Tomcat  
Nginx  
Jetty

excellent  
excellent  
excellent  
excellent



## ◆ MOBILE DEVELOPMENT

Ionic  
Apache Cordova  
Xamarin

excellent  
good  
beginner



## ◆ DESKTOP - CLIENTSIDE TECHNOLOGIES

WinForms  
WPF  
Swing  
JavaFx  
Electron

excellent  
excellent  
excellent  
good  
beginner



## ◆ SERVICE ORIENTED ARCHITECTURE

WCF  
Web Services  
oData  
oAuth  
REST Services & JSON  
GraphQL  
gRPC

excellent  
excellent  
excellent  
excellent  
excellent  
beginner  
beginner



## ◆ COMPONENTS

Angular Material  
Telerik RAD Components  
Telerik KendoUI  
PrimeNG  
D3JS  
  
Telerik Reporting  
FastReports  
Crystal Reports  
Infragistics

excellent  
excellent  
excellent  
good  
good  
  
excellent  
excellent  
excellent  
excellent



## ◆ DATABASE

Oracle & PL/SQL  
MS-SQL & T-SQL  
MySQL  
PostgreSQL  
MongoDB  
  
Couchbase  
Redis  
Ms Access  
EntityFramework & LINQ

excellent  
excellent  
excellent  
beginner  
beginner  
  
beginner  
beginner  
excellent  
excellent



## ◆ GRAPHIC & ANIMATION SOFTWARES

Adobe Photoshop  
MS Blend  
Macromedia Flash

excellent  
excellent  
excellent



## ◆ TESTING

jasmine  
MSTest Framework  
Microsoft Test Explorer  
SoapUI  
Postman  
Fiddler

beginner  
good  
good  
good  
good  
good

## ◆ OS

Windows Servers  
Linux (Ubuntu, CentOS)  
MacOS

excellent  
good  
beginner

## **Methodologies, Principles & Practices**

- Proficient in Scrum and Agile development methodologies
- Skilled in applying standard and enterprise-level design patterns
- Awareness of common anti-patterns and how to avoid them
- Strong background in Object-Oriented Design and Development
- In-depth knowledge of SOLID principles and their real-world applications
- Practiced in continuous code improvement through active refactoring
- Experienced in Dependency Injection and Inversion of Control
- Familiar with UML and modeling tools for system design
- Test-Driven Development (TDD) practitioner
- Knowledge of graceful degradation strategies for application resilience
- Competent in Mobile-First and Web-First design principles

## *Other Experiences and Technical Knowledge*

- Profiling and optimizing performance in Windows and web applications
- Design and development of multi-layered and N-tier software architectures
- Hands-on experience with microservices architecture
- Advanced usage of .NET Reflection for dynamic operations
- Automated document generation using Microsoft Office templates (e.g., exam booklets)
- Development of tools compatible with e-learning standards like SCORM
- Integration and use of AJAX across multiple platforms
- Designing systems with web service support and integration
- Building dynamic reports and visualizations in both web and desktop apps
- Real-time image generation and manipulation
- Implementing session-based file access and logging mechanisms
- Development of automated tools for web parsing and data reporting
- Creation of web and desktop-based automation solutions
- Building feature-rich editor applications for both web and Windows
- Designing modular and plugin-enabled applications
- Parsing and reporting website analytics data from sources like Google Analytics

## **7. EDUCATION BACKGROUND**

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Academic Background  
2012-2013



**Graduate School**  
■ Middle East Technical University, Ankara  
■ Department of Software Management

<b>Course</b>	<b>Grade</b>
• Project Management (OOD, Use Cases, UML, OCL, Design Patterns)	AA

2004-2007



**Graduate School**  
■ Middle East Technical University, Ankara  
■ Computer Education and Instructional Technologies Department  
Graduate Date : September, 2007  
Graduation Grade : 3.68 / 4.00

<b>Major Courses</b>	<b>Grade</b>
• Design Patterns (OOD, Use Cases, UML, OCL, Design Patterns)	AA
• Total Quality Management (Strategic Planning)	AA
▪ Multimedia Information Systems (OS, Networks, Data Types, Compression)	BB
▪ Distance Education	AA
▪ Telecommunication in Education	AA

1999 - 2004



**Undergraduate School**  
■ Middle East Technical University, Ankara  
■ Computer Education and Instructional Technologies Department  
Graduation Date : June, 2004  
Graduation Grade : 3.80 / 4.00

<b>Major Courses</b>	<b>Grade</b>
• Programming Languages I (Pascal)	AA
• Programming Languages II (Visual Basic)	AA
• Authoring Languages on PC Environment (Macromedia Authorware)	AA
• Instructional Technology and Material Prepar. AA (Macromedia Flash MX)	AA
• Introduction to C	AA
• Introduction to C++	AA
• Advanced Object Oriented Programming (Java)	AA
• Fundamentals of Data Systems (SQL)	AA
• Authoring Languages on Internet (HTML, JavaScript, ASP, PHP, .NET)	AA
• Computer Network Systems	AA
• Routing Configuration and WAN Technologies	AA

- 3D Educational Game Development I AA  
(DarkBasic)
- 3D Educational Game Development II AA  
(3D Max, Rhinoceros, Adobe Atmosphere)

**1995 - 1999**



**High School**

■ **Kocaeli Technical High School, Kocaeli**

■ Computer Programming Branch

**Major Courses**

- Pascal
- Visual Basic

## Certificates

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**1**

### PROJECT MANAGEMENT

- Date : 2, 3, 9 February 2005  
 ■ Place : METU Continuing Education Center  
 ■ Presenter : Doç. Dr. Levent Kandiller

**Context:**

- Time Management
  - Project networks
  - PERT Analysis
- Resource Management
- Risk Management
- Cost Management
- Analysis of a sample Project
- Hands-on Application on Microsoft Project Software
- European Union Projects
- Organization and procedures of EU Projects
- EU Project life cycle
- European Union Projects' Actors

**2**

### MICROSOFT TECHNOLOGIES VS 2005 AND TEAM FOUNDATION SERVER

- Date : 9 February 2005  
 ■ Place : Ankara Hilton Oteli Çankaya Salonu  
 ■ Presenter :

**Context:**

- SQL Server 2005 and .NET Integration
- Visual Studio 2005:  
Team Work in Software Development

## Offered Seminars & Conferences

1

### 3D GAME-LIKE LEARNING ENVIRONMENTS in EDUCATION

 Organization	: BTIE 2004
 Date	: 22 May 2004

#### Context:

- Presentation of Undergraduate Thesis “EFSANE” which is 3D game covering some Physics topics.

