



Risiko Kapital Management

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5. Semester von Technische Informatik

Venture Capital Management

developed and tested by Jan Helber, Holger Hoffmann
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PostgreSQL



Figure 1: PostgreSQL PHP Apache

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1 Vorwort / Einleitung

Das Projekt RKM¹ soll es Firmen ermöglichen die passenden Investoren zu finden und anders herum. Um zu gewährleisten, dass es keine Späßeinträge gibt muss bei der Registrierung eines Accounts z.B. die eMail-Adresse validiert werden. Damit sich auch die zusammenpassenden Partner finden gibt es eine Suchfunktion. Eine Auswahl der Kategorie war angedacht konnte aber aus zeitlichen Gründen noch nicht implementiert werden.

Das Projekt wurde in PHP5 und mit der PostgreSQL-Datenbank realisiert. PHP5 wurde ausgewählt, weil dort die Möglichkeiten objektorientiert zu programmieren gegenüber PHP4 deutlich verbessert wurden (mehr dazu siehe: Kapitel 11). Die Wahl fiel auf PostgreSQL, weil es eine ausgereifte Datenbank mit allen nötigen Funktionen ist. (mehr dazu siehe: Kapitel 10)

Das Projekt RKM entstand an der Technischen Hochschule in Ulm im Sommer Semester 2006. Es wurde in der Vorlesung Datenbanken II durchgeführt. Die Entwickler des Projektes sind Jan Helber und Holger Hoffmann. Die Installation, die Benutzer- und die Administrationsanleitung des Projektes sind in deutscher und englischer Sprache enthalten, um das Projekt einer möglichst großen Gruppe zur Verfügung stellen zu können. Der technische Teil (für den Endanwender eher uninteressant) ist ausschließlich in englischer Sprache dokumentiert.

2 Preface / Introduction

The project RKM² shall make it possible to find the suitable investors for companies also the other direction. To ensure that there are no joke entries the email address has to be validated after the registration of a new account. That the partners that fit are able to find each other there is a search function. We thought about a selection of the category however for temporal reasons it was not yet implemented.

The project was realized in PHP5 and with the PostgreSQL-database. PHP5 was chosen, because the possibilities of object-oriented programming were improved clearly (more about that look for: Chapter 11). PostgreSQL was chosen, because it is a stable database with all necessary functions (more about that look for: Chapter 10)

The project VKM³, was born at the university of Applied Sciences in Ulm in summer semester 2006. It was created in the lecture databases II. The developers of this project are Jan Helber and Holger Hoffmann. The installation, the user- and the administration-manual of the project are in german and in english speech, to be able to make the project available for a large group. The technical part (rather uninteresting for the final user) is documented exclusively in English language.

¹Risiko Kapital Management

²Venture Capital Management

³Venture Capital Management

3 Installation von RKM

- Voraussetzung zur Nutzung dieser Software ist ein lauffähiger Apache-Webserver, der über PHP5 auf eine PostgreSQL-Datenbank zugreifen kann und eine PostgreSQL-Datenbank. Ich gehe davon aus, dass jeder XAMPP (xampp-win32-1.5.1-installer.exe) und PostgreSQL (postgresql-8.1.msi) installieren kann.
- Wenn Sie eine Linux-Distribution nutzen installiere postgresql mit dem Paketmanager (bei Debian z.B.: apt-get install postgresql).
- Im Anschluss daran muss in den Dateien php.ini im Apache\bin- & PHP-Ordner von XAMPP das führende Semikolon vor "extension=php_pgsql.dll" entfernt werden. Nach einem Neustart des Apache-Prozesses sollte die PostgreSQL-Funktionalität von PHP5 aktiviert sein.
- Mit "Start>Programme>Postgresql 8.1>start Service" startet man das Dankenbanksystem.
- Unter "Programme>apachefriends>xampp" findet man das "control xampp server panel" mit dem man den Apache-Dienst starten kann.
- Unter "Start>Programs>Postgresql 8.1>" findet man "psql of 'postgres'". Hier wird das Passwort vom Benutzer postgres (welches man während der Installation festgelegt hat) benötigt. Nun sollte eine Kommandozeile erscheinen, welche mit "postgres-#" beginnt. Dort müssen dann folgende Befehle eingegeben werden:

Listing 1: postgresDE

```
1 CREATE USER kapital;  
2 ALTER USER kapital PASSWORD 'iU3wYfgL9';  
3 /* Dieses Kommando erzeugt den Benutzer 'kapital' mit Passwort. */  
4 CREATE DATABASE 'jan-db1' WITH OWNER kapital;  
5 /* Dieses Kommando erzeugt eine neue Datenbank die dem Bentuezr 'kapital' gehört */
```

- Dann entpackt man die RAR-Datei.
- Danach muss das SQL-Create-Script (create_postgresql.sql) in die Datenbank "jan-db1" eingespielt werden:
Wähle "Start>Programs>Postgresql 8.1>commandline" und dann starte "psql jan-db1 -U postgres -f c:\pfad\create_postgresql.sql
Wenn c:\pfad der Pfad zur Datei create_postgresql.sql ist.
- Als nächstes kopiert man alle Dateien einfach in einen Ordner, auf den der Apache-Webserver Zugreifen kann.
- Danach müssen in der Datei "inc.init.php5" die Einstellungen vorgenommen werden.
 - DBuser: Hier wird der Datenbank-User eingetragen
 - DBpass: Hier wird das Passwort des Datenbank-Users eingetragen
 - DBhost: Hier wird der Hostname des Datenbank-Servers eingetragen

- DBport: Hier wird der Port für den Zugriff auf die Datenbank eingetragen (Standart: 5432)
 - DBname: Hier wird der Name der Datenbank eingetragen
 - domain: Hier wird die Domain eingetragen unter der die Seite erreichbar ist
 - path: Hier wird der Pfad in dem sich die PHP-Dateien befinden eingetragen. z.B. “/” wenn sich die Dateien im root-Verzeichnis des Apache-Websers befinden.
- Beim einspielen des SQL-Create-Skriptes wurde der Benutzer admin (Passwort=admin) mit Administrationsrechten angelegt. Daher sollte man sich als dieser User einloggen und im Profil als erstes das Passwort und die eMail-Adresse ändern. Starten Sie Ihren Webbrowser und besuchen Sie <http://localhost/>

4 Setting up VKM

- A condition to use this software is an Apache Webserver, which is able to access a PostgreSQL database over PHP5 and a PostgreSQL-Database. I assume everybody is able to install XAMPP (xampp-win32-1.5.1-installer.exe) and PostgreSQL (postgresql-8.1.msi).
- If you are using a Linux-Distribution install postgresql with the packagemanager (for example Debian: `apt-get install postgresql`).
- After that the semicolon before “extension=php_pgsq.dll” in the files php.ini has to be removed in the Apache\bin- & PHP-directory from XAMPP. After a restart of the Apache process PostgreSQL functionality should be activated by PHP5.
- With “Start>Programme>Postgresql 8.1>start Service” you can start the databas-system.
- With “control xampp server panel” under “Programme>apachefriends>xampp” you will be able to start the Apache-Service.
- After that start “psql of 'postgres'” under “Start>Programs>Postgresql 8.1”. You will need your password for the user postgres, you have chosen during setup. You should now see a Command line beginning with “postgres-#”. There you have to enter the following commands:

Listing 2: postgresEN

```
1 CREATE USER kapital;  
2 ALTER USER kapital PASSWORD 'iU3wYfgL9';  
3 /* This will create a new User and Password. */  
4 CREATE DATABASE 'jan-dbl' WITH OWNER kapital;  
5 /* This creates a new database and the new user will be the new owner of the database. */
```

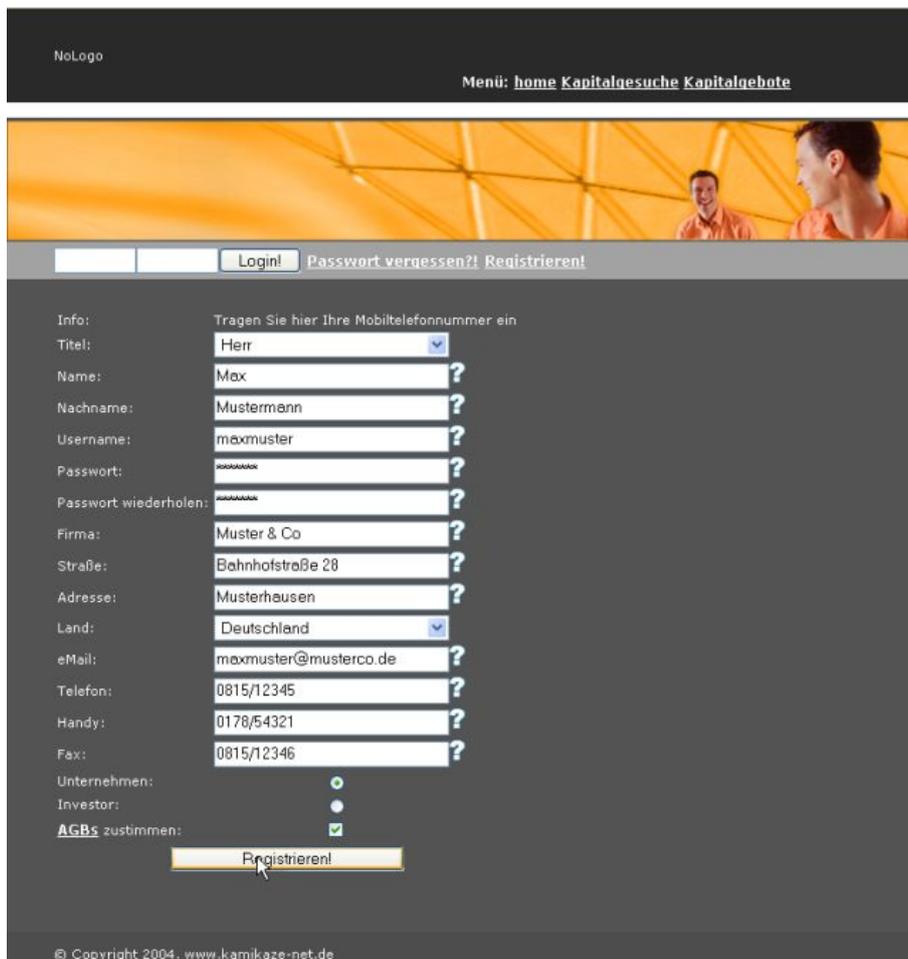
- Then you have to deflate the RAR file.

- After that execute the SQL-Create-Script (create_postgresql.sql) on the database: Select "Start>Programs>Postgresql 8.1>commandline" and then execute "psql jan-db1 -U postgres -f c:\path\create_postgresql.sql
Assuming that c:\path is the path to the file create_postgresql.sql.
- Next copy all files into a directory, which is accessible by the Apache Web server.
- After that you have to do some settings in the file inc.init.php5.
 - DBuser: Here the database user is registered to
 - DBpass: Here the password of the database user is registered to
 - DBhost: Here the hostname of the database server is registers to
 - DBport: Here the port to access the database is registered (standart: 5432)
 - DBname: Here the name of the database is registered to
 - domain: Here the Domain under that the site is accessible is registered to
 - path: Here the path to the PHP files is registered to. e.g. "/" if the files are in the root directory of the Apache Webserver.
- by executing the SQL-Create-Script the user admin (password=admin) with administration privileges was installed. Therefore you should log in as this user and change the password and the email address in the profile. Start your web browser and go to <http://localhost/>

5 Benutzeranleitung

5.1 Registrieren

Das erste was Sie zu tun haben, um mit Risiko-Kapital-Management zu arbeiten, ist das Anlegen eines Benutzers über das Registrieren-Formular. Um auf das Formular zu kommen müssen Sie im Menü den Link 'Registrieren!' klicken.



The screenshot shows a web registration form. At the top, there is a navigation bar with 'NoLogo' on the left and a menu with 'home', 'Kapitalgesuche', and 'Kapitalgebote'. Below the navigation bar is a banner image of two men in an office. The form itself is a vertical list of input fields. At the top of the form are two empty input boxes, a 'Login!' button, and a link 'Passwort vergessen?! Registrieren!'. The form fields are: 'Info:' with a note 'Tragen Sie hier Ihre Mobiltelefonnummer ein'; 'Titel:' with a dropdown menu set to 'Herr'; 'Name:' with 'Max' and a question mark; 'Nachname:' with 'Mustermann' and a question mark; 'Username:' with 'maxmuster' and a question mark; 'Passwort:' with a masked field and a question mark; 'Passwort wiederholen:' with a masked field and a question mark; 'Firma:' with 'Muster & Co' and a question mark; 'Straße:' with 'Bahnhofstraße 28' and a question mark; 'Adresse:' with 'Musterhausen' and a question mark; 'Land:' with a dropdown menu set to 'Deutschland'; 'eMail:' with 'maxmuster@musterco.de' and a question mark; 'Telefon:' with '0815/12345' and a question mark; 'Handy:' with '0178/54321' and a question mark; 'Fax:' with '0815/12346' and a question mark; 'Unternehmen:' with a radio button; 'Investor:' with a radio button; and 'AGB's zustimmen:' with a checked checkbox. At the bottom of the form is a 'Registrieren!' button. The footer of the page reads '© Copyright 2004. www.kamikaze-net.de'.

Figure 2: Registrierungsformular

Pflichtfelder im Registrieren-Formular sind Nachname, Username, Straße, Adresse, Email. Sollten diese Felder nicht ausgefüllt sein gibt das System eine Fehlermeldung aus. Ebenso muss ein Passwort und eine korrekte Wiederholung angegeben werden um die Registrierung erfolgreich zu beenden. Abschliessend müssen Sie die AGB's⁴, welche Sie über den Link beim Feld 'AGB's zustimmen' einsehen können, bestätigen.

Sobald alle notwendigen Eingaben vorhanden sind versendet das System eine Validierungsemail an Ihre angegebene Adresse, die bestätigt werden muss. Durch das bestäti-

⁴Allgemeine Geschäftsbedingungen

gen dieser Email wird Ihr Account freigeschaltet. Nun können Sie das Risiko-Kapital-Management nutzen.

Bemerkung:

Registrieren können Sie sich natürlich nur wenn Sie nicht bereits eingeloggt sind!

5.2 Login

Um das VCM-System nutzen zu können müssen Sie sich nach dem Registrieren einloggen, dies geschieht über die Login-Felder in der Menüleiste. Nachdem Sie Ihren Benutzername und Ihr Passwort eingegeben haben bestätigen Sie diese durch klicken des Buttons 'Login!'.

maxmuster [Passwort vergessen?!](#) [Registrieren!](#)

Die Letzten 5 Kapitalgesuche			
letzte Änderung	Anfragenname	min	max
2006-06-28 23:54:30.234	advert_header7	2000000	8500000
2006-06-28 23:53:53.843	advert_header6	10000000	50000000
2006-06-28 23:53:26.562	advert_header5	90000	450000
2006-06-25 11:45:55.312	advert_header4	125000	200000
2006-06-25 11:42:46.687	advert_header3	300000	2000000

Die Letzten 5 Kapitalgesuche			
letzte Änderung	Angebotsname	min	max
2006-06-28 23:46:58.203	advert_header_offer6	60000	100000
2006-06-28 23:46:38.828	advert_header_offer5	2000000	2500000
2006-06-28 20:46:43.14	advert_header_offer4	230000	400000
2006-06-25 12:03:44.761	advert_header_offer3	1000000	8000000
2006-06-24 10:40:44.39	advert_header_offer1	100000	150000

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Figure 3: Login

Sobald Sie eingeloggt sind wird Ihr Name und Status (Company/Investor/Admin) in der Menüleiste angezeigt. Sollte Ihr Login nicht korrekt sein zeigt das System eine Fehlermeldung an!



Figure 4: Loginfehler

5.3 Passwort vergessen

Falls Sie Ihr Passwort vergessen haben, können Sie ein neues Passwort anfordern. Tragen Sie in das Feld 'Benutzername:' Ihren Benutzernamen ein und bestätigen Sie mit dem Button 'Passwort vergessen?!'.

