



## \_\_Customer\_\_



The customer is MSGSU (Mimar Sinan Fine Arts University). It is founded at 1882 by Art Historian / Archaeologist / Museum founder and Painter; Osman HAMDİ with the name of "Industrial School of

Fine Arts". MSGSU is the first high school of Architecture and Arts in Turkiye and because it is transformed to Fine Art Academy at 1928, it is again the first high school that has received the title "Academy" in Turkiye. Fine Arts Academy becomes scientifically independent at 1969 with the acceptance of Governmental Fine Arts Academies Law. After the transformation of the related laws in 1981 and 1982, it is converted to university and has the name of MSGSU.

MSGSU is a specialized university on Art and Architecture. It has constant connections with national and international universities, research centers, non-governmental organizations and the local companies to increase their effect on Turkish Building Infrastructure with the help of current technology and with the vision of Art and Nature. MSGSU is original, contemporary and visionary.

At 2013, they decided to grow their effect on Turkish Building Infrastructure. They created a project named SEEBTR<sup>®</sup> (Sustainable Energy Efficient Buildings Turkiye) about the Certification of Green Buildings in Turkiye and they presented this project to ISTKA (Development Agency of Istanbul) to have a support and ISTKA accepted their project. They wanted to create a system to realize this project. They looked for a competent company with a reference of certification software. They found Maysistem.

## \_\_Project\_\_



The main object of the project was to create a software that will give Green Building Certificate according to Turkish Green Building Standards. This software had to have all related screens for data entry and management. It had to be designed according to the related rules and laws and especially for Turkiye. This software had to certificate buildings according to the Turkish Green Building Standards derived from similar international Green Building Standards like Leed<sup>®</sup>, Breeam<sup>®</sup> or Casbee<sup>®</sup>.

It had to be a web software to ensure all type of users can access it from anywhere of Turkiye, with screens that facilitate the entry of data for the defined users. It had to do calculations according the entries but with its AI, it had to control the user inputs and warn the user about missing inputs and suggest user any opportunities that the user didn't see. It had to have a standard Certification Format for National Green Building Certification of Turkiye. With the statistical data, it had to keep the track of Green Buildings in Turkiye.



The system had to support different type of users that will do different transactions on the system from entering data to check the validity of the documents. It had to also support education in the university.

## Solution



There was almost 7 months between the beginning and the end of the project. The main challenge was the complexity of the project besides the short creation time. We have done continuous meetings with academic personnel from the beginning of the project to teach them the standards of the methodology that they have to prepare for the software. With the help of these meetings, we didn't have to convert the methodology from what they created to what we wanted. It minimized the amount of preparation time. During the preparation of the methodology, the roadmap was created by Maysistem to have the correct result.

Project team were composed of 18 academic personnel (most of them Associate Professor) and more than 100 persons from other major universities and from the sector companies, 1 software director, 2 senior and 3 junior programmers as well as 1 tester. The total was more than 125 persons.

All screens were designed to ensure quick and corrected input from the users. The infrastructure was based on questions and answers and this system could be modified with just altering the database. The AI read each time the database and prepared the system accordingly.

The security was extensive, each object has its own AI to understand who is doing what and it gives or not the permission. Web based software is multi browser friendly.



In the coding phase of the software, scoring system also designed by Maysistem. Questions were related to each other's and scores were calculated according these relations. The system should also calculate the effects of mandatory, weighted or connected questions.

After all the questions were prepared for 5 types of buildings (apartment, school, office, hospital and hotel) and 3 construction details (new, renewed, and old), we categorized each question according to these types and score percentages were recalculated.



With Pre-Design and Phasing ability of a project, we gave to the user the opportunity to check their building before they even start to build it in real life. They might create alternative projects; they might choose one of them as a real one, calculate the score, upload necessary documents, hire some experts, send the documents to check-in and then had the final certificate. All these steps were

designed carefully. After finishing all details, the flow of the certification system was patented with the name of the project SEEBTR.

This project was also a training project that allows students and academic personnel. For that we added project sharing ability to the infrastructure.

After the completion of the project, it has been tested by end-users from the university and from Non-Governmental Organizations. Some changes were made according to the feedbacks and then, at the end of 2013, it was introduced to public and to the press.



Meetings with the Ministry of Public Works

Ministry of Public Works invited MSGSU to the Green Buildings Workshop for presenting SEEBTR to the sector. The reputation of the system was very satisfying.

## Conclusion



System workflow had the patent with the following number: 2014/02588 – 2014-G-79279. Master of Science training program had created according to SEEBTR. Green Building Interactive Web site and Phone App were created. A symposium and an exhibition related to Sustainable Energy Efficient Buildings Turkiye were held to reintroduce the project to students and press. You may find some webpages and press reflections of the project from the links below:

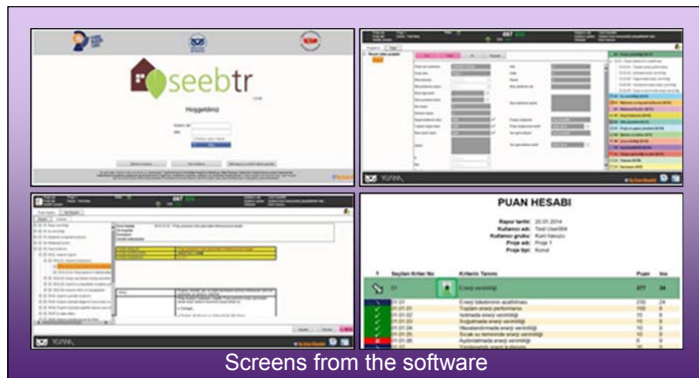
<https://www.facebook.com/seebtr>

<http://www.termodinamik.info/?pid=31590> (Thermodynamic magazine - January 2014 - No: 257)

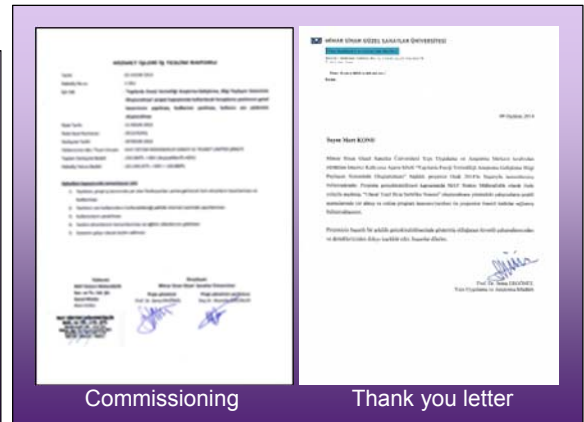


Some articles from the Press about SEEB-TR

## Result



Screens from the software



Commissioning

Thank you letter

**MAY SİSTEM MÜHENDİSLİK San. Tic. Ltd. Şti.**

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