## Language Education, Exams and Skills (English)

### 1. Language Skills

<input checked="" type="checkbox"/> Reading	: Very Good
<input checked="" type="checkbox"/> Writing	: Very Good
<input checked="" type="checkbox"/> Speaking	: Good

### 2. Academic Education in Language

- METU Basic English School  
*in 1999 - 2000 Academic year (1 year)*
- ENG 101 ENGLISH-READING AND WRITING SKILL DEVELOPMENT I (CB)  
*during METU Undergraduate Education*
- ENG 102 ENGLISH-READING AND WRITING SKILL DEVELOPMENT II (AA)  
*during METU Undergraduate Education*
- ENG 211 ENGLISH - READING AND VERBAL COMMUNICATION (AA)  
*during METU Undergraduate Education*

## **8. REFERENCES**

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 E-Mail : [mikael@karon.se](mailto:mikael@karon.se)

## APPENDIX 1: PROJECT DETAILS

### Major Projects

#### **AVICENNA PDFW WEB FRAMEWORK**

- *DataSel Information Systems Co.*
- *ERC Group Engineering, Consultancy and R&D Services Co*
- *Software Development Framework*



The **Enterprise Application Development Framework** is a modular, full-stack development infrastructure designed to unify the creation of both **web** and **mobile** enterprise applications under a single, scalable codebase. Its primary objective is to **streamline development workflows**, **promote code reuse**, and **accelerate delivery** by offering a consolidated architecture that supports deployment as either **progressive web applications** (PWAs) or **native mobile applications** through platform-specific wrappers. This framework lays down robust **foundational components** for both the **frontend** and **backend**, allowing development teams to rapidly build enterprise-grade applications with high performance, maintainability, and cross-platform compatibility.

The frontend architecture is based on modern web standards, including **HTML5**, **CSS3**, and **JavaScript**. It employs **AngularJS** and **jQuery** as core libraries to manage application state, DOM manipulation, and component-based development. The user interface adheres to **responsive and adaptive design principles**, facilitated through **Twitter Bootstrap** and additional UI animation libraries to ensure optimal rendering across devices and form factors.

The frontend delivers both a **rich visual layer** and a **core framework environment**, providing reusable UI modules such as:

- Dynamic, data-bound **Grids and Forms**
- Field-level component customizations
- Modular and themable UI components
- Built-in support for visual consistency and layout management

The **backend** is built on a robust and extensible stack centered around **.NET Core**, offering high performance, cross-platform execution, and strong integration with modern development patterns. It incorporates:

- **ASP.NET MVC** and **Web API** for request handling and RESTful service exposure
- **Entity Framework Core** as the Object-Relational Mapping (ORM) layer
- A **Repository Pattern** implementation to abstract data access and promote unit testability
- Built-in security and performance layers for authentication, authorization, and optimization

### Key Features

- **Cross-platform Codebase:** Enables unified application development for web and mobile platforms.
- **Responsive UI Components:** Custom-built, mobile-friendly widgets with dynamic data binding.
- **Base API & Repository Infrastructure:** Accelerates backend service development with reusable templates.
- **Dynamic Field Editor:** Allows real-time rendering of configurable forms and views.
- **Authentication & Authorization Module:** Supports role-based access control, oAuth, and token management.

- **Menu & Routing Manager:** Centralized configuration for navigation and modular app structure.
- **Schema Serializer:** Facilitates structured communication between frontend and backend.
- **Notification System:** Enables real-time alerts and system-wide communication.

#### Technology Stack

- **Frontend:** AngularJS, jQuery, Bootstrap, AngularStrap, CSS3/HTML5, linqjs
- **Backend:** .NET Core, ASP.NET MVC & Web API, EF Core, Repository Pattern, C#, JSON
- **DevOps & Deployment:** Docker
- **Tools:** Visual Studio .NET, Jenkins
- **Databases:** MS SQL Server, Oracle Db, MongoDB
- **Security:** oAuth, JWT tokens, Role-based access controls

## JENGAI PORTAL



*Jengai LLC*

*SaaS Platform*

The **Jengai Platform** is an advanced, **cloud-native, AI-powered Software as a Service (SaaS)** solution, developed and operated by **Jengai LLC**, designed to revolutionize the estimation lifecycle in the construction industry. Purpose-built to handle the complexities of project cost planning, it offers a highly modular and intelligent environment for estimation, bid management, and contractor coordination.

Engineered for **scalability** and **real-world efficiency**, the platform is trusted by **internal and external estimation teams** serving multiple concurrent users and projects seamlessly. It integrates critical construction domain data—such as materials, labor, and pricing references—into a unified digital workspace, enhancing both precision and speed of execution.

As the **Director of Technology and Chief Software Architect**, I am responsible for leading the engineering organization, defining **technical architecture**, and aligning the development roadmap with both product vision and long-term **scalability** requirements. My role involves the strategic selection and implementation of cutting-edge technologies that empower the team while ensuring code quality, maintainability, and operational resilience.

The platform's development process is rooted in **Agile/Scrum methodologies**, enabling adaptive planning and continuous improvement. Releases are governed through structured sprint cycles with DevOps pipelines to ensure rapid iteration and reliable delivery.

From an architectural perspective, the Jengai Platform adopts a **service-oriented architecture**, with asynchronous communication and layered design principles. Backend services are developed using **.NET Core** and **ASP.NET Core**, chosen for their performance, flexibility, and strong ecosystem support. Data access is abstracted via the **Repository Pattern** and **Entity Framework Core**, while the frontend leverages **Angular** for building scalable and maintainable single-page applications.