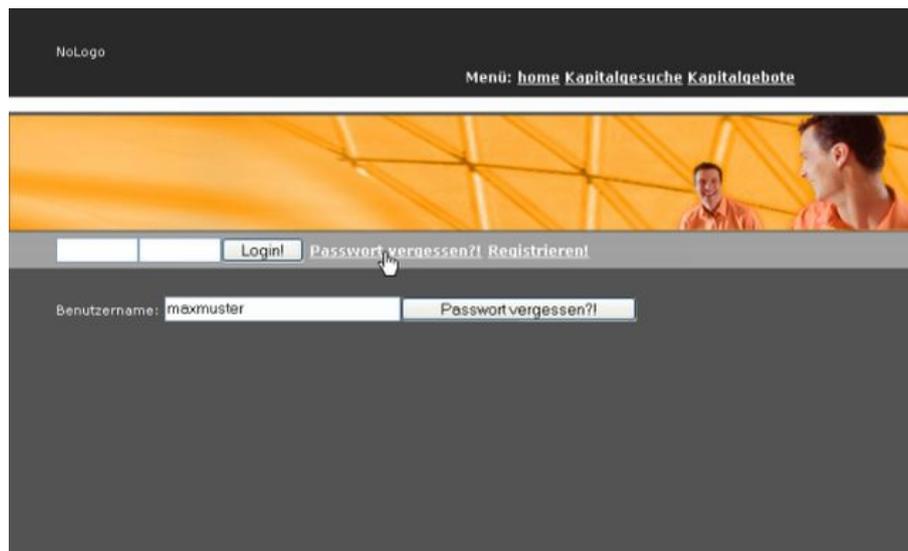
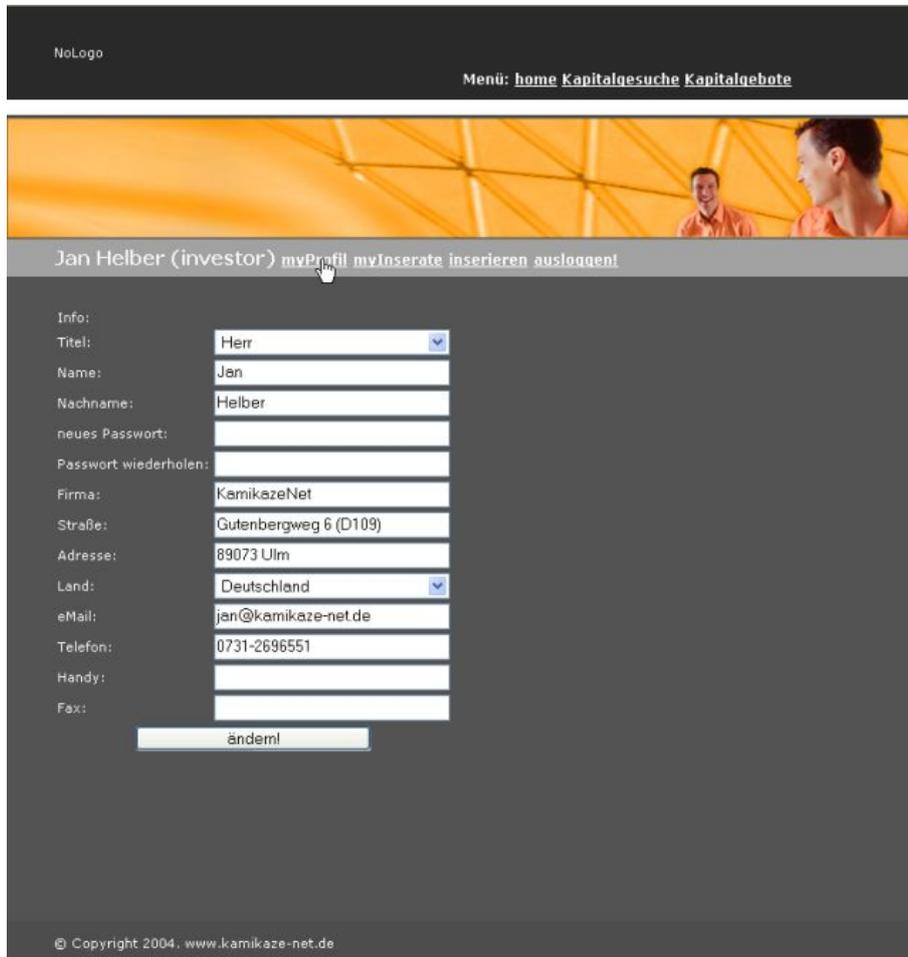


Figure 5: Passwort vergessen , Username

Anschließend wird eine Email an die von Ihnen angegebene Adresse gesendet in der Sie das neue Passwort erhalten. Mit diesem neuen Passwort können Sie nun wieder einloggen und das Passwort dann nach Ihren Wünschen in dem Formular MyProfil (wird als nächstes in der Benutzeranleitung beschrieben) ändern.

5.4 MyProfile

Sobald Sie eingeloggt sind können Sie unter 'myProfil' die Angaben zu Ihrer Person ändern.



The screenshot shows a web interface for a user profile. At the top, there is a navigation menu with links for 'home', 'Kapitalgesuche', and 'Kapitalgebote'. Below the menu is a banner image of two men in an office setting. The user's name 'Jan Helber (investor)' is displayed, along with links for 'myProfil', 'myInserate', 'inserieren', and 'ausloggen!'. The main content area contains a form with the following fields:

Info:	
Titel:	Herr
Name:	Jan
Nachname:	Helber
neues Passwort:	
Passwort wiederholen:	
Firma:	KamikazeNet
Straße:	Gutenbergweg 6 (D109)
Adresse:	89073 Ulm
Land:	Deutschland
eMail:	jan@kamikaze-net.de
Telefon:	0731-2696551
Handy:	
Fax:	

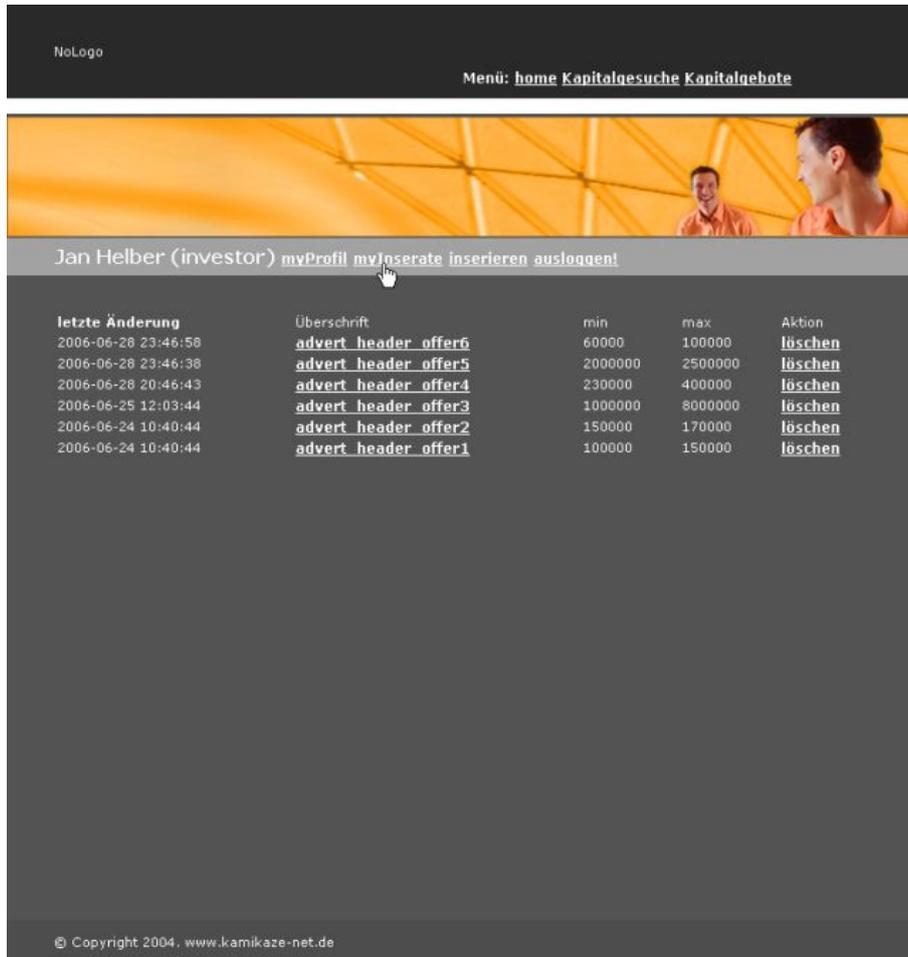
At the bottom of the form is a button labeled 'ändern!'. The footer of the page contains the text '© Copyright 2004, www.kamikaze-net.de'.

Figure 6: MyProfil

Wenn Ihre Änderungen abgeschlossen sind, klicken Sie auf 'Ändern!' Sollte das Ändern erfolgreich durchgeführt worden sein, erhalten Sie eine Bestätigung im Feld 'Info:' Sollten Sie einen Fehler bei der Passwortänderung begangen haben wird Ihnen das ebenfalls im Feld 'Info:' angezeigt. Falls Sie Ihre Email-Adresse geändert haben erhalten Sie eine Validierungsemail an Ihre neue Email-Adresse, die Sie erst bestätigen müssen um die Änderung abzuschliessen.

5.5 MyInserate

Nach dem Klick auf 'myInserate' können Sie Ihre eigenen Inserate einsehen und bearbeiten.



The screenshot shows the 'MyInserate' interface for user Jan Helber (investor). The menu includes 'home', 'Kapitalgesuche', and 'Kapitalgebote'. The user's profile links are 'myProfil', 'myInserate', 'inserieren', and 'ausloggen!'. A table lists the user's advertisements with the following data:

letzte Änderung	Überschrift	min	max	Aktion
2006-06-28 23:46:58	advert_header_offer6	60000	100000	löschen
2006-06-28 23:46:38	advert_header_offer5	2000000	2500000	löschen
2006-06-28 20:46:43	advert_header_offer4	230000	400000	löschen
2006-06-25 12:03:44	advert_header_offer3	1000000	8000000	löschen
2006-06-24 10:40:44	advert_header_offer2	150000	170000	löschen
2006-06-24 10:40:44	advert_header_offer1	100000	150000	löschen

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Figure 7: MyInserate

Im Bereich unter der Menüleiste werden dannach Ihre Inserate angezeigt (validierte und nicht validierte). Wobei als Info angezeigt wird, ob ein Inserat schon validiert wurde, oder nicht. Durch einen Klick auf den Namen des Inserats kommen Sie zu den Details des Inserats. Sie können eines Ihrer Inserate durch Klicken auf 'Löschen' am Ende der Inseratzeile direkt löschen.

Im Formular MyInserate können Sie nun Ihr Inserat ändern. Zu den einzelnen Bereichen stehen kurze Tooltips zur Verfügung (Fragezeichen!), die dann im Feld 'Info:' angezeigt werden. Wenn Sie ihre Änderungen beendet haben klicken Sie auf 'Ändern!', damit Ihr Inserat geändert wird.

The screenshot shows a web interface for editing an investment listing. At the top, there is a navigation bar with 'NoLogo' and a menu with links for 'home', 'Kapitalgesuche', and 'Kapitalgehote'. Below this is a header for 'Jan Helber (investor)' with links for 'myProfil', 'myInserate', 'inserieren', and 'ausloggen!'. The main form area is titled 'In welcher Branche möchten Sie Investieren?' and contains the following fields:

Info:	In welcher Branche möchten Sie Investieren?
ID:	1
letzte Änderung:	2006-06-24 10:40:44.39
Titel:	advert_header_offer1 ?
Phase: (Mehrfachauswahl mit gedrückter Strg-Taste)	Konzeptionsphase Start-up-phase Expansions-/Wachstumspha... Vorbereitung der Börseneinfü... Akquisition MBO/MBI/LBO ?
Kategorien: (Mehrfachauswahl mit gedrückter Strg-Taste)	Energie Umweltschutz Entsorgung Medizintechnik Pharma ?
Investieren für: (Mehrfachauswahl mit gedrückter Strg-Taste)	im eigenen Namen eigenes Unternehmen Business-Angel-Gemeinscha... für Dritte für ein VC-Fond ?
Währung:	Euro
Investitionsvolumen (min):	100000 ?
Investitionsvolumen (max):	150000
Beteiligungsquote in % (min):	15 ?
Beteiligungsquote in % (max):	20
Weitere Informationen:	Will viel Gewinn für wenig Geld *g* ?

At the bottom of the form is a yellow button labeled 'ändern!' with a mouse cursor pointing to it.

Figure 8: Formular MyInserate

5.6 Inserieren

Mit dem Link 'Inserieren' auf der Menüleiste können Sie neue Inserate eintragen. Wenn Sie diesen Link klicken werden Sie auf das Inserieren Formular geleitet auf dem Sie die angezeigten Einträge durchführen müssen. Mit dem Bestätigen durch den Button 'Eintragen!' wird Ihr Inserat geschaltet (sofern alle nötigen Eingaben getätigt wurden, ansonsten werden sie auf die fehlenden Eingaben hingewiesen). Sie können das Inserat jederzeit wieder unter MyInserate ändern. Ihr Inserat wird allerdings für andere Nutzer erst sichtbar wenn es durch einen Administrator validiert wurde!

Menü: [home](#) [Kapitalgesuche](#) [Kapitalangebote](#)

Jan Helber (investor) [myProfil](#) [myInserate](#) [inserieren](#) [ausloggen!](#)

Info: Unter welchem Betreff soll Ihr Gesuch erscheinen?

Titel:

Phase: (Mehrfachauswahl mit gedrückter Strg-Taste)

Konzeptionsphase
Start-up-phase
Expansions-/Wachstumsphase
Vorbereitung der Börseneinführung
Akquisition MBO/MBI/LBO

Kategorien: (Mehrfachauswahl mit gedrückter Strg-Taste)

Ökologie
Energie
Umweltschutz
Entsorgung
Medizintechnik

Investieren für: (Mehrfachauswahl mit gedrückter Strg-Taste)

im eigenen Namen
eigenes Unternehmen
Business-Angel-Gemeinschaft
für Dritte
für ein VC-Fond

Währung: USD

Investitionsvolumen (min):

Investitionsvolumen (max):

Beteiligungsquote in % (min):

Beteiligungsquote in % (max):

Weitere Informationen:

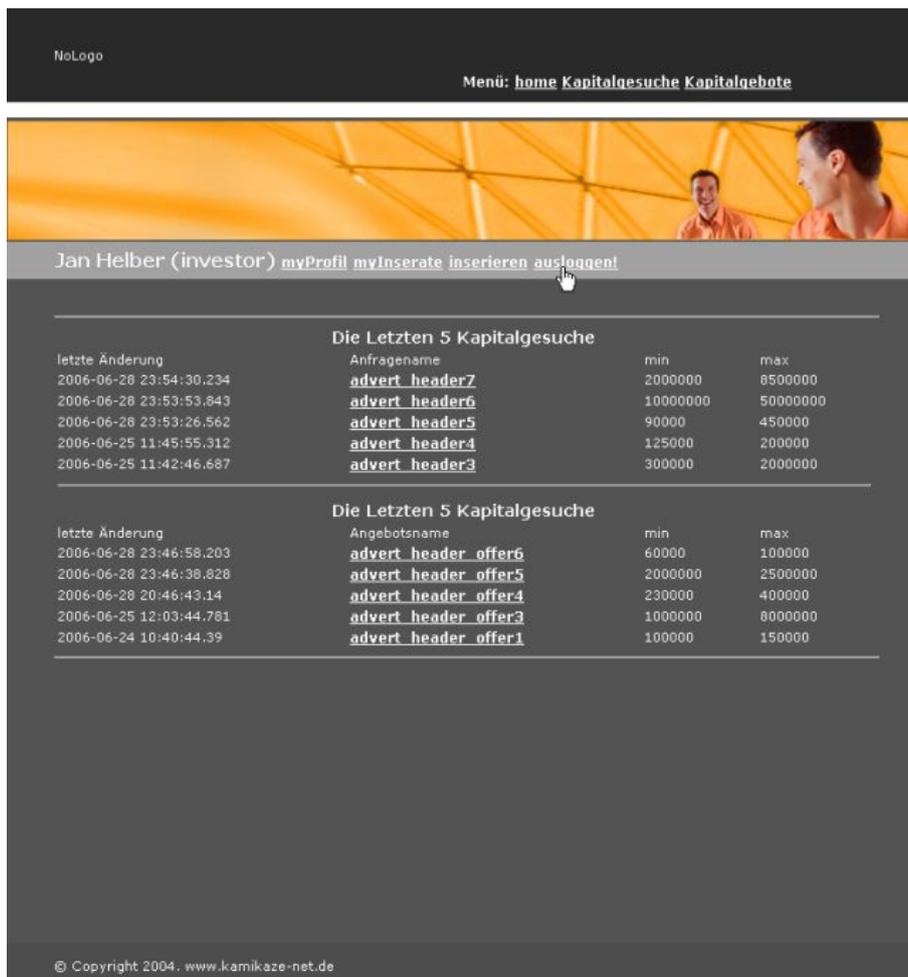
© Copyright 2004, www.kamikaze-net.de

Figure 9: Inserieren

5.7 Ausloggen

Durch den Link 'ausloggen!' können Sie sich aus dem System ausloggen. Nach dem Ausloggen kommen Sie wieder auf die Startseite mit dem Login.

