



Case Study
User Generated Content
Enabler

1. Project objective

The User Generated Content Enabler is a complex Web software application and mobile telephony application that enables users to obtain, store, process and view biographical information content, including text, images, sounds and videos.

It is a revolutionary software application which will allow each one of us to preserve personal details and experiences for short or long periods of time, for many reasons, important or not. For example, people can use the application to gather information, including photographs, videos and descriptive text, regarding a trip they took, in order to post it on a Website for friends to see, or to gather material about their life systematically so as to make sure that their grandchildren and grand-grand children can get to know them.

The User Generated Content Enabler makes excellent use of the processing and broadband features of third generation mobile phones for data collection and transmission.

It enables its users to perform the following operations:

- transmit from their mobile phones any type of content, including text, messages, picture messages, images and photographs, videos, recordings, etc.;
- publish such content on the Internet, without the need for a mobile phone;
- store such content in a database accessible only to the users;
- archive and process such content through a Web application, in order to ensure a better and more attractive organization of data;
- combine their content with that of other users, so as to store and combine common experiences (e.g. trips, etc.);
- post such content on a Website provided by the platform provider.

The User Generated Content Enabler is a wholly new and pioneering application which was impossible to realize a few years ago. Thus, the business benefits are beyond comparison to those of similar software applications. Such benefits include the following:

- The platform provider is able to offer something that is wholly new in the market, which is a typical community application and thus can be spread by word of mouth.
- The ability to “bind” a user in a long-term platform use pattern due to the innovativeness of the product.
- The ability to sell additional products and services to platform users which are related to the scope of this platform (e.g. DVDs with the content, advertisements on the Website, etc.).

2. Proposed Solution

The User Generated Content Enabler is an initial integrated approach to holistic systems used for the storage of all types of content in any possible way; actually the content is directly linked to a person, enterprise, idea, event, hobby, etc. The platform will promote a number of developments and side systems which will comply with functional and technological developments.



The User Generated Content Enabler includes the following subsystems:

- The User Management Subsystem, which is responsible for user authorization and ensuring the overall system security.
- The Content Management Subsystem, which is responsible for the management and automation of all processes related to the platform content.
- The Communication Subsystem, which processes communication from the central server to users and mobile phones.
- The Client Applet Subsystem, which is installed on a user's mobile phone and allows for exporting all the content stored in the mobile phone and sending it to the central server through the Communication Subsystem.

- The Presentation Management Subsystem, which manages presentation through the Web, wap, etc.
- The Database, which includes all the parameters of the system and users, along with their content.
- The Statistics and Reporting Subsystem, which traces and monitors all system actions and does the statistical processing of its overall function.

3. Project Technical Implementation

User and Content architecture

Each user in the rateit database has the following:

- A **user record** which contains username/password/email etc and other profile information
- An **object in the Users category**, named as <username>. Other users can rate this user as an individual person in the community.
- A **category named <username>**. Objects in this category will be photos etc that user submits. Other users will be able to rate his/her photos.

Mobile content submission process

Content submission will be materialized through the following methods:

- **SMS**, user sends an sms to a short code (e.g. 54444)
- **MMS**, user sends an sms to a mobile number or a short code.
- **Email**, user sends an email (through his mobile) to a predefined email address

In most cases MMS is implemented as email.

SMS send

In the following we assume that an external system calls a web service passing as parameters the mobile number and the text of the SMS message.

When a user sends an SMS, the mobile number is known. We search (with LIKE) the mobile number in USERS table/Mobile Number column. If it is found, the user is identified. The SMS text is added as content under the <username> object in the Users category. Name will be the date in YY-MM-DD-HH-MM-SS format and description will be the actual SMS text. The content is added with a Proposed status.

If the user is not identified, then a new user is created with the following data :

- **Username**, the mobile number
- **Password**, a random generated 4 digit code (from 1000 to 9999)
- **Email address**, null
- **Mobile number**, the sender mobile number

After the user creation process, the generated password is sent to the user by SMS (assume that an http call will be available to send SMS).

MMS/email send

We assume that either MMS or email are materialized as email send. When a user sends an MMS or email the following must happen.

Emails (and MMS) are sent to a specific email account. The system should scan the incoming email and identify sender, subject, body and attachments.

Sender identification

Sender's email address is searched in the users database. If the email address is found, then user that submits the content is identified. If the email address is not found, then the system scans the email address and find the first occurrence of "69". If "69" Is found, then we get 8 more chars after "69" and we will have a 10 chars string (probably something like "6973777993"). Be careful that you may find an address like nkarapan@street69.com. Then you search with LIKE this string in USERS table and in Mobile Number column. If we find it, then user is identified.

If none of the above happens, then we have to deal with a new user. In this case, a new user is created, a new object in the Users category and a new category named <username>. The data that will be used for the new user are:

- **Username**, the part of the email address before "@", for example kmakris for an email address like kmakris@velti.com
- **Password**, a random generated 4 digit code (from 1000 to 9999)
- **Email address**, the sender's email address
- **Mobile number**, the "69xxxxxxx" sequence (if identified but not found in the existing users) or null

After the user creation process, the generated password is sent to the user by SMS (assume that an http call will be available to send SMS).

Content identification

The email attachments are extracted from the email. The system identifies the type of each attachment. For each attachment that is a picture (.jpg, .bmp etc), a video or sound, a new object is created under the <username> category.

The name of the object will be the subject of the email. If the subject is empty, then the filename of the attachment will be used. If an object with this name already exists, then _1 is added in the name. If _1 also exists, then we use _2 etc until we find a unique name.

The picture of this object will be the attachment (if it is a picture). If it a video or sound, a default video and sound picture will be used and the actual video and sound will be added as content under the new object.

If a body exists, then it is added as description in this object. The object is added in the Proposed status (displayed to the user when he/she logs in rateit.gr but not public to the other users).

The same is repeated for each attachment in the email.

Web site

The user should be able to log in the rateit.gr and navigate to the <username> category as well as to the <username> object of the Users category. The content submitted as mobile blogging should be available to one of the above categories.

Mobile Web site

The main page if the mobile web site should have a login (username/password/remember me) part, a search part (generic search to categories, objects and content), My blog, Submit content and 3-5 sponsored categories (usually categories of users). If I click My blog, then registration is required. If I click My blog or any other category (other users), a page with 3 images (vertical aligned) should be displayed for this object (page numbers, next/previous are also required). If an image is selected, in a new page a text box named "Email or Mobile phone" should be displayed under the image and the following buttons should be available "Send as email", "Send as MMS". Next to each image ratings and votes must be displayed and the users should be able to vote for each object (image in this case).