Advanced functionality is driven by embedded **AI services**, implemented in **Python** using machine learning and data processing libraries to support smart estimation logic and predictive analytics. All environments are deployed to **Microsoft Azure**, benefiting from elastic compute, managed services, and robust cloud security.

DevOps operations are fully integrated with **Azure DevOps**, enabling CI/CD automation, version control, test management, and artifact handling within a single unified workflow.

#### Technology Stack:

- **Backend:** .NET, ASP.NET Web API, C#, Entity Framework, Repository Pattern, DI

- Frontend: AngularJS, TypeScript, Bootstrap, AngularStrap, jQuery, linq.js
- Database: Microsoft SQL Server
- Development Tools: Visual Studio .NET, LINQ

## PROEMPOWER - DM4ALL SOLUTION

 *ERC Group Engineering, Consultancy & R&D Services Co. & Gnomon Informatics SA Consortium*  
 *Specialized Diabetes Management Platform*



**DM4ALL** is a **specialized, web-based Diabetes Management Platform** designed to empower patients with Type 2 Diabetes Mellitus (T2DM) through personalized, ICT-driven self-management tools and decision support capabilities. Developed as part of a European Union-funded Pre-Commercial Procurement (PCP) initiative, the platform addresses the strategic goals of the **ProEmpower Consortium**, which aims to enhance chronic disease care through digital innovation and patient-centered approaches.

The DM4ALL solution provides a comprehensive suite of functionalities for both patients and healthcare professionals. These include real-time health monitoring, personalized treatment plans, secure communication with care teams, lifestyle tracking (e.g., nutrition, exercise, medication adherence), and intelligent alerts and recommendations powered by data analytics. The system is designed to promote active patient engagement, improve clinical outcomes, and reduce the long-term burden on national healthcare systems.

The platform is built on a robust technical foundation that ensures **scalability, performance, and interoperability** with national eHealth infrastructures. The backend leverages ASP.NET MVC, Web API, Entity Framework, and the Repository Pattern, all developed in C#, with built-in security and performance layers to ensure compliance with international standards. The frontend employs a Single-Page Application (SPA) architecture using AngularJS and TypeScript, providing a responsive and user-friendly experience across devices.

Interoperability with national health systems is facilitated through our proprietary integration middleware, **AHIN**, enabling seamless data exchange and compliance with regional healthcare standards. The solution has been successfully integrated and deployed in four EU member states: **Turkey, Italy, Spain, and Portugal**.

### Key Features:

- Patient dashboards for glucose, nutrition, and activity tracking
- Healthcare provider portals for remote monitoring and care coordination
- AI-powered clinical decision support
- Interoperability with national health information systems
- Role-based access control and data privacy compliance (GDPR)
- Multilingual and localized user interfaces

### Technology Stack:

- Backend: ASP.NET MVC, Web API, Entity Framework, C#, Repository Pattern
- Frontend: AngularJS, TypeScript, RequireJS, Bootstrap, AngularStrap, jQuery, AJAX
- Database: Microsoft SQL Server
- Development Tools: Visual Studio .NET, LINQ, linq.js

This platform not only addresses the clinical and operational challenges of chronic disease management but also serves as a scalable framework adaptable to other therapeutic areas requiring remote monitoring and patient engagement.

# AHIN - AVICENNA HEALTH INTEGRATION NETWORK

ERC Group Engineering, Consultancy and R&D Services Co.

Integration Platform for Healthcare Ecosystem



The **AHIN Platform** is a secure, standardized, and interoperable health data integration framework currently under active development. Its core mission is to provide a **single point of access** for health-related data belonging to both patients and healthcare providers. Designed to operate at the intersection of healthcare, technology, and security, the platform offers a scalable, extensible foundation for building digital health ecosystems that involve hospitals, clinics, diagnostic labs, insurers, government entities, mobile health applications, and medical devices.

The platform is intended to accelerate integration efforts across the healthcare sector by offering **standardized APIs**, reusable services, and robust authentication mechanisms that comply with modern security and interoperability requirements.

## Platform Architecture

The AHIN Platform is composed of multiple integrated modules:

- **Integration Services:** A set of secure, RESTful web APIs that enable the ingestion and exchange of structured health data from third-party systems and applications.
- **Management Console:** A web-based administrative interface for managing configurations, users, clients, routing, and monitoring.
- **Authentication Services:** Centralized identity and access management for both human users and client applications, leveraging standards such as OAuth2 and JWT.
- **Developer Enablement:** Includes a sandbox/test environment, interactive API documentation, SDKs, and reference implementations to streamline onboarding for third-party developers.

## Architecture Highlights

- Modular service-oriented architecture with extensible APIs
- Dynamic routing, client provisioning, and versioning support
- Stateless backend services designed for horizontal scalability
- Secure data flow with token-based authentication and role-based authorization
- Configurable audit logging and usage tracking mechanisms
- Designed with compliance and interoperability in mind (e.g., HL7/FHIR-compatible data structures planned for future phases)

## Technology Stack

- **Frontend:** AngularJS, jQuery, Bootstrap, AngularStrap, CSS3/HTML5, linqjs
- **Backend:** .NET Core, ASP.NET MVC & Web API, EF Core, Repository Pattern, C#, JSON
- **DevOps & Deployment:** Docker
- **Tools:** Visual Studio .NET, Jenkins
- **Databases:** MS SQL Server, Oracle Db, MongoDB
- **Security:** oAuth, JWT tokens, Role-based access controls



ERC Group Engineering, Consultancy and R&D Services Co.

Telemedicine Platform

The Telemedicine Platform is a sophisticated web-based solution designed to provide end-to-end healthcare management, integrating various modules that streamline the delivery of telemedicine services. The platform encompasses key functionalities such as order management, ECG monitoring and medical report delivery, inventory management, kitting workflows, supply chain management, system integrations, reporting, and security management.

The platform is developed using the Avicenna PDFW Web Framework, enabling efficient development, deployment, and management of the system's components while adhering to industry standards. The architecture is tailored to optimize telemedicine workflows, ensuring seamless communication between healthcare providers and patients while maintaining strict security and privacy standards.