Bemerkung: Wenn Sie Kapitalgesuche und Kapitalgebote schalten wollen, müssen Sie einen 2 Benutzer anlegen: Einen Investor Account und einen Company Account!



The screenshot shows a user interface for a financial platform. At the top, there is a navigation menu with links for 'home', 'Kapitalgesuche', and 'Kapitalgebote'. Below the menu is a banner image of two men in an office setting. The user's name 'Jan Helber (investor)' is displayed, along with links for 'myProfil', 'myInserate', 'inserieren', and 'ausloggen!'. The 'ausloggen!' link is highlighted with a mouse cursor. Below the user information, there are two tables showing the last 5 capital requests and offers.

Die Letzten 5 Kapitalgesuche			
letzte Änderung	Anfragenname	min	max
2006-06-28 23:54:30.234	advert_header7	2000000	8500000
2006-06-28 23:53:53.843	advert_header6	10000000	50000000
2006-06-28 23:53:26.562	advert_header5	90000	450000
2006-06-25 11:45:55.312	advert_header4	125000	200000
2006-06-25 11:42:46.687	advert_header3	300000	2000000

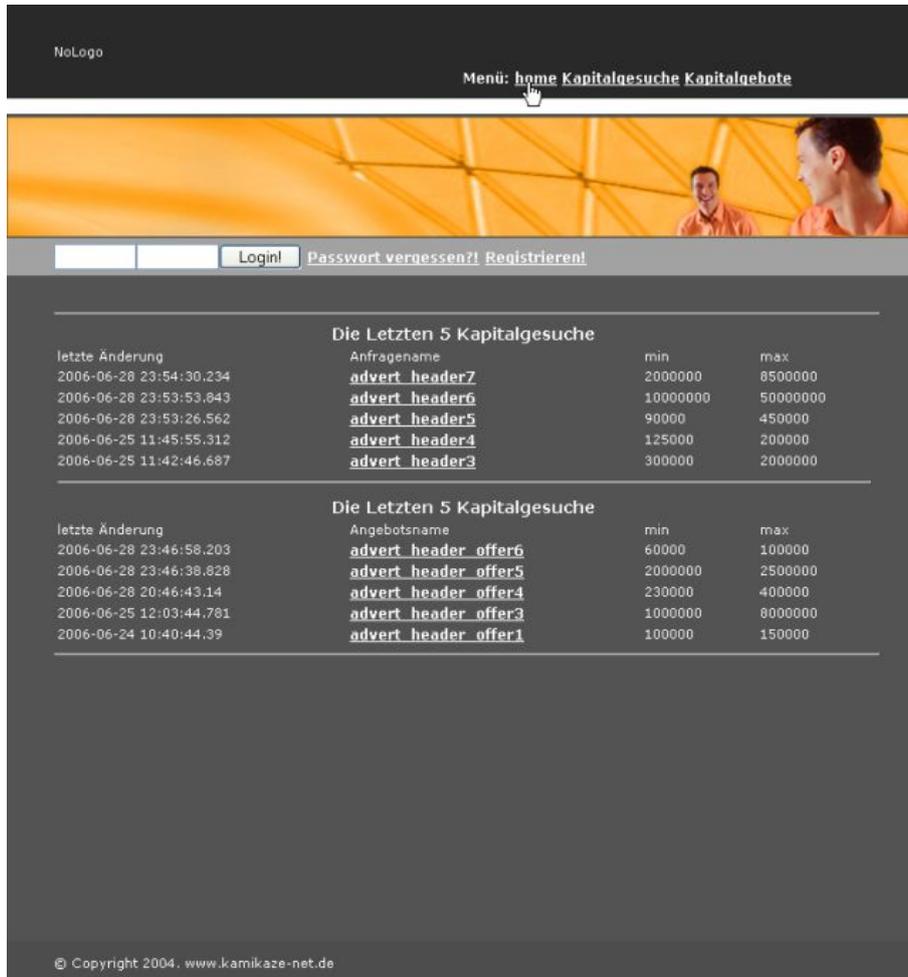
Die Letzten 5 Kapitalgebote			
letzte Änderung	Angebotsname	min	max
2006-06-28 23:46:58.203	advert_header_offer6	60000	100000
2006-06-28 23:46:38.828	advert_header_offer5	2000000	2500000
2006-06-28 20:46:43.14	advert_header_offer4	230000	400000
2006-06-25 12:03:44.781	advert_header_offer3	1000000	8000000
2006-06-24 10:40:44.39	advert_header_offer1	100000	150000

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Figure 10: Ausloggen

5.8 Home

Durch einen Klick auf den Link 'home' auf der oberen Menüleiste kommen Sie wieder auf die Startseite des Systems zurück. Hier finden Sie eine Top5 der Inserate der Investitionsanbieter und Investitionsnehmer.



The screenshot shows the home page of a website. At the top, there is a dark navigation bar with the text 'NoLogo' on the left and a menu on the right containing 'home', 'Kapitalgesuche', and 'Kapitalgebote'. Below the navigation bar is a banner image of two men in orange shirts. Underneath the banner is a login section with a text input field, a 'Login!' button, and links for 'Passwort vergessen?!' and 'Registrieren!'. The main content area features two tables, each titled 'Die Letzten 5 Kapitalgesuche'. The first table lists search requests with columns for 'letzte Änderung', 'Anfragenname', 'min', and 'max'. The second table lists offers with columns for 'letzte Änderung', 'Angebotsname', 'min', and 'max'. At the bottom of the page, there is a copyright notice: '© Copyright 2004. www.kamikaze-net.de'.

letzte Änderung	Anfragenname	min	max
2006-06-28 23:54:30.234	advert_header7	2000000	8500000
2006-06-28 23:53:53.843	advert_header6	10000000	50000000
2006-06-28 23:53:26.562	advert_header5	90000	450000
2006-06-25 11:45:55.312	advert_header4	125000	200000
2006-06-25 11:42:46.687	advert_header3	300000	2000000

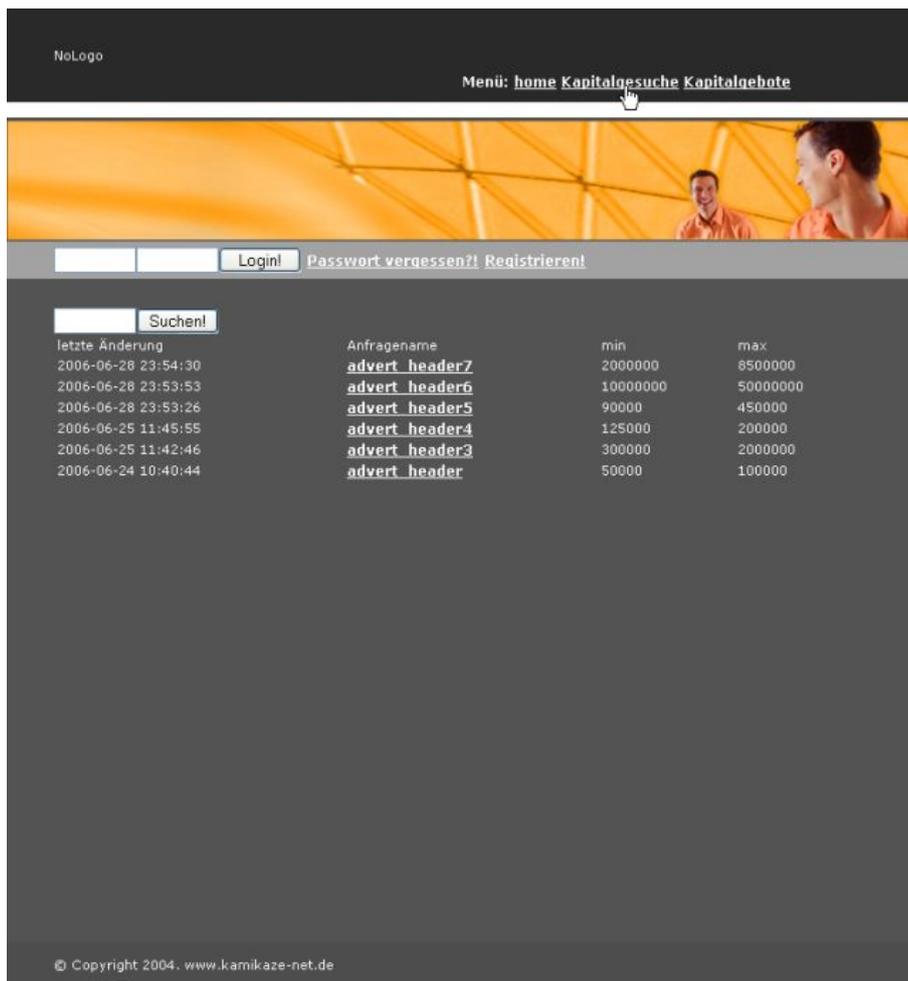
letzte Änderung	Angebotsname	min	max
2006-06-28 23:46:58.203	advert_header_offer6	60000	100000
2006-06-28 23:46:38.828	advert_header_offer5	2000000	2500000
2006-06-28 20:46:43.14	advert_header_offer4	230000	400000
2006-06-25 12:03:44.781	advert_header_offer3	1000000	8000000
2006-06-24 10:40:44.39	advert_header_offer1	100000	150000

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Figure 11: Startseite

5.9 Kapitalgesuche/Kapitalangebote

Über die beiden Links Kapitalgebote und Kapitalgesuche in der oberen Menüleiste können Sie durch sämtliche validierte Gebote und Gesuche browsen. Durch klicken auf eines der Gebote/Gesuche bekommt man Details zum Gebot/Gesuch angezeigt. Über das Eingabefeld 'Suchen' können Sie auch gezielt Gebote/Gesuche finden.



The screenshot shows a web interface with a dark header containing the text 'NoLogo' and a menu with links for 'home', 'Kapitalgesuche', and 'Kapitalgebote'. Below the header is a banner image of two men in an orange shirt. A navigation bar includes 'Login!', 'Passwort vergessen?!', and 'Registrieren!'. A search section features a 'Suchen!' button and a table of search results.

letzte Änderung	Anfragenname	min	max
2006-06-28 23:54:30	advert_header7	2000000	6500000
2006-06-28 23:53:53	advert_header6	10000000	50000000
2006-06-28 23:53:26	advert_header5	90000	450000
2006-06-25 11:45:55	advert_header4	125000	200000
2006-06-25 11:42:46	advert_header3	300000	2000000
2006-06-24 10:40:44	advert_header	50000	100000

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Figure 12: Gesuche browsen

Bemerkung: Nur wenn Sie eingeloggt sind bekommen Sie zu den Detailinfos der Inserate auch die Kontaktinformationen des Inserierenden!

The screenshot displays a user interface for an investor profile. At the top, there is a navigation menu with 'home', 'Kapitalgesuche', and 'Kapitalangebote'. Below the menu is a header image showing two men in an office setting. The main content area is titled 'Jan Helber (investor)' and includes links for 'myProfil', 'myInserate', 'inserieren', and 'ausloggen!'. The core of the page is a table of key-value pairs detailing the investment request and the investor's contact information.

Name der Anfrage:	advert_header
Anfragezeitpunkt	2006-06-24 10:40:44.39
Land	
Produkt	service_offer
Kapitalzweck	money_for
Branche	IT
	Internetservice
	Telekommunikation
Phase	Konzeptionsphase
Zusammenarbeit	Strategische Planung
Jahresumsatz	20000000
Währung	USD
Beteiligungsminimum	50000
Beteiligungsmaximum	100000
Beteiligungsquote (min)	15
Beteiligungsquote (max)	20
Maximale Anzahl der Inverstoren	2
Bemerkungen	additional description
	Herr Jan Helberl
	KamikazeNet
	Gutenbergweg 6 (D109)
	89073 Ulm
	Deutschland
	jan@kamikaze-net.de
	0731-2696551
Kontakt:	

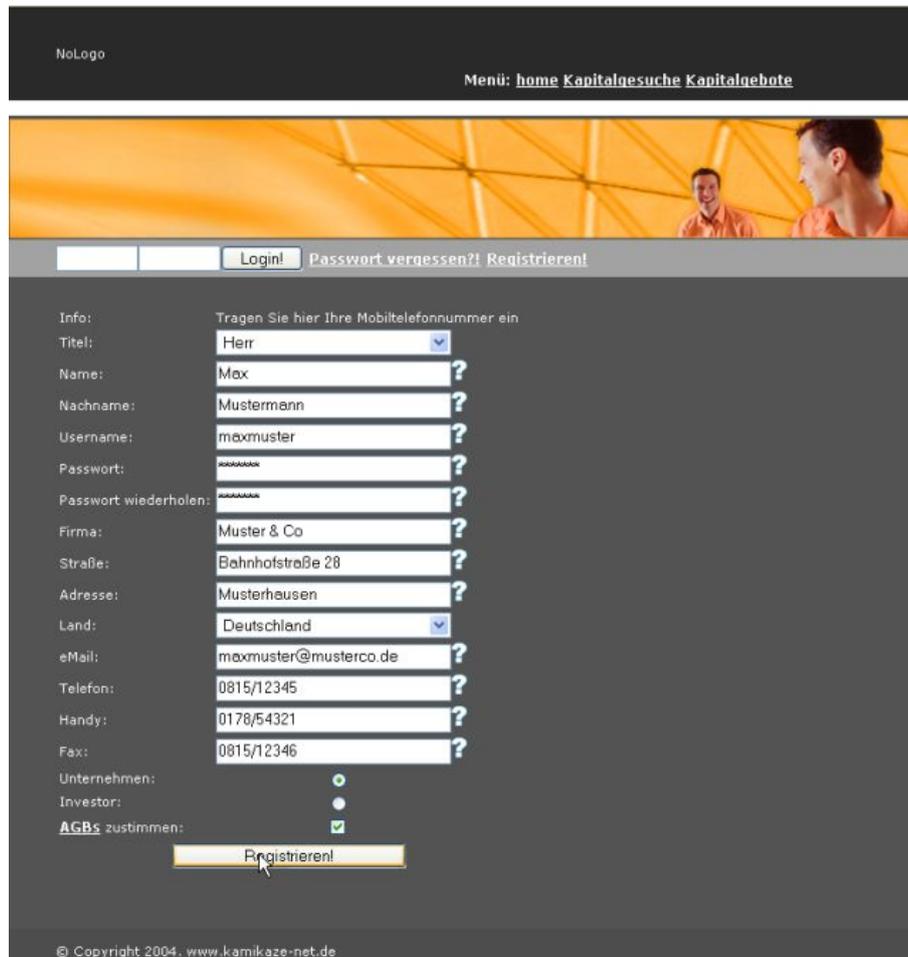
© Copyright 2004. www.kamikaze-net.de

Figure 13: Detailinfos mit Kontaktadresse

6 User Manual

6.1 Register

The first thing to do to work with Venture-Capital-Management is to create a new User using the Register-Form. To get to this form you have to click the link 'Registrieren!'.



The screenshot shows a web application interface for user registration. At the top, there is a dark navigation bar with 'NoLogo' on the left and a menu with links 'home', 'Kapitalgesuche', and 'Kapitalgehote' on the right. Below the navigation bar is a banner image of two men in an orange shirt talking. Underneath the banner is a login section with a text input field, a 'Login!' button, and links for 'Passwort vergessen?!' and 'Registrieren!'. The main registration form is titled 'Tragen Sie hier Ihre Mobiltelefonnummer ein'. It contains the following fields: 'Titel:' (dropdown menu with 'Herr' selected), 'Name:' (text input 'Max'), 'Nachname:' (text input 'Mustermann'), 'Username:' (text input 'maxmuster'), 'Passwort:' (password input), 'Passwort wiederholen:' (password input), 'Firma:' (text input 'Muster & Co'), 'Straße:' (text input 'Bahnhofstraße 28'), 'Adresse:' (text input 'Musterhausen'), 'Land:' (dropdown menu with 'Deutschland' selected), 'eMail:' (text input 'maxmuster@musterco.de'), 'Telefon:' (text input '0815/12345'), 'Handy:' (text input '0178/54321'), and 'Fax:' (text input '0815/12346'). There are radio buttons for 'Unternehmen:' and 'Investor:', and a checked checkbox for 'AGB's zustimmen:'. A 'Registrieren!' button is at the bottom of the form. The footer of the page reads '© Copyright 2004. www.kamikaze-net.de'.

Figure 14: Registerform

Mandatory Fields at the Register-Form are Surname, Username, Street, Address, Email. If these fields are not filled the System will report an Error. You also have to type a password and retype it correctly into the next Field after 'Passwort:' to get registered successfully. You also have to confirm the general terms and conditions which you can read by clicking on the link at the Field 'AGB's zustimmen'.

If all necessary Informations are given the System will send a Validation-Email to your Email-Address, which has to be approved. By confirming these email your account will be activated. Now you can use the Venture-Capital-Management System.

Note:

You only will be able to register if you are not logged in!

