

Game as Modern E-Learning Format

The Slovenská sporiteľňa Foundation has been established to help through supporting quality public projects and to perform activities enhancing fundamental social values. The foundation aims not only at giving financial resources but also at achieving qualitative change in education, culture, sport, health, charity or environmental creation and protection through diverse activities.

SOLUTION

TEMPEST created an interactive educational platform for The Slovenská sporiteľňa Foundation based on the latest technology. The solution focuses mainly on support of financial education through information technology. The aim is to enhance knowledge in the area of personal finances, business or investment and to help participants understand the labour market or the risk and profit relationship in a better way.

Benefits

- ✓ modern and attractive educational platform
- ✓ reaching broad target group
- ✓ promotion of financial literacy and support of education
- ✓ scalable and customisable technological environment (cloud)
- ✓ flexible change of content

Context

In order to achieve its objectives, The Slovenská sporiteľňa Foundation pursues innovative solutions. One of its main goals is to enhance financial literacy of young people. This target group is very specific and they must be addressed in an attractive way.

Surveys have shown decreasing interest of youth in books in the long term. Young people spend most of their time at their computers, at social networks and playing on-line games. The Slovenská sporiteľňa Foundation has decided to make use of this fact. They asked TEMPEST company to create an e-learning platform in a form of a strategic game. Its task is to increase financial literacy of the target group in an appealing way. The project presented a challenge for TEMPEST not only from the perspective of content requirements but also from the point of view of demands for technological platform, the load of which could not be defined in advance.

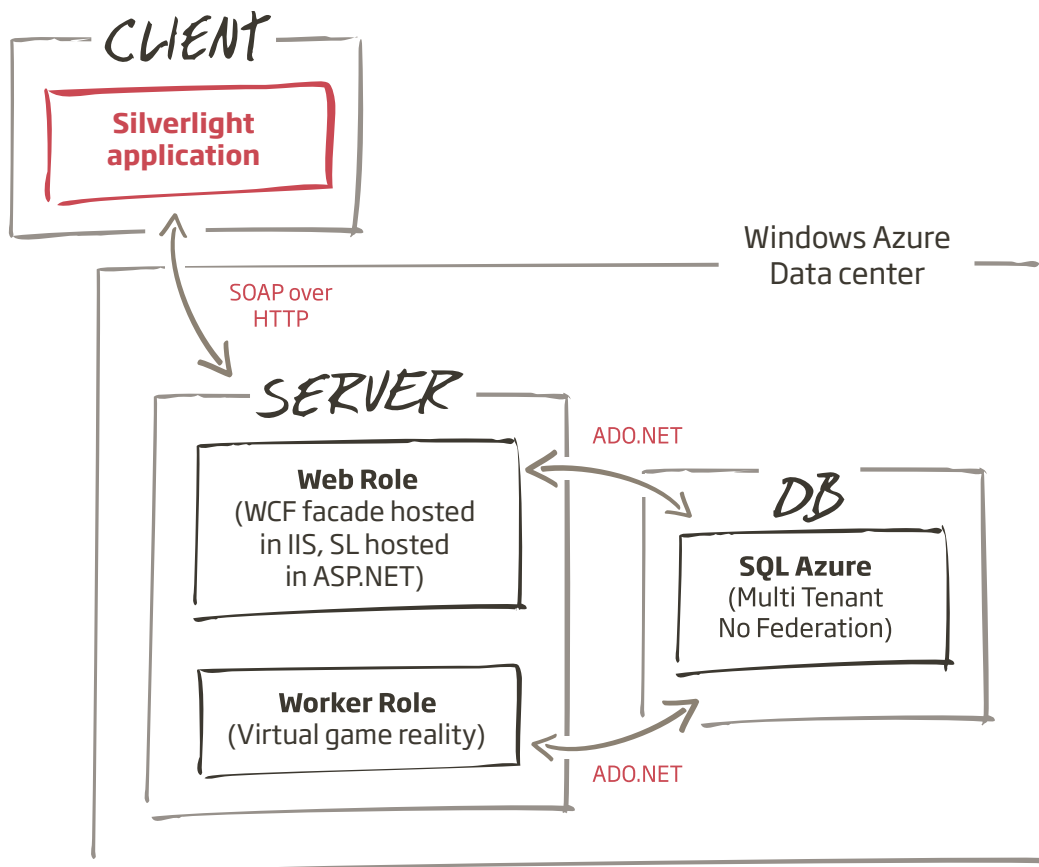
Course of Project

Designing the architecture and infrastructure of the solution was involved because of the uncertainty regarding the number of users. TEMPEST therefore decided to place the application in a cloud environment of Windows Azure. Besides high availability, this environment also provides assignment of necessary computing performance or storage capacity in real time and the possibility of an efficient backup. This has significantly reduced input and operating cost and risks.