## Core Modules

- **Order Management Module:** Manages patient orders, appointments, and healthcare requests, providing a structured workflow from initiation to delivery.
- **ECG Monitoring & Medical Report Delivery:** Enables real-time ECG monitoring and automated delivery of medical reports to patients and healthcare professionals.
- **Inventory Management:** Tracks medical supplies and equipment, facilitating the real-time management of stock levels and reducing waste.
- **Kitting Workflows Module:** Manages the assembly and packaging of medical kits, streamlining inventory processes for the distribution of necessary supplies.
- **Supply Chain Management:** Optimizes the entire supply chain process, from procurement to delivery, ensuring efficient logistics and resource allocation.
- **Integrations Module:** Connects with external systems, allowing seamless data exchange between the telemedicine platform and other healthcare or business systems.
- **Reporting Module:** Provides detailed reports on system activities, clinical data, and performance metrics for monitoring and decision-making.
- **Security Module:** Enforces data protection and access control policies, ensuring compliance with relevant healthcare regulations.

## Architecture Highlights

The platform is built with a focus on **scalability, performance, and security**, using a combination of robust technologies:

- **Backend:** Developed with **ASP.NET MVC** and **Web API**, leveraging **Entity Framework** and the **Repository Pattern** for data access and manipulation. The system is designed to ensure high performance, security, and ease of maintenance.
- **Frontend:** A **single-page application (SPA)** built using **AngularJS** and **TypeScript**, delivering a responsive, interactive user interface that improves the user experience for both healthcare providers and patients.
- **Database:** The system is backed by **MS SQL Server**, ensuring data integrity and reliability.
- **Security & Optimization:** Additional security features, including **OAuth** for authentication and role-based access control, as well as performance optimization techniques, are implemented across the platform.

## Technology Stack

- **Frontend:** AngularJS, TypeScript, RequireJS, Bootstrap, AngularStrap, jQuery, Ajax
- **Backend:** ASP.NET MVC, Web API, Entity Framework, Repository Pattern, C#, JSON
- **Databases:** MS SQL Server
- **Security:** OAuth, Role-based access controls
- **Tools:** Visual Studio .NET, LINQ

# LIFEWATCH TELEMETRY MONITORING PORTAL

ERC Group Engineering, Consultancy and R&D Services Co.

Telemedicine Platform



This International Telemedicine Platform is a sophisticated, full-featured solution developed as part of a collaborative effort involving multiple international partners from Turkey, USA, Switzerland, Israel, and Macedonia. The platform is built on the Avicenna ATTP framework, which serves as a robust foundation for the integration and management of various telemedicine services.

The platform incorporates several subsystems, each providing critical functionality to facilitate seamless healthcare delivery across borders. These subsystems include Avicenna ATTP, the core Telemedicine System (Jasmine), Microsoft Dynamics NAV with CRM capabilities, and 3rd Party Call-Center Solutions. Additionally, the system offers seamless integrations with external services such as Cargo, SMS, and VPOS, enabling a holistic healthcare experience.

## Core Modules and Functionalities

The telemedicine platform is structured around key modules that enable high-quality healthcare delivery:

- **Integrations:** Ensures smooth connections with Microsoft Dynamics NAV, 3rd Party Call-Center Solutions, and external services like Cargo, SMS, and VPOS for seamless communication and data flow.
- **Order Management:** Manages patient orders, appointments, prescriptions, and medical requests, streamlining workflows across the healthcare provider network.
- **Medical Report Delivery:** Securely delivers medical reports from healthcare providers to patients, improving communication and care.
- **Stock Management:** Manages inventory, medical supplies, and equipment, ensuring timely procurement, distribution, and minimizing waste.
- **Reporting:** Provides detailed reports for monitoring performance, operational efficiency, and clinical outcomes for healthcare administrators and stakeholders.
- **Security Management:** Implements strict security measures, including access controls, encryption, and compliance with healthcare regulations like HIPAA and GDPR, safeguarding patient data.

## Architecture Highlights

The platform is built with advanced technologies to ensure scalability, reliability, and interoperability:

- **Backend:** Developed using ASP.NET MVC and Web API, along with Entity Framework and LINQ for efficient data management and querying, optimized for performance and integration with third-party solutions.
- **Frontend:** Built as a single-page application (SPA) with AngularJS and TypeScript, offering a dynamic and responsive user interface for healthcare providers and patients.
- **Database:** MS SQL Server handles large volumes of patient and healthcare data.
- **Security:** Strong security protocols using OAuth for authentication and role-based access controls to protect data and ensure regulatory compliance.

## Technology Stack

- **Frontend:** AngularJS, TypeScript, RequireJS, Bootstrap, AngularStrap, jQuery, Ajax
- **Backend:** ASP.NET MVC, Web API, Entity Framework, LINQ, C#, JSON
- **Databases:** MS SQL Server
- **Security:** OAuth, Role-based access controls
- **Tools:** Visual Studio .NET

# AVICENNA ATTP MOBILE

■ DataSel Information Systems Co.

◆ Mobile Client Application



The Avicenna ATTP Mobile Client Application is a hybrid mobile solution designed to empower healthcare professionals, specifically **doctors**, by providing them with seamless access to the **Avicenna ATTP portal** through their mobile devices. The application allows doctors with existing accounts on the ATTP portal to manage their schedules, view patient information, access medical reports, and engage in telemedicine consultations while on the go.

Developed as a hybrid mobile application, the platform leverages **Ionic2** and **Apache Cordova** to ensure compatibility across multiple mobile platforms, such as iOS and Android. This approach enables doctors to utilize the application on their preferred mobile devices while maintaining a consistent user experience.

## Core Features and Functionality

- **User Authentication:** Doctors can securely log in to their accounts via the **Avicenna ATTP portal** using oAuth authentication, ensuring safe access to their personal and medical data.
- **Telemedicine Access:** Doctors can participate in telemedicine consultations, access patient records, and review medical reports directly from their mobile devices.
- **Appointment Management:** The application allows doctors to view, manage, and schedule appointments with patients, improving workflow efficiency.
- **Medical Report Access:** Doctors can access and review detailed medical reports, enhancing their decision-making capabilities during patient interactions.
- **Cross-Platform Compatibility:** Developed with **Ionic2** and **Apache Cordova**, compatible with both **iOS** and **Android**, ensuring a broad user base across different devices.