6.2 Login

To use the VCM-System you have to log in after you have registered. This will happen by using the Login-Field at the Menu-Bar. After you inserted your Username and Password you have to approve them by clicking the Button 'Login!'.

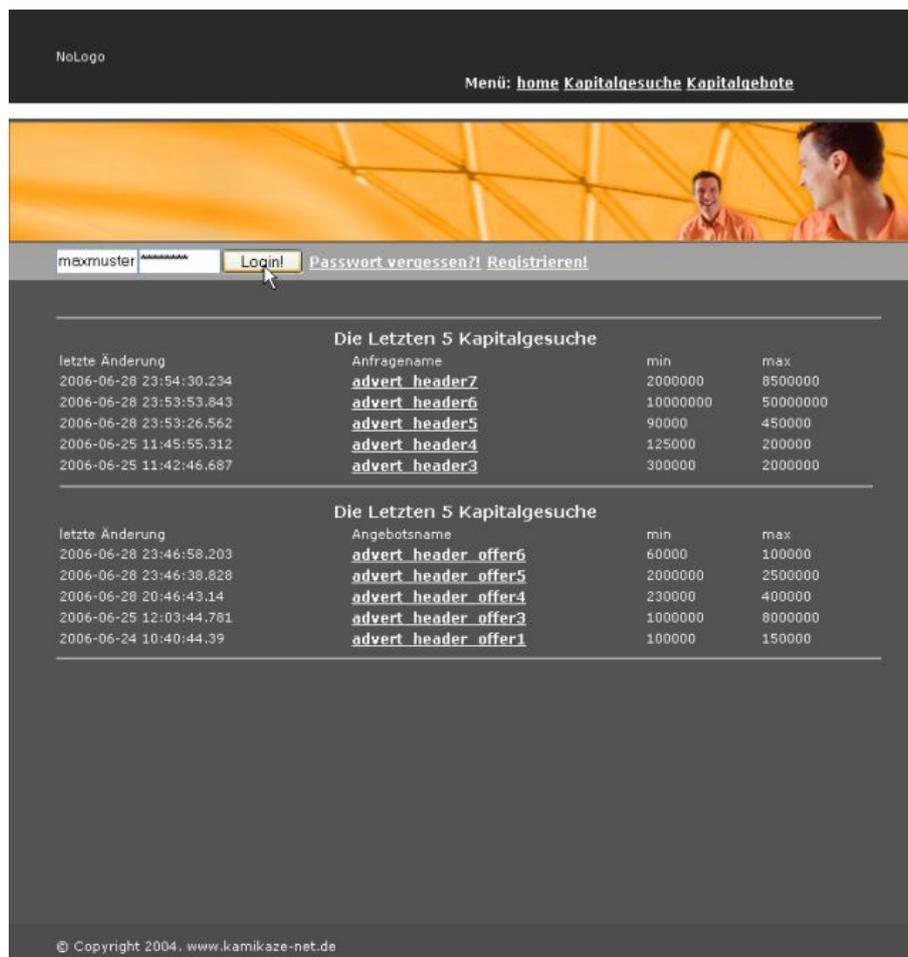


Figure 15: Login!

After you are logged in the Menu-Bar will show your name and your status (Company/Investor/Administrator). If your login wasn't correct the System will show you an Error!



Figure 16: Loginerror

6.3 Passwort forgotten

If you have forgotten your Password you can request a new one. Fill in your Username into the Field 'Benutzername:' and approve it by clicking the Button 'Passwort vergessen?!'.

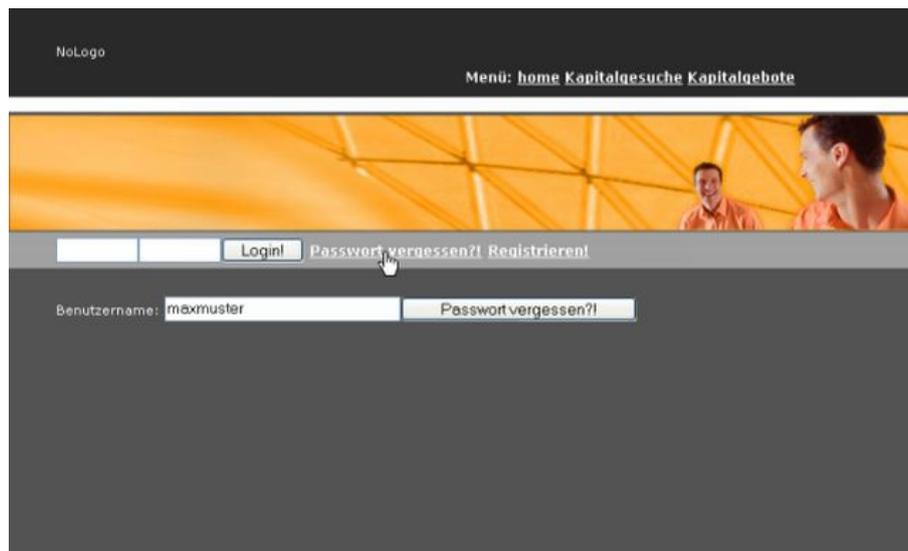


Figure 17: Passwort forgotten , Username

After that you will receive an Email with a new Password at your quoted Email-Address. You can log in again with this new Password and change it according to your wishes by using the form myProfil (this form will be the next point in this user manual).

6.4 MyProfile

Once you are logged in you will be able to change your personal informations clicking on 'myProfil'. If you have changed your Email-Address you will get a Validation-Email to your new Email-Address which you have to confirm to complete this change.

NoLogo

Menü: [home](#) [Kapitalgesuche](#) [Kapitalgebote](#)

Jan Helber (investor) [myProfil](#) [myInserate](#) [inserieren](#) [ausloggen!](#)

Info:

Titel: Herr

Name: Jan

Nachname: Helber

neues Passwort:

Passwort wiederholen:

Firma: KamikazeNet

Straße: Gutenbergweg 6 (D109)

Adresse: 89073 Ulm

Land: Deutschland

eMail: jan@kamikaze-net.de

Telefon: 0731-2696551

Handy:

Fax:

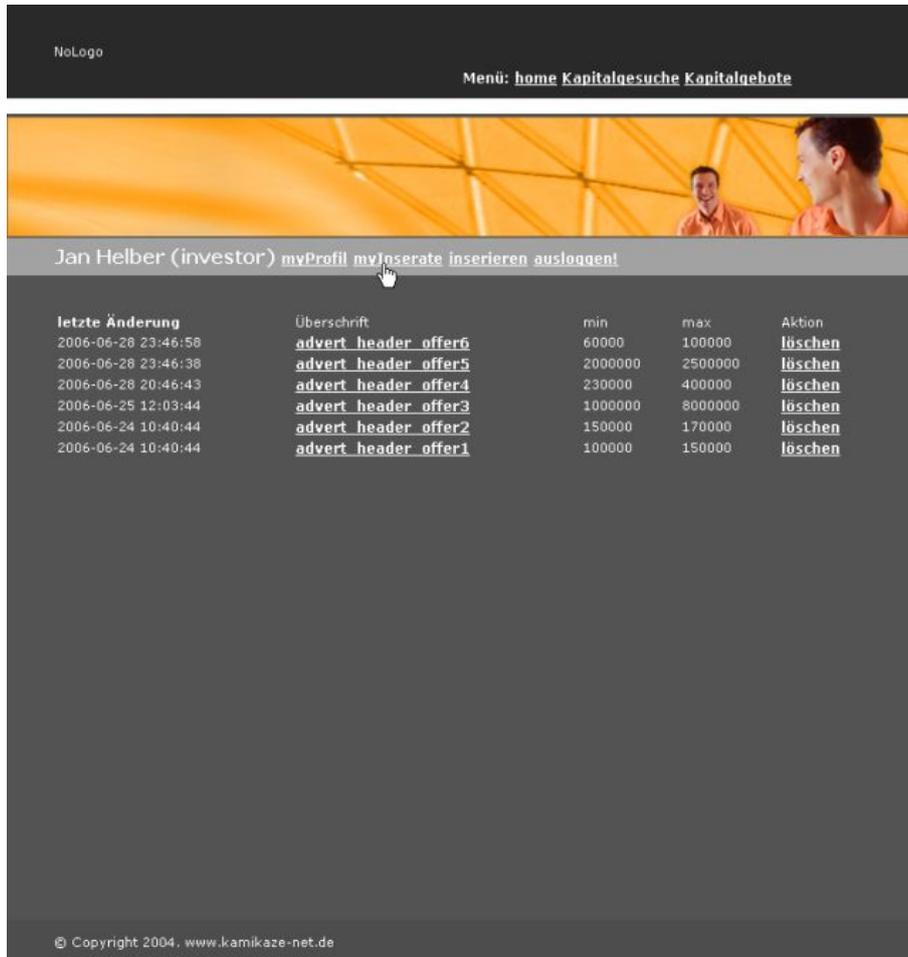
© Copyright 2004. www.kamikaze-net.de

Figure 18: myProfil

If your changes are done click on 'Ändern!' If the changes are successfully done you will get an Acknowledgment in the Field 'Info:'. If you have done a lapse on your password change you will also get an information in the field 'Info:'.

6.5 myInserate

You can show and handle your own advertisements by clicking on 'myInserat' at the menu bar.



The screenshot shows the 'myInserate' section of a web application. At the top, there is a dark navigation bar with 'NoLogo' on the left and a menu on the right containing 'home', 'Kapitalgesuche', and 'Kapitalgebote'. Below this is a banner image of two men in an orange setting. Underneath the banner is a user profile bar for 'Jan Helber (investor)' with links for 'myProfil', 'myInserate', 'inserieren', and 'ausloggen!'. The main content area displays a table of advertisements with the following columns: 'letzte Änderung', 'Überschrift', 'min', 'max', and 'Aktion'. The table contains five rows of data, each with a timestamp, a title, minimum and maximum values, and a 'löschen' link.

letzte Änderung	Überschrift	min	max	Aktion
2006-06-28 23:46:58	advert_header_offer6	60000	100000	löschen
2006-06-28 23:46:38	advert_header_offer5	2000000	2500000	löschen
2006-06-28 20:46:43	advert_header_offer4	230000	400000	löschen
2006-06-25 12:03:44	advert_header_offer3	1000000	8000000	löschen
2006-06-24 10:40:44	advert_header_offer2	150000	170000	löschen
2006-06-24 10:40:44	advert_header_offer1	100000	150000	löschen

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Figure 19: myInserate

In the area below the menu bar your Advertisements will be shown (validated and non validated). Whereby there is shown whether an advertisement was already validated, or not. By clicking on the name of an advertisement you will get to the detail information of this advertisement. You can delete one of your Advertisements by clicking 'Löschen' at the end of the row.

At the form 'MyInserate' you can handle your Advertisement now. You will get tool tips to every Field by dragging the mouse over the Question mark at the end of the Field. These tool tips will also be shown in the Field 'Info:'. After you have done your changes you have to click 'Ändern!', to commit the changes to the system.

NoLogo

Menü: [home](#) [Kapitalgesuche](#) [Kapitalgehote](#)

Jan Helber (investor) [myProfil](#) [myInserate](#) [inserieren](#) [ausloggen!](#)

Info: In welcher Branche möchten Sie Investieren?
ID: 1
letzte Änderung: 2006-06-24 10:40:44.39

Titel: advert_header_offer1 ?

Phase: (Mehrfachauswahl mit gedrückter Strg-Taste)
Konzeptionsphase
Start-up-phase
Expansions-/Wachstumspha...
Vorbereitung der Börseneinfü
Akquisition MBO/MBI/LBO ?

Kategorien: (Mehrfachauswahl mit gedrückter Strg-Taste)
Energie
Umweltschutz
Entsorgung
Medizintechnik
Pharma ?

Investieren für: (Mehrfachauswahl mit gedrückter Strg-Taste)
im eigenen Namen
eigenes Unternehmen
Business-Angel-Gemeinscha
für Dritte
für ein VC-Fond ?

Währung: Euro

Investitionsvolumen (min): 100000 ?

Investitionsvolumen (max): 150000

Beteiligungsquote in % (min): 15 ?

Beteiligungsquote in % (max): 20

Weitere Informationen: Will viel Gewinn für wenig Geld *g* ?

ändern!

Figure 20: Formular myInserate

6.6 Advertise

By using the link 'Inserieren' at the menu bar you can create new Advertisements. You will get to the form 'Inserieren' where you have to enlist the shown Entry s. By approving by clicking the Button 'Eintragen!' your Advertisement will be registered (if all necessary inputs were entered, otherwise you get an info what was missing). Now you can change your Advertisement by using 'myInserate' at any time. Your Advertisement will not be visible for other users until an Administrator had validated it!

Menü: [home](#) [Kapitalgesuche](#) [Kapitalgebote](#)

Jan Helber (investor) [myProfil](#) [myInserate](#) [inserieren](#) [ausloggen!](#)

Info: Unter welchem Betreff soll Ihr Gesuch erscheinen?

Titel:

Phase: (Mehrfachauswahl mit gedrückter Strg-Taste)

Kategorien: (Mehrfachauswahl mit gedrückter Strg-Taste)

Investieren für: (Mehrfachauswahl mit gedrückter Strg-Taste)

Währung:

Investitionsvolumen (min):

Investitionsvolumen (max):

Beteiligungsquote in % (min):

Beteiligungsquote in % (max):

Weitere Informationen:

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Figure 21: Inserate

6.7 Logout

By using the Link 'ausloggen!' you can sign off from the System. After logging out you will get to the welcome page again.

Note: If you want to register Requests and Offers you have to crate 2 accounts: one for Investor and one for Company!

The screenshot shows a web application interface. At the top, there is a dark header with 'NoLogo' on the left and a menu with 'home Kapitalgesuche Kapitalgebote' on the right. Below this is a banner image of two men in an orange shirt. Under the banner, the user's name 'Jan Helber (investor)' is displayed, followed by navigation links: 'myProfil', 'myInserate', 'inserieren', and 'ausloggen!'. A mouse cursor is pointing at the 'ausloggen!' link. Below the navigation, there are two tables. The first table is titled 'Die Letzten 5 Kapitalgesuche' and lists search requests with columns for 'letzte Änderung', 'Anfragenname', 'min', and 'max'. The second table is titled 'Die Letzten 5 Kapitalgebote' and lists offers with columns for 'letzte Änderung', 'Angebotsname', 'min', and 'max'. At the bottom of the page, there is a copyright notice: '© Copyright 2004. www.kamikaze-net.de'.

letzte Änderung	Anfragenname	min	max
2006-06-28 23:54:30.234	advert_header7	2000000	8500000
2006-06-28 23:53:53.843	advert_header6	10000000	50000000
2006-06-28 23:53:26.562	advert_header5	90000	450000
2006-06-25 11:45:55.312	advert_header4	125000	200000
2006-06-25 11:42:46.687	advert_header3	300000	2000000

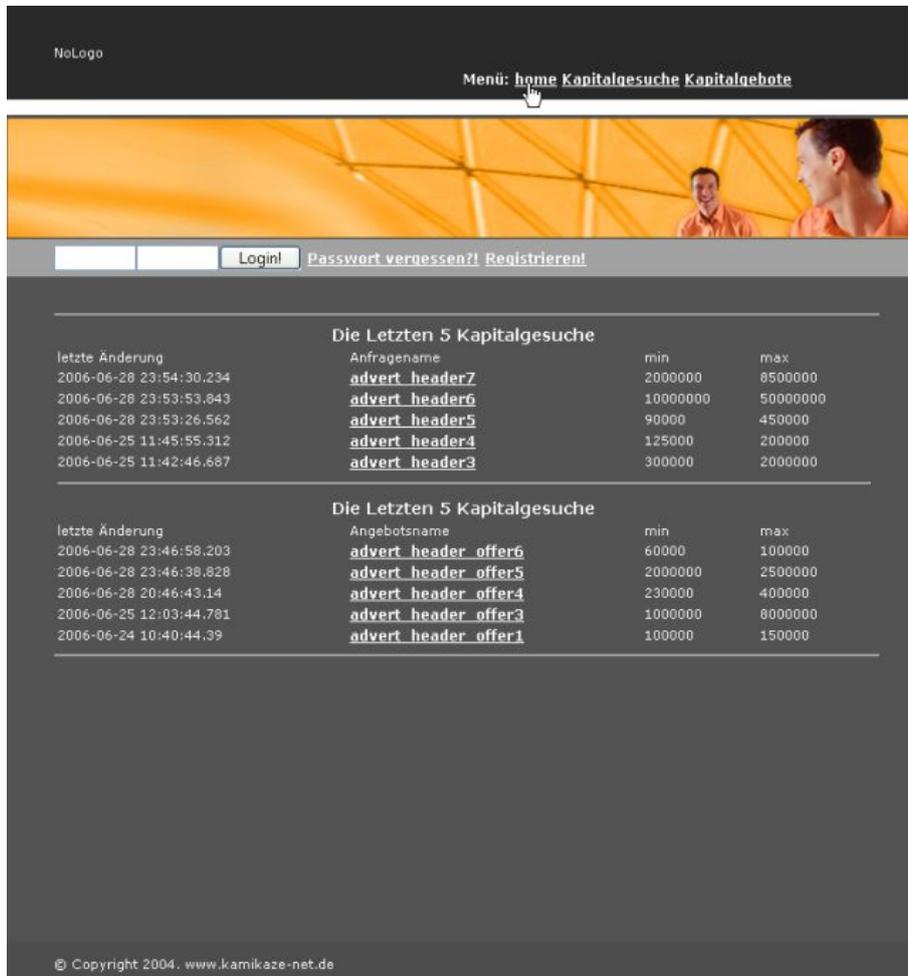
letzte Änderung	Angebotsname	min	max
2006-06-28 23:46:58.203	advert_header_offer6	60000	100000
2006-06-28 23:46:38.828	advert_header_offer5	2000000	2500000
2006-06-28 20:46:43.14	advert_header_offer4	230000	400000
2006-06-25 12:03:44.761	advert_header_offer3	1000000	8000000
2006-06-24 10:40:44.39	advert_header_offer1	100000	150000

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Figure 22: Logout

6.8 Home

By clicking on 'home' at the upper menu bar you will get back to the welcome page where you can find the last five Requests and Offers.