Microsoft Silverlight offering simple and efficient development of interactive and user friendly interfaces through Microsoft Expression Blend tool was chosen as a framework for user interface. This tool also allows bringing graphic designers closer to the development of the application which has had a significant impact on quality and ergonomics of the user interface.

Client component of the application communicates with a distant facade backed with application logic through SOAP and HTTP protocol. The facade was built as a service using Windows Communication Foundation and it is hosted in Microsoft Internet Information Services setting or as Web Role. Microsoft SQL Azure database was used for storing data and it was accessed directly with no further superstructures by means of ADO.NET technology. Virtual reality or game simulation was implemented in Microsoft .NET Framework using Microsoft SQL Azure and was executed as Worker Role from the perspective of Windows Azure.

Software Solution Architecture



Application Screen Previews



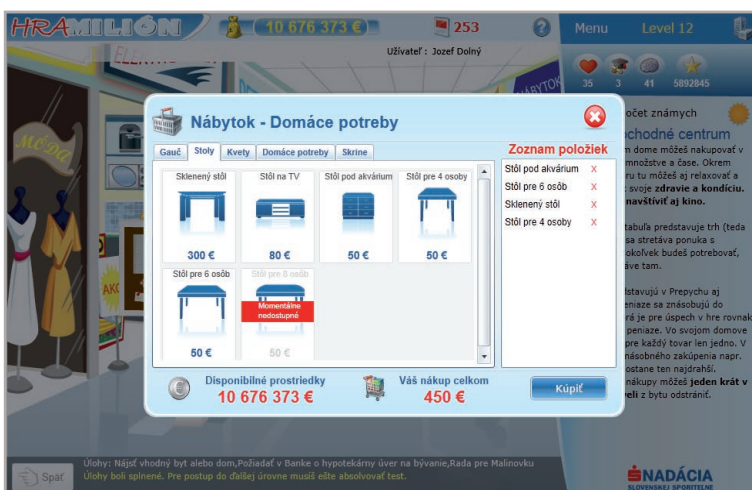
Cinema

A player can go to the cinema in one of the buildings. After clicking on the screen a video content defined by the Slovenská sporiteľňa Foundation will appear.



Initial screen

Players see an overview of all institutions and places they can visit. Here they perform activities necessary to reach the game objective.



Shopping options

Players in a virtual shopping centre can shop for various things in different shops.



Firm

Player's business where he or she can survey the machines bought and the production situation. After selecting a specific machine players can set its productivity level.

Summary

An educational platform is expected to mobilise young people who prefer receiving information in an interactive way. Within the first week of operation more than 2,500 unique users registered for the educational game and two weeks later the number exceeded 10,000. Therefore, the objective has been reached. The technological decision on using a highly scalable cloud environment has also proved right also from the future perspective. The next plan for the educational game is to organise global competitions on school level which means further dynamic extension of the environment.

"Whole classes of students participate in the Million game. Some schools have set aside specific time during the teaching process for the game. The number of successful players rises daily and this confirms that the format of education has been selected appropriately. The knowledge tests integrated in the game will help the Foundation to get a better overview of the knowledge of particular target groups in the area of finances," Marta Krejcarová, Communication and sponsoring director of Slovenská sporiteľňa says about the solution.

"The Million game presented a challenge for advisers and technologists of the TEMPEST company not only from the technological perspective. The project required development of an ergonomic and logic environment similar to reality. We also needed to maintain the educational character of the strategic game. The environment and communication with users is set in a way which should keep users interested and motivated to study educational materials. Sophisticated tools and the dynamic cloud environment of Windows Azure have made the game a success among students who were the primary target of the project," says Alojz Časný, Head of Special Development, TEMPEST.

Products and technologies

- Microsoft SQL Azure
- Windows Azure
- Microsoft Silverlight 4
- Windows Communication Foundation
- Microsoft ASP.NET
- Microsoft .NET Framework
- Expression Blend