## Architecture Highlights

The mobile client application is developed using a modern, hybrid mobile framework to provide an optimal experience across devices, with a focus on performance and security. The combination of **Ionic2** and **Cordova** ensures rapid development and deployment while maintaining a high level of user satisfaction.

- **Frontend:** The frontend is developed using **Angular4** and **Ionic2**, enabling a responsive and intuitive user interface for healthcare professionals. **HTML5**, **CSS3**, and **JavaScript** are used for building the app's layout and interactions.
- **Backend Integration:** The application integrates seamlessly with the **Avicenna ATTP portal**, utilizing **JSON** for data interchange and **oAuth** for secure authentication.
- **Build and Development:** The development environment is based on **VS Code**, with **npm** and **webpack** for efficient package management and bundling.

## Technology Stack

- Frontend: **Ionic2**, **Angular4**, **TypeScript**, **HTML5**, **CSS3**, **JavaScript**
- Backend Integration: **.NET**, **C#**, **EF**, **ASPNET Webapi**
- Security: **oAuth**, **JWT**
- Development Tools: **Visual Studio Code**, **npm**, **Webpack**
- Frameworks: **Apache Cordova**

# FONET FRAMEWORK

 Fonet Software Co.

 Software Development Framework



Fonet FW

The Enterprise Rapid Application Development (RAD) Framework is designed to empower organizations by providing a unified platform for rapid and efficient software development. The ultimate goal of the framework is to offer a single enterprise solution for creating robust applications targeted at both Desktop and Web platforms. This framework serves as a comprehensive toolkit for developers, significantly reducing development time while providing high flexibility and extensibility. By incorporating a wide range of powerful features and functionalities, the framework accelerates the development process and enhances the quality of the resulting software. It offers core components such as a **DataGrid**, **DataForm**, **Rich Input Editors**, and a **Specialized Data Binding System** that ensure seamless integration and management of data. Additionally, the framework comes equipped with built-in debugging tools, dynamic navigation systems, advanced authorization features, and support for multiple database systems.

## Key Features

- **DataGrid:** A dynamic and customizable data grid component that allows for easy display, management, and editing of large datasets.
- **DataForm:** A flexible data form system for efficient data entry and modification, supporting various input types.
- **Rich and Extendable Form Input Editors:** Highly configurable form editors that allow developers to build complex input systems while maintaining user-friendly interfaces.
- **Data Access Layer (DAL):** The framework includes fundamental DAL components that simplify data interaction, including advanced support for **table**, **view**, and **relations**.
- **Specialized Data Binding:** A powerful data binding system that enables seamless synchronization between the UI and the underlying data layer.
- **Developer Tools:** Built-in tools that facilitate debugging and development, including a dedicated debugging screen and advanced debugging features.
- **Multi-Database Support:** The framework supports integration with multiple database systems, including **Oracle**, **MS SQL Server**, and **MySQL**, providing flexibility for various backend environments.
- **Dynamic Navigation and Menu System:** A dynamic navigation system that supports advanced authorization and user roles, ensuring secure and personalized access to application features.
- **Charting and Data Visualization:** Built-in capabilities for generating charts and visualizing data, enhancing the application's analytical capabilities.
- **Customizable Visual Layouts:** The framework supports adaptable and customizable visual layouts, allowing for personalized user interfaces that meet organizational needs.
- **Auto-Generated Search & Filter Forms:** Automatically generated search and filter forms that allow for efficient data management and user interaction.

## Technology Stack

- Frontend: .NET Framework (for Desktop), Web Technologies (for Web Platform)
- Backend: ADO.NET, C#, PL/SQL, T-SQL
- Database Systems: Oracle, MS SQL Server, MySQL
- Reports & Analytics: FastReports, CrystalReports
- Development Tools: Visual Studio .NET, DevArt

The **Runtime Form & Screen Design Editor** is an advanced platform developed based on the **Fonet Framework**, enabling developers and users to design, manage, and interact with forms in real-time. This editor is specifically designed for creating dynamic, data-driven forms and screens that are stored in databases such as **Oracle** or **SQL Server**.

By offering a highly intuitive, drag-and-drop interface, the editor simplifies the form creation process while maintaining flexibility and ease of use. The platform is equipped with a robust set of features to enhance form management and reporting capabilities.

## Major Features

- **Drag-and-Drop Enabled Form Design:** A visual editor similar to **Visual Studio** that allows users to easily drag and drop elements to design forms, ensuring a smooth and intuitive user experience.
- **Database-Backed Form Storage:** Form designs are stored directly in databases like **Oracle** and **SQL Server**, enabling centralized management and easy retrieval of form configurations.
- **Immediate Data Entry:** Supports real-time data entry during form creation, allowing users to test and input data directly into forms during the design process.
- **Authorization System Integration:** Built-in integration with an authorization system ensures that users and roles can be managed within the form's design, allowing for secure access control and permissions.
- **CRUD Operations:** Full support for **Create**, **Read**, **Update**, and **Delete** operations on designed forms, enabling dynamic content management.
- **Advanced Search and Paging:** Includes features such as **listing**, **paging**, and **both basic and advanced search**, which make it easy to interact with large datasets.
- **Toolbox:** A rich **toolbox** containing a variety of form elements and components, allowing users to easily access and use pre-built items.
- **Custom Script Injection:** Event-driven custom script injection is supported, giving users flexibility to add custom logic and interactivity to forms.
- **Dynamic Report Template Design:** Integration with an advanced report designer and viewer, allowing users to design dynamic report templates directly linked to the form data.
- **Seamless Navigation Integration:** Forms are seamlessly integrated with navigation systems, providing easy access to dynamic forms from the main menu and enabling programmatic opening of forms.
- **Built-in Basic Components:**
  - **Textbox**, **Databox**, **Numericbox**, **Listbox**, **Combo**, **Multilinebox**, **Checkbox**, etc.
  - **Layout Components** like **Tab** and **Groupbox** for structuring forms.
- **Advanced Components:**
  - **Advanced Vector-Based Drawing and Image Editor** (especially useful for **PACS**-related screens).
  - **HIS Patient List**, **HIS Patient Details**, **HIS Patient Lab Reports**, and **HIS Patient Action Links** components for healthcare applications.