The screenshot shows a web application interface. At the top, there is a dark navigation bar with the text "NoLogo" on the left and a menu on the right: "Menü: [home](#) [Kapitalgesuche](#) [Kapitalgebote](#)". Below the navigation bar is a banner image of two men in an office setting. Underneath the banner is a login section with two input fields and buttons for "Login!", "Passwort vergessen?!", and "Registrieren!".

The main content area features two tables, each titled "Die Letzten 5 Kapitalgesuche".

letzte Änderung	Anfragenname	min	max
2006-06-28 23:54:30.234	advert_header7	2000000	8500000
2006-06-28 23:53:53.843	advert_header6	10000000	50000000
2006-06-28 23:53:26.562	advert_header5	90000	450000
2006-06-25 11:45:55.312	advert_header4	125000	200000
2006-06-25 11:42:46.687	advert_header3	300000	2000000

letzte Änderung	Angebotsname	min	max
2006-06-28 23:46:58.203	advert_header_offer6	60000	100000
2006-06-28 23:46:38.828	advert_header_offer5	2000000	2500000
2006-06-28 20:46:43.14	advert_header_offer4	230000	400000
2006-06-25 12:03:44.781	advert_header_offer3	1000000	8000000
2006-06-24 10:40:44.39	advert_header_offer1	100000	150000

At the bottom of the page, there is a copyright notice: "© Copyright 2004. www.kamikaze-net.de".

Figure 23: Welcome Page

6.9 Requests/Offers

By using the links 'Kapitalgebote' and 'Kapitalgesuche' at the upper menu bar you will be able to browse through all validated Requests and Offers. With a click on the name of one Request/Offer you will get detailed informations about it. By using the Field 'Suchen' you can find selected entry s.

letzte Änderung	Anfragenname	min	max
2006-06-28 23:54:30	advert_header7	2000000	8500000
2006-06-28 23:53:53	advert_header6	10000000	50000000
2006-06-28 23:53:26	advert_header5	90000	450000
2006-06-25 11:45:55	advert_header4	125000	200000
2006-06-25 11:42:46	advert_header3	300000	2000000
2006-06-24 10:40:44	advert_header	50000	100000

Figure 24: Request browsing

Note: Only if you are logged in you will get contact informations of the advertising user!

The screenshot displays a web application interface. At the top, there is a navigation bar with the text "NoLogo" and a menu with links: "home", "Kapitalgesuche", and "Kapitalgebote". Below this is a banner image showing two men in an office setting. Underneath the banner, the user profile "Jan Helber (investor)" is shown with links for "myProfil", "myInserate", "inserieren", and "ausloggen!". The main content area is a table with two columns: labels on the left and values on the right.

Name der Anfrage:	advert_header
Anfragezeitpunkt	2006-06-24 10:40:44.39
Land	
Produkt	service_offer
Kapitalzweck	money_for
Branche	IT
	Internetservice
	Telekommunikation
Phase	Konzeptionsphase
Zusammenarbeit	Strategische Planung
Jahresumsatz	20000000
Währung	USD
Beteiligungsminimum	50000
Beteiligungsmaximum	100000
Beteiligungsquote (min)	15
Beteiligungsquote (max)	20
Maximale Anzahl der Inverstoren	2
Bemerkungen	additional description
	Herr Jan Helberl
	KamikazeNet
	Gutenbergweg 6 (D109)
	89073 Ulm
	Deutschland
	jan@kamikaze-net.de
	0731-2696551
Kontakt:	

At the bottom of the page, there is a copyright notice: "© Copyright 2004. www.kamikaze-net.de".

Figure 25: Detailed informations with contact address

7 Administratoranleitung

- Einstellungen

Indem Sie in der Menüleiste auf Einstellungen klicken erreichen Sie das Formular Einstellungen. Auf dieser Seite können Sie die AGB's ändern. Ebenso haben Sie die Möglichkeit Warnungen für Investoren und Unternehmen einzutragen, welche beim Inserieren durch das System angezeigt werden.

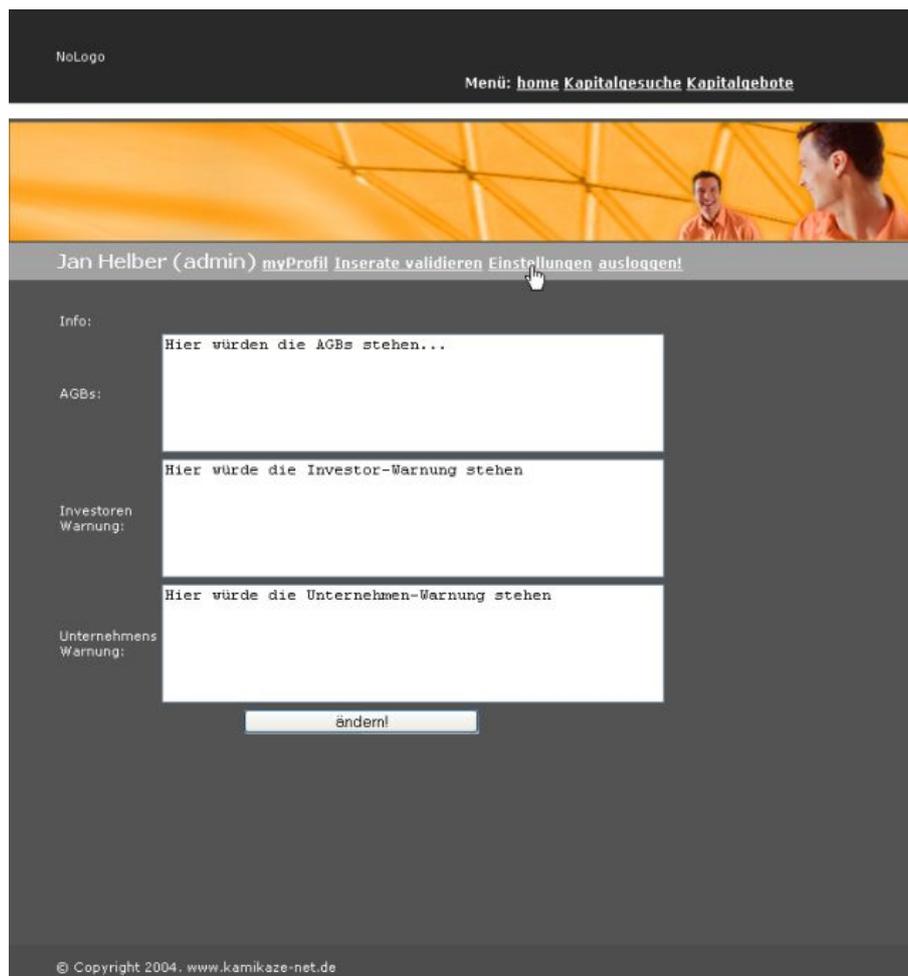


Figure 26: Link zum Formular Einstellungen

Ihre Änderungen können Sie mit dem Button 'ändern!' übernehmen und in das System einpflegen. Im Falle einer erfolgreichen Änderung zeigt Ihnen das System dies im Info-Feld an.

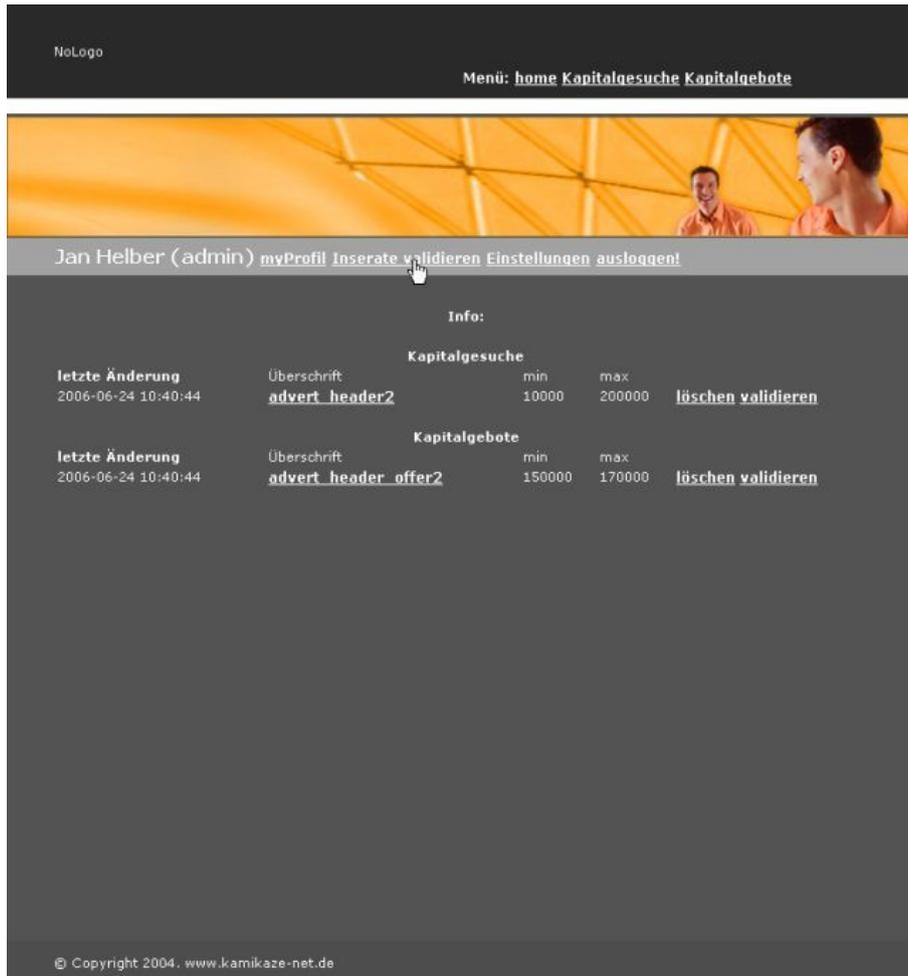
- Einträge validieren Durch den nächsten Menüpunkt 'Validieren' kommen Sie auf das Formular 'Einträge Validieren' in dem Sie die inserierten Gesuche und Gebote validieren müssen, um Sie dem System verfügbar zu machen.

Auf dem Formular 'Inserate validieren' erhalten Sie eine Liste aller nicht validierten Einträge. Nähere Informationen zu den Einträgen erhalten Sie durch einen Klick

auf den Namen des Eintrags.

Am Ende der Inseratszeile finden Sie zwei Links: 'löschen' , wenn Sie das Inserat löschen wollen (Inserat ist nicht in Ordnung).

'validieren' , wenn Sie das Inserat validieren wollen (Inserat ist Inhaltlich korrekt).



The screenshot shows a web application interface for an administrator. At the top, there is a navigation bar with 'NoLogo' and a menu containing 'home', 'Kapitalgesuche', and 'Kapitalgebote'. Below this is a banner image of two men in an orange shirt. A user profile bar identifies the user as 'Jan Helber (admin)' with links for 'myProfil', 'Inserate validieren', 'Einstellungen', and 'ausloggen!'. The main content area is titled 'Info:' and contains two sections: 'Kapitalgesuche' and 'Kapitalgebote'. Each section has a table with columns for 'letzte Änderung', 'Überschrift', 'min', 'max', and actions 'löschen' and 'validieren'. A mouse cursor is pointing at the 'validieren' link in the first row of the 'Kapitalgesuche' table.

Info:					
Kapitalgesuche					
letzte Änderung	Überschrift	min	max		
2006-06-24 10:40:44	advert_header2	10000	200000	löschen	validieren

Kapitalgebote					
letzte Änderung	Überschrift	min	max		
2006-06-24 10:40:44	advert_header_offer2	150000	170000	löschen	validieren

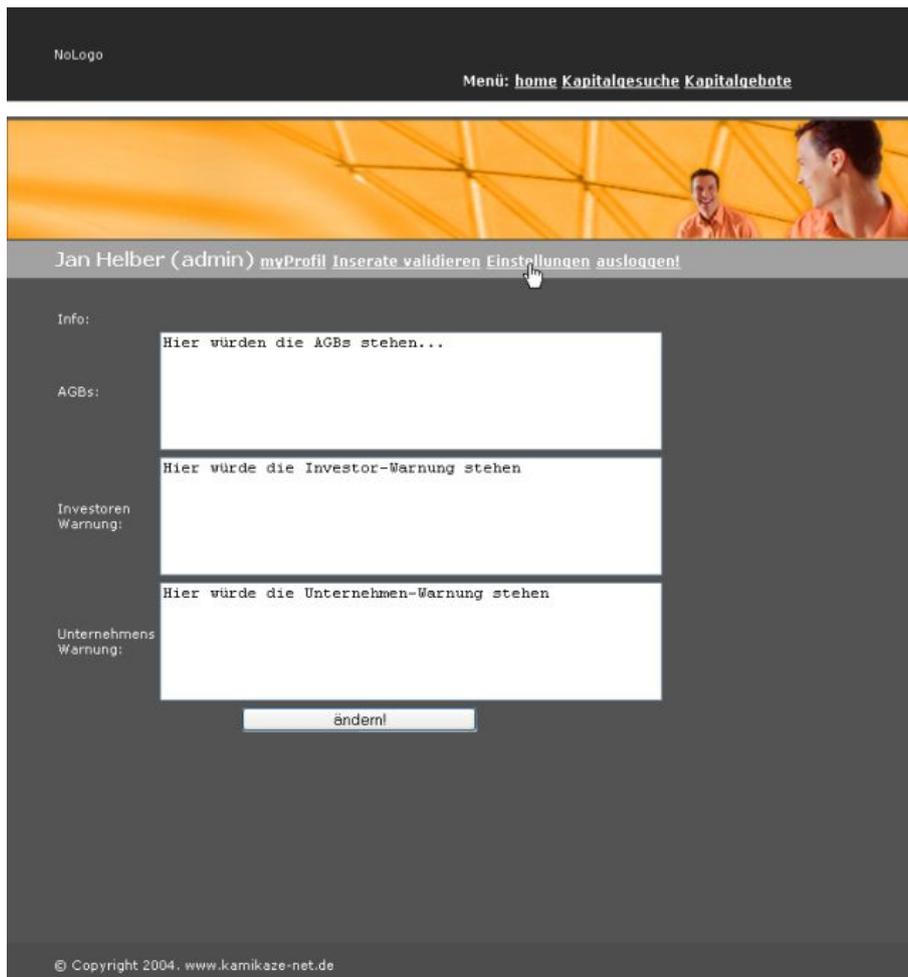
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Figure 27: Formular zur Validierung durch den Administrator

8 Administrator Manual

- Options

By clicking on Options in the menu bar (only visible if logged in as an Admin) you will get to the form Options. There you can change the general terms and conditions. You also have the possibility to enter Warnings for Investors and Company s which will be shown by the System if a user (Investor/Company) enters a advertisement.



The screenshot shows the 'Options' form in the administrator interface. At the top, there is a dark header with 'NoLogo' on the left and a menu on the right containing 'home', 'Kapitalgesuche', and 'Kapitalangebote'. Below the header is a banner image of two men in an orange setting. Underneath the banner is a grey bar with the user name 'Jan Helber (admin)' and several menu items: 'myProfil', 'Inserate validieren', 'Einstellungen', and 'ausloggen!'. The main content area is dark grey and contains four text input fields. The first field is labeled 'Info:' and contains the text 'Hier würden die AGBs stehen...'. The second field is labeled 'AGBs:' and is empty. The third field is labeled 'Investoren Warnung:' and contains the text 'Hier würde die Investor-Warnung stehen'. The fourth field is labeled 'Unternehmens Warnung:' and contains the text 'Hier würde die Unternehmen-Warnung stehen'. At the bottom of the form is a button labeled 'ändern!'. The footer of the page contains the copyright information '© Copyright 2004. www.kamikaze-net.de'.