## Technology Stack

- Frontend: **VS.NET**, **C#**
- Backend: **ADO.NET**, **PL/SQL**, **T-SQL**
- Database Systems: **Oracle**, **MS SQL Server**, **MySQL**
- Reports & Analytics: **FastReports**, **CrystalReports**
- Developer Tools: **Visual Studio .NET**, **DevArt** (for database integration)

# AVICENNA PRODUCT DEVELOPMENT FRAMEWORK

 *DataSet Information Systems Co.*  
 *Software Development Framework*



The Enterprise Application Development Framework is a comprehensive solution designed to support the development of applications across multiple platforms, including Silverlight, WPF, and WP7. The primary objective of the framework is to provide a unified set of shared components, libraries, and tools that simplify common tasks and address the needs of enterprise application development across these platforms.

The framework enables developers to quickly build and deploy high-quality applications by providing out-of-the-box solutions for common patterns and tasks, ensuring consistency, efficiency, and scalability across the entire application lifecycle.

## Major Components

- **Grid:** A versatile grid component offering advanced functionalities such as sorting, filtering, and pagination for managing and displaying large datasets.
- **Form:** A robust form framework for creating dynamic forms, complete with validation, binding, and easy management of input fields.
- **Async Operation Libraries:** Libraries to manage asynchronous operations seamlessly, improving application performance by handling background tasks efficiently.
- **MVVM Utilities:** Built-in Model-View-ViewModel (MVVM) utilities that promote clean architecture and separation of concerns, making it easier to manage UI logic and business logic separately.
- **Entity Management:** A framework for managing entities and data models, integrated with Entity Framework for efficient data management.
- **Localization:** Tools and utilities to support localization and global readiness, enabling applications to be easily adapted to different languages and regions.
- **Extensions:** A set of reusable extensions to enhance the framework's capabilities and facilitate easy customization and extension of the built-in components.
- **Converters:** Built-in value converters for data transformation, ensuring smooth data presentation across various UI elements.

## Technology Stack

- Frontend: **Silverlight, WPF, WP7**
- Backend: **WCF RIA Services, ASP.NET, Entity Framework, LINQ**
- Libraries & Controls: **Telerik RAD Controls, Telerik Reporting**
- Database: **MS SQL Server**
- Development Environment: **Visual Studio .NET, C#**

## AVICENNA CASE-MIX INFORMATION SYSTEM / VAKA KARMASI BİLGİ SİSTEMİ

 DataSet Information Systems Co.  Health Service Costing System



It is a complete DRG Costing Solution. I designed and implemented the architecture, managed the project, developed reusable advanced components, coordinated and lead the team.

Project was also used in about 80 hospitals from all over the Turkey, even biggest ones. We collected and analyzed more than 50M clinical and financial records. Eventually, we have calculated the first official DRG costs and weighted DRG values of Turkey.

- 🏆 This project is selected as **finalist in XI. Technology Awards** organized by TTGV, TUBITAK and TUSIAD in TR (11.04.2014)

### Major Components:

- Clinical Data Collection Module (UI+Webservices)
- DRG Code Calculation for given Case (by using Grouper)
- Costing Data Collection Tool (UI+Webservice)
- Costing Processing and Clinic Unit Costing Calculation Module
- DRG Weighted Value Calculation
- Analyzing and Reporting Modules for DRG Data

**Technologies:** VS .NET, C#, Silverlight, WCF RIA Services, EntityFramework, LINQ, Telerik RAD Controls, Telerik Reporting, ASP.NET, MS SQL Server, MySQL, COM Port communication

**Customer:** Ministry of Health / Turkey

## AVICENNA CLINICAL CODING QUALITY RULE ENGINE (CQRE)

 DataSet Information Systems Co.

 Rule Engine



It is a rule engine to execute clinical coding rules and evaluate the quality of clinical data coding.

**Major components:** Online Rule Engine Editor, Rule Management & Categorization, Rule Executing Engine, Backend Webservices to Execute Rules, Admin Management Screens

**Technologies:** MS Azure, VS .NET, C#, MS SQL Server, EntityFramework, LINQ, ASP.NET MVC and WebApi, AngularJS, JSON, HTML5, JS, CSS3

NOTE: System is deployed on MS Azure VMs (both App and SQL Server)



## ECZACIBAŞI SAĞLIK TAKİPCİM (ATHP)

- *DataSel Information Systems Co.*
- ◆ *Telemedicine Information System*

It is an online telemedicine information system. A set of telemedicine devices are used by patients, and doctors can monitor patient's measurements as online and can take actions (such as call patient/relatives, call ambulance etc.) according the emergency of the situation. It is still in use by Eczacıbaşı Sağlık Hizmetleri.

**Major modules:** Device integration & data collection, data review & action taking, payment & accounting, device & delivery management

**Technologies:** VS .NET, C#, Silverlight, WCF RIA Services, EntityFramework, LINQ, Telerik RAD Controls, Telerik Reporting, ASP.NET, MS SQL Server, MySQL, COM Port communication

## REMOTE PATIENT MANAGEMENT SYSTEM (RPMS)

- *DataSel Information Systems Co.*
- ◆ *Clinical Information Management System*



It is a health information management system for practitioners to perform examinations of patients from remote locations by using build-in **video conferencing system**, digital patient archive and related extra modules.

**Major components:** VideoConfrencing System (Client+Server), Clinical Management System, PACS Viewer integration, Telemedicine Device Integration

**Technologies:** MS Azure, VS .NET, C#, Silverlight, WCF RIA Services, EntityFramework, LINQ, Telerik RAD Controls, Telerik Reporting, ASP.NET, MS SQL Server

**Protocols:** Speex, H.264, G.726, G.721, JPEG

**Customers:** Ministry of Interior / Kingdom of Saudi Arabia

## AVICENNA EMERGENCY INFORMATION MANAGEMENT SYSTEM



- *DataSel Information Systems Co.*
- ◆ *Health Information Management System*

It is an emergency information management system.