Figure 28: Form Options

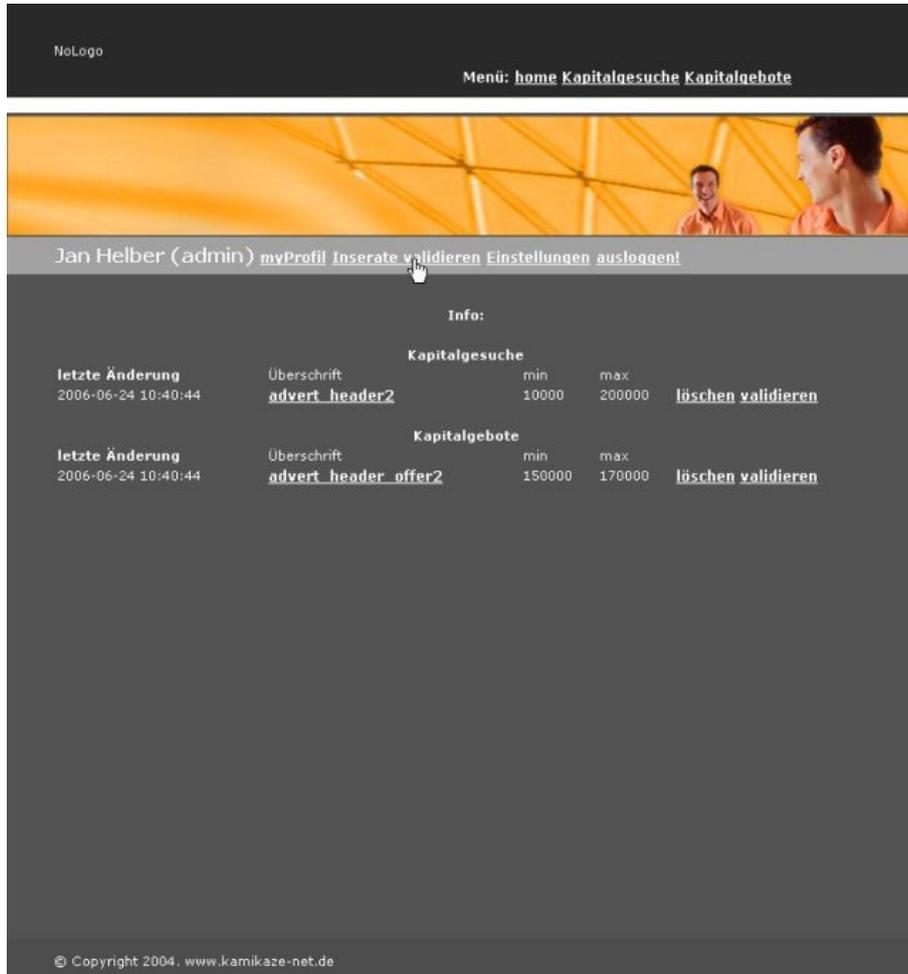
Your changes will be executed if you press the button 'ändern!'. If the Change was successful the System will show this in the 'Info' Field.

- Validate Advertisements Using the next button in the menu bar 'Inserate Validieren' you will get to the form 'Inserate validieren' where you can validate advertised Requests and Offers to activate them in the System.

On the form 'Einträge validieren' you will get a list of all not validated entries. Closer informations of the Entry will be shown by clicking on his highlighted name.

At the end of the Row you will find two Buttons: Löschen, by using this button you can delete the Entry(Entry is not in).

Validate, by using this button you can validate the selected Entry (if the Entry is ok).



The screenshot shows a web application interface for an administrator. At the top, there is a dark header with 'NoLogo' on the left and a menu with 'home', 'Kapitalgesuche', and 'Kapitalgebote'. Below this is a banner image of two men in an orange shirt. A navigation bar identifies the user as 'Jan Helber (admin)' and provides links for 'myProfil', 'Inserate', 'validieren', 'Einstellungen', and 'ausloggen!'. The main content area is titled 'Info:' and contains two sections: 'Kapitalgesuche' and 'Kapitalgebote'. Each section has a table with columns for 'letzte Änderung', 'Überschrift', 'min', 'max', and actions 'löschen' and 'validieren'. A mouse cursor is hovering over the 'validieren' button in the 'Kapitalgesuche' row.

Info:					
Kapitalgesuche					
letzte Änderung	Überschrift	min	max		
2006-06-24 10:40:44	advert_header2	10000	200000	löschen	validieren
Kapitalgebote					
letzte Änderung	Überschrift	min	max		
2006-06-24 10:40:44	advert_header_offer2	150000	170000	löschen	validieren

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Figure 29: Form Validate by Administrator

9 Help

Q: I am not able to insert an kapitalrequest

A: To insert a request you need a company user-account. Did you register your account as company?

A: Are you logged in with the correct account?

A: Did you click on “Eintragen!” after entering your data?

Q: I can’t find my advertisement under “Kapitalgesuche” / “Kapitalgebote”, but I can see it under “myInserate”.

A: Is your advertisement already validated by the administrator?

Q: I can’t log into my account.

A: Did you allow cookies in your browser?

Q: I can’t find a contact address when browsing through the Offers and Requests?

A: Are You logged in? You have to be logged in if you want to see contact informations at the browsing results.

Q: I forgot my password, how can I resume using Venture Capital Management?

A: You have to use the Password forgotten function of the System. A new Password will be sent to your email address. After validating the new password you can log in again and change the password with the MyProfil function of the System.

10 database

PostgreSQL⁵ is a free object-relational database server (database management system), released under a flexible BSD-style license. It offers an alternative to other open-source database systems (such as Ingres, MySQL and Firebird), as well as to proprietary systems such as Oracle, Sybase, IBM’s DB2 and Microsoft SQL Server. Similar to other open-source projects such as Apache, Linux, and Mediawiki, PostgreSQL is not controlled by any single company, but relies on a global community of developers and companies to develop it.[\[PostgreSQL\]](#)

Features:

- Functions allow blocks of code to be executed by the server. Although these blocks can be written in SQL, the lack of basic programming operations, such as branching and looping, has driven the adoption of other languages inside of functions. Some of the languages can even execute inside of triggers.
- User-defined indexes can be created, or the built-in B-tree, hash and GiST indices can be used.

⁵pronounced: “post-gress-Q-L”

- Triggers are fully supported and can be attached to tables and to views. Multiple triggers are fired in alphabetical order. In addition to calling functions written in the native PL/PgSQL, triggers can also invoke functions written in other languages like PL/Perl.
- PostgreSQL manages concurrency through a system known as Multi-Version Concurrency Control (MVCC), which gives each user a “snapshot” of the database, allowing changes to be made without being visible to other users until a transaction is committed. This largely eliminates the need for read locks, and ensures the database maintains the ACID principles in an efficient manner.
- Rules allow the “query tree” of an incoming query to be rewritten. One common usage is to implement updatable views.
- A wide variety of native data types are supported, including:
 - Arbitrary precision numerics
 - Unlimited length text
 - Geometric primitives
 - IP and IPv6 addresses
 - CIDR blocks, and MAC address data types
 - Arrays

In addition, users can create their own data types which can usually be made fully indexable via PostgreSQL’s GiST infrastructure.

Examples of these are the Geographic information system (GIS) data types from the PostGIS project for PostgreSQL.

- User-defined objects - New types of almost all objects inside the database can be created, including:
 - Indices
 - Operators (and existing ones can be overloaded)
 - Aggregates
 - Domains
 - Casts
 - Conversions
- Tables can be set to inherit their characteristics from a “parent” table. Data is shared between “parent” and “child(ren)” tables. Tuples inserted or deleted in the “child” table will respectively be inserted or deleted in the “parent” table. Also adding a column in the parent table will cause that column to appear in the child table as well. This feature is not fully supported yet – in particular, table constraints are not currently inheritable.

Inheritance provides a way to map the features of generalization hierarchies depicted in Entity Relationship Diagrams (ERD) directly into the PostgreSQL database.

- Other Features:
 - Referential integrity constraints including foreign key constraints, column constraints, and row checks
 - Views
 - Full, inner, and outer (left and right) joins
 - Sub-selects
 - Transactions
 - A high level of compliance with the SQL:2003 standard
 - Encrypted connections via SSL
 - Binary and textual large-object storage
 - Online backup
 - Domains
 - Tablespaces
 - Savepoints
 - Point-in-time recovery
 - Two-phase commit
 - TOAST (The Oversized-Attribute Storage Technique) is used to transparently store large table attributes (such as big MIME attachments or XML messages) in a separate area, with automatic compression.
 - Regular expressions

10.1 ER Model

The image below shows the ER-Model Venture Capital Management is based on with all entities and relations.

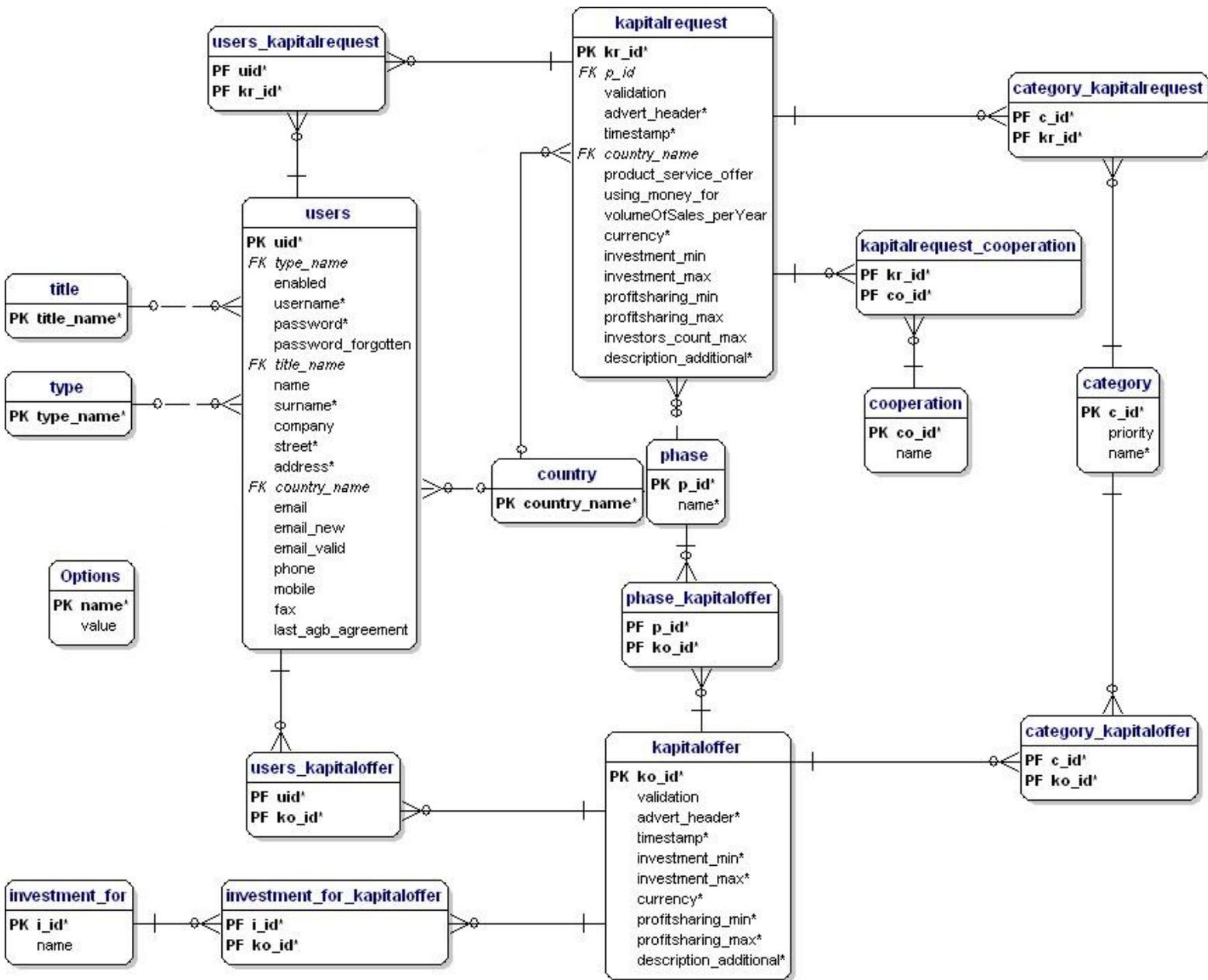


Figure 30: ER Model

- users
The entity users includes all information of an user.
 - uid::serial

The “username”-field would be a good PK⁶. I decided to use an artificial key, cause I want to be able to change the “username” without big trouble (temporary deactivating the relational integrity of the database). Cause of the data type “serial” the sequence “public.users_uid_seq” in the data base is created automatically.

- type_name::varchar
The value of “type_name” is “company”, “investor” or “admin”. “type_name” is a foreign key of the lookup table “type”.
- enabled::bool
The value of “enabled” can be “true” or “false”. If “enabled” is false the user is not able to login anymore. “enabled” is full functional dependent on “uid”.
- username::varchar
If I did not need to be able to change the value of “username” I would chose it as PK. “username” is full functional dependent on “uid”.
- password::varchar
In the “password”-field the MD5-hash of the user password is stored. “password” is full functional dependent on “uid”.
- password_forgotten::varchar
In the “password_forgotten”-field is stored a coincidentally generated password (if a user forgot his password) as MD5-hash. “password_forgotten” is full functional dependent on “uid”.
- title_name::varchar
In the “title_name”-field is stored for example “Mr.”, “Mrs.”, “Dr.” or something similar. “title_name” is a foreign key of the lookup table “title”.
- name::varchar
In the “name”-field the firstname of the user is stored. “name” is full functional dependent on “uid”.
- surname::varchar
In the “surname”-field the lastname of the user is stored. “surname” is full functional dependent on “uid”.
- company::varchar
In the “company”-field the name of the company where the user works is stored. “company” is full functional dependent on “uid”.
- street::varchar
In the “street”-field the street in which the user lives is stored. “street” is full functional dependent on “uid”.
- address::varchar
In the “address”-field the city in which the user lives is stored. “address” is full functional dependent on “uid”.

⁶Primary Key

- country_name::varchar
In the “country_name”-field the country in which the user lives is stored. “country_name” is a foreign key of the lookup table “country”.
 - email::varchar
In the “email”-field the eMail-address of the user is stored. “email” is full functional dependent on “uid”.
 - email_new::varchar
In the “email_new”-field the eMail-address of the user is stored temporarily (if a user changes his eMail-address), until the address is validated. “email_new” is full functional dependent on “uid”.
 - email_valid::varchar
In the “email_valid”-field a coincidentally generated number is stored, which is sent to the user by eMail to make him able to validate his new eMail-address by visiting a URL sent him per eMail. “email_valid” is full functional dependent on “uid”.
 - phone::varchar
In the “phone”-field the phonenumber of the user is stored. “phone” is full functional dependent on “uid”.
 - mobile::varchar
In the “mobile”-field the mobile phone number of the user is stored. “mobile” is full functional dependent on “uid”.
 - fax::varchar
In the “fax”-field the fax number of the user is stored. “fax” is full functional dependent on “uid”.
 - last_agb_agreement::timestamp
In the “last_agb_agreement”-field the timestamp when the user agreed last to the AGBs is stored. “last_agb_agreement” is full functional dependent on “uid”.
- kapitalrequest
 - kr_id::int4
The “kr_id” is the Primary Key of the table kapitalrequest to link the tables users_kapitalrequest, kapitalrequest_cooperation and category_kapitalrequest. Its a mandatory field.
 - validation::varchar
The “validation”-Field shows the validation status of the kapitalrequest, if the value of the Field is 1 the request is validated. “validation” is full functional dependent on “kr_id”.
 - advert_header::varchar
The “advert_header” contains the Topic/Subject of the Kapitalrequest. Its a mandatory field. “advert_header” is full functional dependent on “kr_id”.
 - timestamp::timestamp
The timestamp field shows the timestamp the Request has been inserted. Its a mandatory field. “timestamp” is full functional dependent on “kr_id”.