**Major Components:** Registration, Nurse Triage, Physician Triage, General Examination, Trauma Examination, Vital Signs, Patient Charter, Clinical Pathway, Route & Scheduling, HIS Integration

**Technologies:** VS .NET, C#, Silverlight, WCF RIA Services, EntityFramework, LINQ, Telerik RAD Controls, Telerik Reporting, ASP.NET, MS SQL Server

**Customer:** King Fahad Medical City / Kingdom of Saudi Arabia

**Standards:** HL7, Webservices

## AVICENNA AMBULANCE INFORMATION MANAGEMENT SYSTEM

- *DataSel Information Systems Co.*
- ◆ *Health Information Management System*



It is an ambulance patient's health information collection and delivery system. Touch-based highly user friendly data entry client & scalable backend services are developed in the scope of the project. Project pilot was successfully performed in KSA Hajj region in Hajj period of 2013.

**Major Components:** DataCollection Client, Backend data collection services, data monitoring module, administrator module and reporting module.

**Technologies:** VS .NET, C#, Silverlight, WCF RIA Services, EntityFramework, LINQ, Telerik RAD Controls, Telerik Reporting, ASP.NET, MS SQL Server

**Customer:** Ministry of Health / Kingdom of Saudi Arabia

## AVICENNA CLINICAL MANAGEMENT SYSTEM (CMS)

- *DataSel Information Systems Co.*
- ◆ *Clinical Information Management System*



It is an online multi-language clinical management system. It provides all the software needs of the clinics. Also, it has a HAAD integration for claim submission in UAE region.

**Major modules:** Examination, Registration, Appointment, Billing, Claim Integration

**Technologies:** MS Azure, VS .NET, C#, Silverlight, WCF RIA Services, EntityFramework, LINQ, Telerik RAD Controls, Telerik Reporting, ASP.NET, MS SQL Server, MySQL, COM Port communication

Partners: HAAD, Etisalat

## FONET ADVANCED LOG MODULE

- *Fonet Software Co.*
- ◆ *Logging Module*

Flexible log module that can easily be managed by using admin interfaces.



### Major features:

- Log all INSERT, DELETE, UPDATE operations on any table
- Report log data by using flexible and rich report designer & viewer interfaces
- Operate over separate schemas for security and performance issues

**Technologies:** VS.NET, C#, WinForms, DevArt, ADO.NET, Oracle, PL/SQL

## HALSOFT E-LEARNING PORTAL

█ Halıcı Informatics & Software Co.

◆ E-Learning Portal & LCMS



It was developed based on Halsoft Portal framework. The portal provides various pages and modules for e-learning program managers, instructors, students and administrators. Also it provides very flexible, extendible and open to develop framework. Some features are class, course and content management screens, built-in question editor and question store, **online exam system**, portal-wide SCORM e-learning content compatibility, integrated forum and **chat system**.

**Technologies:** Microsoft SQL Server, Visual Studio .NET, C#, ASP.NET, HTML, CSS, JS, Microsoft Media Services, Active Directory, RSS

**Customers:** Ankara Üniversitesi Uzaktan Eğitim Merkezi, Türk Demokrasi Vakfı, Milli Prodküktivite Merkezi, Matematik Eğitim Çemberi, ODTÜ Koleji

## HALSOFT PORTAL

█ Halıcı Informatics & Software Co.

◆ Portal & CMS Framework

It was developed to provide flexible portal infrastructure for various different portal needs. System provides flexible and open to be extended framework. Some features are multi-level and module based content management architecture, role-based authorization system, template-based e-mail and messaging system, multi language infrastructure support. Also it provides great amount of built-in modules and management screens.

**Technologies:** Microsoft SQL Server, Visual Studio .NET, C#, ASP.NET, HTML, CSS, JS, Microsoft Media Services, Active Directory, RSS

**Customers:** Demokratik Sol Parti, BM Mülteciler Yüksek Komiserliği Türkiye, Bilgi Toplumuna Yolculuk, Halsoft TV, Emrehan Halıcı Kişisel Web Sitesi

## ONLINE COURSE MANAGEMENT SYSTEM (OCMS)

█ METU Computer Education and Instructional Technologies Department



This is an Online Course Management System which includes varying tools to manage an online course such as **content management**, **messenger**, user management, user logs, chat rooms, private email, grading, homeworks etc. Project is developed on Visual Studio .NET platform and development language is VB.NET.

**Technologies:** PHP, MySQL, HTML, CSS, JS, Photoshop

## GENERAL DIRECTORATE OF SECURITY - DISTANCE EDUCATION PORTAL

█ METU Computer Education and Instructional Technologies Department

♦ Online Video Enabled E-Learning Portal



I have worked as a solution architect, software advisor and team leader in that project. A video based distance education portal. It provides live and offline video content, supporting documents, a discussion forum and access to shared e-mail groups. Also, provides management tools for live course broadcasting and course/program structure management. The project was developed by using Visual Studio .NET and SQL Server 2005. Also, Active Directory and Microsoft Live Communication Server were integrated to the system.

**Technologies:** Microsoft SQL Server, Visual Studio .NET, C#, ASP.NET, HTML, CSS, JS, Microsoft Media Services, Microsoft Producer, Microsoft PowerPoint, Active Directory

## DISTANCE EDUCATION PORTAL OF ANKARA UNIVERSITY

█ Distance Education Center of University of Ankara (ANKUZEM)

♦ Distance Education Portal



A distance education system used by students from different cities of Turkey and some other countries. This project is developed based on Halsoft Eğitim Portalı and used for 4 years. Courses are developed as SCORM packages for the system.

**Technologies:** Microsoft SQL Server, Visual Studio .NET, C#, ASP.NET, HTML, CSS, JS, Active Directory, RSS, Photoshop

## BÖTEB ONLINE

█ METU Computer Education and Instructional Tech. Dep. ♦ Video Portal

A video portal which provides various educational videos. Videos are served by using Microsoft Media Services.

**Technologies:** Microsoft SQL Server, Visual Studio .NET, C#, ASP.NET, HTML, CSS, JS, Microsoft Media Services



## THE UN REFUGEE AGENCY TURKEY - OFFICIAL WEB PORTAL

█ UNHCR ♦ Official Web Portal



It was developed based on Halsoft Portal. It provides advanced administrative screens and modules to manage page hierarchy and page contents of the portal. Also, the system has an advanced search engine and RSS support.

**Technologies:** Microsoft SQL Server, Visual Studio .NET, C#, ASP.NET, HTML, CSS, JS, Microsoft Media Services, Active Directory, RSS, Photoshop

## CUSTOMER SUPPORT CENTER

█ Labris Teknoloji ♦ Online Customer Support System

It is an online Customer Relations Management system. Its major modules are product management, customer management, Sold Product Management, Product Update Management, Trouble Ticket Management and Mass Messaging Systems.

**Technologies:** PHP, MySQL, HTML, CSS, JS, AJAX, Photoshop



## METU COMMUNICATION CLUB - OFFICIAL WEB PORTAL

💻 METU Communication Club 💬 Official Web Portal

An advanced society portal. It provides individual user accounts to members, an extensive role based permission system and custom editor pages for each different modules of the portal. Portal also contains an online question and exam bank system. Also some attendance record modules for activities.

**Technologies:** PHP, MySQL, HTML, CSS, JS, Photoshop



## XMESSANGER

💡 P2P Multi Channel Instant Messaging Software

It was developed based on Client-Server architecture. This platform provides a real-time shared whiteboard and a text messaging with emoticons. White board has basic drawing tools such as free draw pen, straight line, rectangle and circle and also has formatting tools such as color and thickness tools. The platform also includes upload/download managers and allows multi file transfers at the same time. All messages and commands are transferred as XML. Thanks to active use of design patterns, system is open to extend and improve.

**Technologies:** Visual Studio .NET, C#, XML, Networking & Sockets, GDI+, Photoshop

## 3-5-8 P2P CARD GAME

💡 P2P Network Based Card Game

The digital version of classical 3-5-8 Card Game. Players connects to server player and starts to the game with each other. It is developed using Client/Server software architecture. It was developed by using object oriented software development methodologies.

**Technologies:** Java, XML, Networking & Sockets, Swing, Photoshop

## EFSANE

💡 3D Educational Game

An Educational game developed in a 3D Environment and aims to teach some physics topics to students.

**Technologies:** Adobe Atmosphere, 3D Max, HTML, JS, CSS, Photoshop

## EDİSA (EĞİTİM DANIŞMANLARI İÇERİK SUNUM ARACI)

💻 Halıcı Informatics & Software Co.

💡 E-Learning Content Dev. Editor Tool

An authoring software which is used by subject matter experts to create standard content packages about specific e-learning courses.

**Technologies:** Microsoft SQL Server, Visual Studio .NET, C#, ASP.NET, HTML, CSS, JS, Active Directory, RSS, Photoshop

## Other Projects

### BİLGİ TOPLUMUNA YOLCULUK PORTALI

 Peppers and Rogers Group  Activity Portal

**Technologies:** Microsoft SQL Server, VS .NET, C#, ASP.NET, HTML, CSS, JS, Active Directory, RSS, Photoshop

### EYEDDER - OFFICIAL WEB PORTAL

 Eğitim Yöneticileri ve Eğitim Denetçileri Derneği  Official Web Portal

**Technologies:** dotNET Nuke, Visual Studio, VB.NET, C#.NET, ASP.NET, SQL Server 2000, HTML, CSS, JS, Photoshop

### NIT WEB PORTALI

 Netron Institute of Technology  Official Web Portal

**Technologies:** ASP, HTML, CSS, JS, Photoshop

### ONLINE COURSE MANAGEMENT SYSTEM

 METU Computer Education and Instructional Technologies Department **Technologies:** PHP, MySQL, HTML, CSS, JS, Photoshop

### TEKNOKENTLER ZİRVESİ '04 RESMİ WEB SİTESİ

 ODTÜ IEEE Öğrenci Topluluğu  Etkinlik Web Sitesi

**Technologies:** PHP, MySQL, HTML, CSS, JS, Photoshop

### METU INFORMATICS INSTITUTION - E-DERS PROJECT

 METU Informatics Institution  Distance Education Portal

**Technologies:** HTML, CSS, JS, Photoshop

### MEKANSIZ KÜTÜPHANE

 METU Graduates Society  Online Library Management System

**Technologies:** PHP, MySQL, HTML, CSS, JS, Photoshop

### IEEE WEBTEAM - OFFICIAL WEBSITE

 IEEE METU Student Club  Official Website

**Technologies:** PHP, MySQL, HTML, CSS, JS, Photoshop

### BOOTCAMP - OFFICIAL WEBSITE

 Portakal Teknoloji  Activity Portal

**Technologies:** PHP, MySQL, HTML, CSS, JS, Photoshop

### BİLİŞİM TEKNOLOJİLERİ İŞİĞİNDE EĞİTİM '04 - OFFICIAL WEBSITE

 IEEE METU Student Club  Activity Website

**Technologies:** PHP, MySQL, HTML, CSS, JS, Photoshop

### NEDİR?TV WEB PORTAL

 Nedir?TV  Software Developers' Community Portal / *Online Videos Based Technology Tutorials and Training Portal*

### KRİPTO

 3D Educational Game

**Technologies:** Dark Basic, 3d Max, Photoshop

### DARKROOM

 Educational Courseware

**Technologies:** Macromedia Flash, Movie Maker, Photoshop

### ÇILGIN TOSBA

 An Educational Software

**Technologies:** Visual Basic 6.0, Photoshop

### ANALYTICS PRESENTER

 Google Analytics Online Data Parsing and Reporting API

**Technologies:** Visual Studio .NET, C#, ASP.NET

### DRAWINGEDITOR.NET

 A Multi-Functional .NET drawing control library

**Technologies:** Visual Studio .NET, C#, GDI+

### DİZGİ PRO

 Photo Composition and Automation Software (Grade Booklets, Foto Galleries etc.)

**Technologies:** Visual Studio .NET, VB.NET, GDI+