- `country_name::varchar`
“`country_name`” shows the country where the investment will take place. “`country_name`” is a foreign key of the lookup table “`country`”.
 - `product_service_offer::varchar`
The “`product_service_offer`” contains the product or service offered by the company requesting the investment. “`product_service_offer`” is full functional dependent on “`kr_id`”.
 - `using_money_for::varchar`
This field shows what for the investment is used. “`using_money_for`” is full functional dependent on “`kr_id`”.
 - `volumeofsales_peryear::float8`
In the field “`volumeofsales_peryear`” the requesting company is able to give further information about their business volume. “`volumeofsales_peryear`” is full functional dependent on “`kr_id`”.
 - `currency::varchar`
The “`currency`”-field defines the currency of the investment. Its a mandatory field. “`currency`” is full functional dependent on “`kr_id`”.
 - `investment_min::float8`
The field “`investment_min`” shows the minimum of the required investment. “`investment_min`” is full functional dependent on “`kr_id`”.
 - `investment_max::float8`
The field “`investment_max`” contains the maximum of the required investment. “`investment_max`” is full functional dependent on “`kr_id`”.
 - `profitsharing_min::float8`
“`profitsharing_min`” defines the minimum rate of profit sharing. “`profitsharing_min`” is full functional dependent on “`kr_id`”.
 - `profitsharing_max::float8`
“`profitsharing_max`” shows the maximum rate of profit sharing. “`profitsharing_max`” is full functional dependent on “`kr_id`”.
 - `investors_count_max::int4`
The “`investors_count_max`” contains the maximum number of investors accepted by the company. “`investors_count_max`” is full functional dependent on “`kr_id`”.
 - `description_additional::varchar`
This field contains additional informations that don’t fit into the other fields. Its a mandatory field. “`description_additional::varchar`” is full functional dependent on “`kr_id`”.
- cooperation
 - `co_id::int4`
“`co_id`” is the Primary Key of the table cooperation. Its linked to “`kapitalrequest_cooperation`”. Its a mandatory field.

- name::varchar
The field “name” contains 7 rows: Keine Mitarbeit erforderlich, Strategische Planung, Finanzierung, Produktion, Produktentwicklung, Marketing and Vertrieb, which can be selected for a kapitalrequest entry.
- category
 - c_id::int4
“c_id” is the Primary Key for the table category which is linked to “category_kapitalrequest” and “category_kapitaloffer”. Its a mandatory field.
 - priority::int4
“priority” contains the priority of the category selected.
 - name::varchar
The field “name” contains 22 objects like: Energie, Pharma, IT, Chemie or at least Sonstiges, which can be selected for a kapitalrequest/kapitaloffer entry. Its a mandatory field.
- kapitaloffer
 - ko_id::int4
The “ko_id” is the Primary Key of the table kapitaloffer which is linked to “users_kapitaloffer”, “investment_for_kapitaloffer”, “phase_kapitaloffer” and “category_kapitaloffer”. Its a mandatory field.
 - validation::varchar
The “validation”-field shows the validation status of the kapitaloffer, if the value of the Field is 1 the offer is validated.
 - advert_header::varchar
The “advert_header” contains the name of the kapitaloffer. Its a mandatory field.
 - timestamp::timestamp
The “timestamp”-field shows the timestamp the Request has been inserted. Its a mandatory field.
 - investment_min::float8
The field “investment_min” shows the minimum of the offered investment.
 - investment_max::float8
The field “investment_max” shows the maximum of the offered investment.
 - currency::varchar
“currency” defines the offered currency of the investment. Its a mandatory field.
 - profitsharing_min::float8
profitsharing_min defines the minimum rate of profit sharing.
 - profitsharing_max::float8
“profitsharing_max” defines the maximum rate of profit sharing.

- description_additional::varchar
This field contains additional informations which don't fit into the other fields. Its a mandatory field.
- investment_for
 - i_id::int4
“i_id” is the primary key of the table “investment_for”. This table is linked with “investment_for_kapitaloffer”. Its a mandatory field.
 - name::varchar
The field “name” contains 5 selectable elements (lookup table): im eigenen Namen, eigenes Unternehmen, Business-Angel-Gemeinschaft, für Dritte and für ein VC-Fond.
- phase
 - p_id::int4
The “p_id” is the Primary Key for the table phase wich is linked to “kapitalrequest” and “phase_kapitaloffer”. its a mandatory field.
 - name::varchar
“name” contains 7 objects (lookuptable): Konzeptionsphase, Start-Up-Phase, Expansions-/Wachstumsphase, Vorbereitung der Börseneinführung, Akquisition MBO/MBI/LBO, Turnaround and Sonstiges which can be selected when you advert an kapitaloffer. Its a mandatory field.
- Options
 - name::varchar
The field “name” is the primary Key of the table Options. It contains the name of the single Option like “AGB_text”. Its a mandatory field.
 - value::varchar
This field defines the value of the option.

10.2 discussion and evaluation

10.2.1 1st NF

1. Every Attribute has to be atomic.

That applies to the EA Model.

10.2.2 2nd NF

1. The E/A-model is in first normal form.
2. Every Attribute depends on the key.

Some of the entities in the EA Model have ID's. All attributes are depended on these IDs and nothing else. Even the "username" and "advert_header" may change. The user who is using Venture Capital Management is allowed to change almost every attribute of his profile except "type_name" ("admin", "company" or "investor").

He is not allowed to change the type of his profile. Because company s are only allowed to insert kapitalrequests and investors are only allowed to insert capitaloffers. If a companyuser could change to a investoruser after inserting a kapitalrequest he would loose the ability to edit/delete his kapitalrequest.

10.2.3 3rd NF

1. The model is in 2nd normal form.
2. Every Attribute is full functional dependent on the primary key.

Every Attribute except the ID (of "users", kapitalrequest" and "kapitaloffer") may change and is therefor no candidate for the primary key.

10.3 Examples of used SQL-Statements

- Example 1

logged in as Investor, browsing under MyInserate selecting advertisement ID 2

The following Querys are run on the database:

- SELECT kapitaloffer.* FROM kapitaloffer, users_kapitaloffer, users WHERE kapitaloffer.ko_id = users_kapitaloffer.ko_id AND users_kapitaloffer.uid = users.uid AND users.username = 'investor' AND kapitaloffer.ko_id='2';
- SELECT phase.*, exists (SELECT * FROM phase_kapitaloffer WHERE phase_kapitaloffer.p_id=phase.p_id AND ko_id='2') as selected FROM phase order by p_id asc;
- SELECT category.*, exists (SELECT * FROM category_kapitaloffer WHERE category_kapitaloffer.c_id=category.c_id AND ko_id='2') as selected FROM category order by priority asc;
- SELECT investment_for.*, exists (SELECT * FROM investment_for_kapitaloffer WHERE investment_for_kapitaloffer.i_id=investment_for.i_id AND ko_id='2') as selected FROM investment_for order by i_id asc;

- Example 2

If you are logged in as user "company" and click on "myProfil"

The following Querys are run on the database:

- SELECT username, title_name, name, surname, company, street, address, country_name, email, phone, mobile, fax FROM users WHERE username='company' AND enabled=true

- SELECT title.*, exists (SELECT * FROM users WHERE users.title_name=title.title_name AND username='company') as selected FROM title;
 - SELECT country.*, exists (SELECT * FROM users WHERE users.country_name=country.country_name AND username='company') as selected FROM country;
- Example 3
If you do a search for “cola” in the kapitalrequests (Kapitalgesuche)
The following Query is run on the database:
 - SELECT * FROM kapitalrequest WHERE (advert_header LIKE '%cola%' OR description_additional LIKE '%cola%') AND validation='1' order by timestamp desc;

11 Implementation / Programming

To realise this project we chose PHP5 and PostgreSQL. One of the key ingredients in the version 5 of PHP is the Zend Engine 2.0, with support for a new object-oriented programming model, better performance and lots of new features. For example:

- Members can be added to instances on the fly:
Simply use
`$apple= new fruit();`
`$pear=new fruit();`
`$apple->color='red';`
`$pear->smell='sweet';`
and \$apple only will contain a member (field) color, but \$pear only will contain a field smell.
- More simply, to create an object from a class using a variable, just try the following:
`$a = new $class();`
- You can call a function defined in an inherited class from the parent class.

11.1 PHP5 Files Overview

- index.php
- inc.class.db_postgreSQL.php5
- inc.class.eMail.php5
- inc.class.info.php5
- inc.class.session.php5
- inc.class.template.php5

- inc.init.php5
- inc.class.form.php5
 - inc.class.form.home.php5
 - inc.class.form.advertise.php5
 - inc.class.form.myadvertisements.php5
 - inc.class.form.kapinvest.php5
 - inc.class.form.kaprequest.php5
 - inc.class.form.myprofil.php5
 - inc.class.form.myprofil.emailvalidation.php5
 - inc.class.form.passwordforgotten.php5
 - inc.class.form.options.php5
 - inc.class.form.register.php5

11.2 inc.class.db_postgreSQL.php5

This is a really cool class. If in the future the project should work on another database-system one only has to modify this class and everything should work fine.

The class has a variable named debug. If “debug” is set to true every query is given out to the page also the error messages of the database are shown. If “debug” is set to false there is given out absolutely no error messages (also the error messages from the database are not shown on the page). Nobody is able to provoke a error message from the database. So nobody is able to get out how the tables and attributes are named.

Listing 3: inc.class.db_postgreSQL.php5

```

1 <?php
2 /*
3  * Created on 25.04.2006
4  *
5  * VentureCapitalManagement
6  * This File was written by Jan Helber
7  */
8 class dba_pg_layer {
9     private $db_handle;
10    private $debug = false;
11
12    public function __construct() {
13        $this->dba_connect();
14    }
15    public function __destruct() {
16    }
17    public function dba_connect() {
18        $init = new init();
19        if ($this->debug) {
20            echo "<font_color='black'>"; //cause white Background of template
21            $this->db_handle = pg_connect("host=".$init->getDBhost()."_port=" .
22            $init->getDBport()."_dbname=".$init->getDBname()."_user=" .
23            $init->getDBuser()."_password=".$init->getDBpass());
24            echo "</font>";
25        }
26        else $this->db_handle = @pg_connect("host=".$init->getDBhost()."_port=" .
27            $init->getDBport()."_dbname=".$init->getDBname()."_user=" .
28            $init->getDBuser()."_password=".$init->getDBpass());

```

```

29     }
30     public function dba_start_transaction() {
31         /* Zusammengehörende Anweisungen, müssen in einer Transaktion zusammen gefasst werden,
32         * wenn entweder alle oder keine Anweisung ausgeführt werden soll.
33         * im Falle, dass nicht alle Anweisungen ausgeführt werden können,
34         * wird mit ROLLBACK alles wieder rückgängig gemacht.
35         * zuerst muss dba_start_transaction ausgeführt werden, und danach
36         * dba_commit_transaction oder dba_rollback_transaction */
37         if ($this->db_handle) {
38             if ($this->debug) {
39                 echo "<p><font_color='black'>";
40                 $this->db_result_query = pg_query($this->db_handle, "BEGIN");
41                 echo "BEGIN_TRANSACTION</font><</p>";
42             }
43             else $this->db_result_query = @pg_query($this->db_handle, "BEGIN");
44             if (!$this->db_result_query) {
45                 return -1; // no result
46             }
47             return true;
48         }
49         elseif ($this->debug)
50             echo "<p><font_color='#FF0000'>BEGIN_TRANSACTION_(no_database_handler)</font><</p>";
51         return -2; // no database handler
52     }
53     public function dba_commit_transaction() {
54         if ($this->db_handle) {
55             if ($this->debug) {
56                 echo "<p><font_color='black'>";
57                 $this->db_result_query = pg_query($this->db_handle, "COMMIT");
58                 echo "COMMIT_TRANSACTION</font><</p>";
59             }
60             else $this->db_result_query = @pg_query($this->db_handle, "COMMIT");
61             if (!$this->db_result_query) {
62                 return -1; // not comitted
63             }
64             return true;
65         }
66         return -2; // no database handler, connect first
67     }
68     public function dba_rollback_transaction() {
69         if ($this->db_handle) {
70             $this->db_result_query = @pg_query($this->db_handle, "ROLLBACK");
71             if (!$this->db_result_query) {
72                 return -1;
73             }
74             return true;
75         }
76         return -2;
77     }
78     public function dba_query($query) {
79         if ($this->db_handle) {
80             if ($this->debug) {
81                 echo "<font_color='black'>";
82                 $this->db_result_query = pg_query($this->db_handle, $query);
83                 echo "</font>";
84             }
85             else $this->db_result_query = @pg_query($this->db_handle, $query);
86             if (!$this->db_result_query) {
87                 if ($this->debug)
88                     echo "<P><font_color='#FF0000'>". $query . "</font><</P>";
89                 return false;
90             }
91             if ($this->debug)
92                 echo "<P><font_color='#00FF00'>". $query . "</font><</P>";
93             return true;
94         }
95         if ($this->debug) echo "<P><font_color='#FF0000'>dba_fehler: ". $query . "</font><</P>";
96         return false;
97     }
98     public function dba_error() {

```

```

99         return @pg_last_error($this->db_handle);
100     }
101     public function dba_num_rows() {
102         return @pg_num_rows($this->db_result_query);
103     }
104     public function dba_field_name($i) {
105         return @pg_field_name($this->db_result_query, $i);
106     }
107     public function dba_num_fields() {
108         return @pg_num_fields($this->db_result_query);
109     }
110     public function dba_fetch_row() {
111         return @pg_fetch_row($this->db_result_query);
112     }
113     public function dba_fetch_array() {
114         return @pg_fetch_array($this->db_result_query);
115     }
116     public function dba_fetch_result() {
117         return @pg_fetch_result($this->db_result_query, 0);
118     }
119     public function dba_fetch_object() {
120         return @pg_fetch_object($this->db_result_query);
121     }
122 }
123 ?>

```

11.3 index.php5

In this class everything comes together. All other classes are included and the selection which Page will be shown is made. On this first level the check if someone is allowed to do certain things is made. So in the other classes you do not have to do lots of checks if someone has the permission for some actions. Although there are two for each-loops with “addslashes(trim(\$value))” inside. In that loops all GET- and POST-variables are made secure against SQLinjections and Cross-Site-Scripting. Also in this class there is a variable debug which shows all GET- and POST-variables sent by the client. This is a really cool feature during the programming process, cause you find errors easier and faster. More about XSS: <http://de.wikipedia.org/wiki/XSS>. More about SQL-Injections: http://de.wikipedia.org/wiki/SQL_Injection

Listing 4: index.php5

```

1 <?php
2 /*
3  * Created on 06.05.2006
4  *
5  * VentureKapitalManagement
6  * This File was written by Jan Helber
7  */
8 require_once ('inc.init.php5');
9 require_once ('inc.class.session.php5');
10 require_once ('inc.class.db_postgreSQL.php5');
11 require_once ('inc.class.eMail.php5');
12 require_once ('inc.class.info.php5');
13 require_once ('inc.class.template.php5');
14 require_once ('inc.class.form.php5');
15 require_once ('inc.class.form.agb.php5');
16 require_once ('inc.class.form.home.php5');
17 require_once ('inc.class.form.loginerror.php5');
18 require_once ('inc.class.form.options.php5');
19 require_once ('inc.class.form.myprofil.php5');
20 require_once ('inc.class.form.myprofil.emailvalidation.php5');
21 require_once ('inc.class.form.advertvalidate.php5');
22 require_once ('inc.class.form.myadvertisements.php5');

```

```

23 require_once ('inc.class.form.advertise.php5');
24 require_once ('inc.class.form.passwordforgotten.php5');
25 require_once ('inc.class.form.kaprequest.php5');
26 require_once ('inc.class.form.kapinvest.php5');
27 require_once ('inc.class.form.register.php5');
28 require_once ('inc.class.form.showrequest.php5');
29 require_once ('inc.class.form.showoffer.php5');
30
31 class main {
32     protected $debug = false;
33     function __construct() {
34     }
35     function __destruct() {
36     }
37     function start() {
38         $session = new session();
39         $dba_pg_layer = new dba_pg_layer();
40         foreach ($_POST as $key => $value) {
41             //ACHTUNG! Arrays in POST werden nicht geprüft!
42             if (!is_array($value)) {
43                 $$key = addslashes(trim($value));
44                 $_POST[$key] = addslashes(trim($value));
45             }
46             if ($this->debug) {
47                 echo "<font_color=black>POST: ";
48                 if (is_array($value)) {
49                     echo $key."->";
50                     print_r($value);
51                 }
52                 else {
53                     echo $key."->".$value;
54                 }
55                 echo "</font><br>";
56             }
57         }
58         foreach ($_GET as $key => $value) {
59             //ACHTUNG! Arrays in GET werden nicht geprüft!
60             if (!is_array($value)) {
61                 $$key = addslashes(trim($value));
62                 $_GET[$key] = addslashes(trim($value));
63             }
64             if ($this->debug) {
65                 echo "<font_color=black>GET: ";
66                 if (is_array($value)) {
67                     echo $key."->";
68                     print_r($value);
69                 }
70                 else {
71                     echo $key."->".$value;
72                 }
73                 echo "</font><br>";
74             }
75         }
76         foreach ($_REQUEST as $key => $value) {
77             //ACHTUNG! Arrays in REQUEST werden nicht geprüft!
78             if (!is_array($value)) $_REQUEST[$key] = addslashes(trim($value));
79             if ($this->debug) {
80                 echo "<font_color=black>REQUEST: ";
81                 if (is_array($value)) {
82                     echo $key."->";
83                     print_r($value);
84                 }
85                 else {
86                     echo $key."->".$value;
87                 }
88                 echo "</font><br>";
89             }
90         }
91         switch ($_GET['page']) {
92         case 'agb':

```

```

93         $form = new formagb($session);
94         break;
95     case 'options':
96         if ($session->isAdmin()) $form = new formoptions($session);
97         else $form = new formhome($session);
98         break;
99     case 'myprofil':
100        if ($session->checkSession()) $form = new formmyprofil($session);
101        else $form = new formhome($session);
102        break;
103     case 'advertise':
104        if ($session->checkSession() && !$session->isAdmin()) $form = new formadvertise($session);
105        else $form = new formhome($session);
106        break;
107     case 'emailvalidation':
108        $form = new formemailvalidation($session);
109        break;
110     case 'myadvertisements':
111        if ($session->checkSession() && !$session->isAdmin()) $form = new formmyadvertisements($session);
112        else $form = new formhome($session);
113        break;
114     case 'advertvalidate':
115        if ($session->checkSession() && $session->isAdmin()) $form = new formadvertvalidate($session);
116        else $form = new formhome($session);
117        break;
118     case 'password_forgotten':
119        $form = new formpasswordforgotten($session);
120        break;
121     case 'kaprequest':
122        $form = new formkaprequest($session);
123        break;
124     case 'kapinvest':
125        $form = new formkapinvest($session);
126        break;
127     case 'register':
128        $form = new formregister($session);
129        break;
130     case 'showrequest':
131        $form = new formshowrequest($session);
132        break;
133     case 'showoffer':
134        $form = new formshowoffer($session);
135        break;
136     default:
137        $form = new formhome($session);
138        if ($_POST["action"] == "login" && !$session->checkSession()) $form = new formlogin($session);
139    }
140    $form->show();
141 }
142 }
143
144 $main = new main();
145 $main->start();
146 ?>

```

11.4 template.php5

This is a very small but useful class. In the form-class and the email-class I create a object of the template-class and the template file is read by the template-class. After that I am able to replace the substitute symbols and at the end the class returns my page or the email-content.

Listing 5: template.php5

```

1 <?php
2 /*

```

```
3 * Created on 23.05.2006
4 *
5 * VentureKapitalManagement
6 * This File was written by Jan Helber
7 */
8 class template {
9     protected $content;
10    protected $file;
11
12    public function __construct($file) {
13        $handle = fopen($file, "r");
14        $this->content = fread($handle, filesize($file));
15        fclose($handle);
16    }
17    public function replace($search, $replace) {
18        $this->content = str_replace($search, $replace, $this->content);
19    }
20    public function getContent() {
21        return $this->content;
22    }
23 }
24 ?>
```

12 Used Tools

12.1 Eclipse for PHP

For the Programming of PHP5 we used “Eclipse for PHP”. The PHP IDE Project is a proposed open-source project under the Eclipse Tools Project. It has lots of really cool features:

- PHP Inspector / Code Builder
analyzes PHP language elements such as: classes, functions, constants, variables, include statements, PHPDoc blocks and errors. The PHP Inspector component is based on the PHP language Lexer and Parser and provides analysis for all PHP source code in either PHP 4 or PHP 5.
- PHP Source Code Formatter
Format PHP code according to personal preferences. The tool works in tandem with the Web Tools Project formatter.
- PHP Outline View
Supports two types of Outline Views:
 - PHP specific - shows the structure of an inspected PHP file (classes, functions, variables, include files and constants).
 - Generic web view - shows an HTML structural View - inherited from the Web Tools Project.
- Project Outline View
Very similar to the Outline View except that it shows the structure of an entire PHP Project.

- PHP Explorer View
PHP element hierarchy of the PHP projects in the workbench. It provides a PHP specific view of the resources shown in the Navigator.
- PHP Searching
Integrated in the Eclipse workbench's search dialog, finds declarations of PHP classes, functions, constants and variables.

12.2 DeZign for Databases V4 from Datanamic

eZign for Databases is a database modeling and design tool with an intuitive visual interface that allows you to accurately design, create and maintain your database.

- Visual data modeling with an intuitive Entity Relationship Diagram editor
- Database generation, reverse engineering and database modification
- Compare data model versions
- Report generation in MS Word, PDF and HTML

12.3 Subversion

Subversion is an open source application used for revision control. It is sometimes known as SVN in reference to the name of its command line interface. Subversion is designed specifically to be a modern replacement for CVS and shares a number of the same key developers. [[SVN](#)]

Features:

- Commits are truly atomic operations. Interrupted commit operations do not cause repository inconsistency or corruption.
- Renamed/copied/moved/removed files retain full revision history.
- Directories, renames, and file metadata are version ed. Entire directory trees can be moved around and/or copied very quickly, and retain full revision history.
- Versioning of symbolic links.
- Native support for binary files, with space-efficient binary-diff storage.
- Apache HTTP server as network server, WebDAV/DeltaV for protocol. There is also an independent server process that uses a custom protocol over TCP/IP.
- Branching and tagging are cheap (constant time) operations.
- Natively client/server, layered library design.
- Client/server protocol sends diffs in both directions.
- Costs are proportional to change size, not data size.

- Parsable output, including XML log output.
- Open Source licensed - “CollabNet/Tigris.org Apache-style license”
- Internationalised program messages.
- File locking for unmergeable files (“reserved checkouts”).
- Path-based authorization for svnserve.
- Python, Ruby, Perl, and Java language bindings.
- Full MIME support - the MIME Type of each file can be viewed or changed, with the software knowing which MIME types can have their differences from previous versions shown.

12.4 MiKTeX

MiKTeX⁷ is an implementation of TeX with lots of plugins for Windows (all current variants) on x86-Systemen.[[MiKTeX](#)]

TeX is a writ system of [Donald E. Knuth](#), one of the Popes of computer science. A goal of TeX was and is, a free available and standardized system for setting text with scientific emphasis in professional quality.[[TeX](#)]

⁷it is pronounced Mick-tech

12.5 \TeX nicCenter

\TeX nicCenter is a user-friendly editor for \TeX / \LaTeX ⁸-documents on Microsoft Windows platforms.

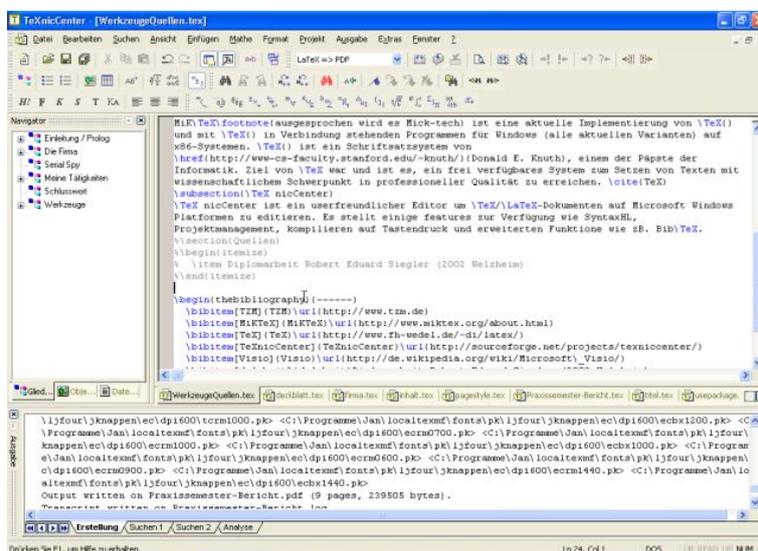


Figure 31: \TeX nicCenter

⁸ \LaTeX is a software package that makes it easier to use the text setting program \TeX by macros.

13 Conclusion

13.1 What was good?

Holger Hoffmann: Learning to handle with advanced Databases, I further only used Microsoft Access. Getting into the script-language PHP5 and the Texteditor LaTeX. Its a great advantage if you have to write big Documentations like this one.

Jan Helber: Before this project I only used mySQL. By working with PostgreSQL I learned a lot about relational integrity, transactions and sequences. I only programmed functional in PHP before, but object-oriented programming in PHP5 is really cool.

13.2 What was less good?

Holger Hoffmann: It was hard to learn PHP5 because i have never done anything web based, but Jan Helber aided me well and he had a lot of patience with me. We also had communication Problems when my DSL-Modem broke down and i did not had Internet any more.

Jan Helber: We should have started the documentation at the beginning of the project. It would have been easier. If you start documentating at the beginning of the project you can't forget important things in the documentation.

14 References / Sources

References

[SVN]	http://en.wikipedia.org/wiki/Subversion_(software)
[EclipsePHP]	http://www.eclipse.org/proposals/php-ide/
[PostgreSQL]	http://en.wikipedia.org/wiki/PostgreSQL
[TeXnicCenter]	http://sourceforge.net/projects/texniccenter/
[MiKTeX]	http://www.miktex.org/about.html
[TeX]	http://www.fh-wedel.de/~di/latex/

15 Addendum

15.1 CREATE-Statements

The following CREATE statements maps to the database schema. The statements were created with "DeZign for Databases V4" from Datanamic.

Listing 6: CREATE

```

1  /* ----- */
2  /* Script generated with: DeZign for Databases v4.0.3 */
3  /* Target DBMS: PostgreSQL 7 */
4  /* Project file: VentureCapitalManagement.dez */
5  /* Project name: VentureCapitalManagement */
6  /* Author: Jan Helber */
7  /* Script type: Database creation script */
8  /* Created on: 2006-06-22 16:51 */
9  /* ----- */
10
11
12 /* ----- */
13 /* Tables */
14 /* ----- */
15
16 /* ----- */
17 /* Add table "users" */
18 /* ----- */
19
20 CREATE TABLE users (
21     uid SERIAL CONSTRAINT NN_uid NOT NULL,
22     type_name CHARACTER VARYING(50),
23     enabled BOOLEAN DEFAULT true,
24     username CHARACTER VARYING(50) CONSTRAINT NN_username NOT NULL,
25     password CHARACTER VARYING(50) CONSTRAINT NN_password NOT NULL,
26     password_forgotten CHARACTER VARYING(50),
27     title_name CHARACTER VARYING(40),
28     name CHARACTER VARYING(50),
29     surname CHARACTER VARYING(50) CONSTRAINT NN_surname NOT NULL,
30     company CHARACTER VARYING(50),
31     street CHARACTER VARYING(50) CONSTRAINT NN_street NOT NULL,
32     address CHARACTER VARYING(50) CONSTRAINT NN_address NOT NULL,
33     country_name CHARACTER VARYING(40),
34     email CHARACTER VARYING(50),
35     email_new CHARACTER VARYING(50),
36     email_valid CHARACTER VARYING(50),
37     phone CHARACTER VARYING(50),
38     mobile CHARACTER VARYING(50),
39     fax CHARACTER VARYING(50),
40     last_agb_agreement TIMESTAMP(20),
41     CONSTRAINT PK_users PRIMARY KEY (uid),
42     CONSTRAINT TUC_users_1 UNIQUE (username)
43 );
44
45 COMMENT ON COLUMN users.uid IS 'UserID';
46
47 COMMENT ON COLUMN users.type_name IS '"admin", "investor", "company"foreignkey';
48
49 COMMENT ON COLUMN users.enabled IS 'aktiviert?';
50
51 COMMENT ON COLUMN users.username IS 'Nickname';
52
53 COMMENT ON COLUMN users.password IS 'Passwort';
54
55 COMMENT ON COLUMN users.password_forgotten IS 'Zufallskey, wenn der User sein Passwort vergessen hat';
56
57 COMMENT ON COLUMN users.name IS 'Vorname';
58
59 COMMENT ON COLUMN users.surname IS 'Nachname';
60
61 COMMENT ON COLUMN users.company IS 'Firmenname';
62
63 COMMENT ON COLUMN users.street IS 'Straße';
64
65 COMMENT ON COLUMN users.address IS 'Wohnort';
66
67 COMMENT ON COLUMN users.email IS 'eMail-Adresse';
68

```

```

69 COMMENT ON COLUMN users.email_new IS 'Zwischengespeicherte_eMail-Adresse_-_bis_validation';
70
71 COMMENT ON COLUMN users.email_valid IS 'Zwischengespeicherte_Zufallskey_-_bis_validation';
72
73 COMMENT ON COLUMN users.phone IS 'Telefonnummer';
74
75 COMMENT ON COLUMN users.mobile IS 'Handynummer';
76
77 COMMENT ON COLUMN users.fax IS 'Faxnummer';
78
79 COMMENT ON COLUMN users.last_agb_agreement IS 'Wann_hat_der_Benutzer_zuletzt_die_AGBs_bestätigt';
80
81 /* _____ */
82 /* Add table "kapitalrequest" */
83 /* _____ */
84
85 CREATE TABLE kapitalrequest (
86     kr_id SERIAL CONSTRAINT NN_kr_id NOT NULL,
87     p_id INTEGER,
88     validation CHARACTER VARYING(40),
89     advert_header CHARACTER VARYING(50) CONSTRAINT NN_advert_header NOT NULL,
90     timestamp TIMESTAMP CONSTRAINT NN_timestamp NOT NULL,
91     country CHARACTER VARYING(50),
92     product_service_offer CHARACTER VARYING(50),
93     using_money_for CHARACTER VARYING(50),
94     volumeOfSales_perYear DOUBLE PRECISION,
95     currency CHARACTER VARYING(10) DEFAULT 'USD' CONSTRAINT NN_currency NOT NULL,
96     investment_min DOUBLE PRECISION,
97     investment_max DOUBLE PRECISION,
98     profitsharing_min DOUBLE PRECISION,
99     profitsharing_max DOUBLE PRECISION,
100     investors_count_max INTEGER DEFAULT 1,
101     description_additional CHARACTER VARYING(255) CONSTRAINT NN_description_additional NOT NULL,
102     CONSTRAINT PK_kapitalrequest PRIMARY KEY (kr_id)
103 );
104
105 COMMENT ON COLUMN kapitalrequest.kr_id IS 'Kapitalrequest_ID';
106
107 COMMENT ON COLUMN kapitalrequest.p_id IS 'Phasen_ID_(Foreign_Key)';
108
109 COMMENT ON COLUMN kapitalrequest.validation IS 'Zufallszahl_um_Eintrag_durch_Admin_zu_validieren.';
110
111 COMMENT ON COLUMN kapitalrequest.advert_header IS 'Betreff_/Überschrift';
112
113 COMMENT ON COLUMN kapitalrequest.timestamp IS 'Zeitstempel_-_letzte_Änderung';
114
115 COMMENT ON COLUMN kapitalrequest.country IS 'Land';
116
117 COMMENT ON COLUMN kapitalrequest.product_service_offer IS 'Services_are_provided_by_the_company?';
118
119 COMMENT ON COLUMN kapitalrequest.using_money_for IS 'Für_welchen_Zweck_wird_das_Kapital_benötigt?';
120
121 COMMENT ON COLUMN kapitalrequest.volumeOfSales_perYear IS 'geschätzter_Jahresumsatz?';
122
123 COMMENT ON COLUMN kapitalrequest.currency IS 'Währung';
124
125 COMMENT ON COLUMN kapitalrequest.investment_min IS 'Investitionsvolumen_(minimum)';
126
127 COMMENT ON COLUMN kapitalrequest.investment_max IS 'Investitionsvolumen_(maximum)';
128
129 COMMENT ON COLUMN kapitalrequest.profitsharing_min IS 'Beteiligungsquote_(minimum)?';
130
131 COMMENT ON COLUMN kapitalrequest.profitsharing_max IS 'Beteiligungsquote_(maximum)?';
132
133 COMMENT ON COLUMN kapitalrequest.investors_count_max IS 'Anzahl_Investoren_(max)?';
134
135 COMMENT ON COLUMN kapitalrequest.description_additional IS 'Zusätzliche_Beschreibung';
136
137 /* _____ */

```

```

138 /* Add table "kapitaloffer" */
139 /* ----- */
140
141 CREATE TABLE kapitaloffer (
142     ko_id SERIAL CONSTRAINT NN_ko_id NOT NULL,
143     validation CHARACTER VARYING(40),
144     advert_header CHARACTER VARYING(50) CONSTRAINT NN_advert_header NOT NULL,
145     timestamp TIMESTAMP CONSTRAINT NN_timestamp NOT NULL,
146     investment_min DOUBLE PRECISION CONSTRAINT NN_investment_min NOT NULL,
147     investment_max DOUBLE PRECISION CONSTRAINT NN_investment_max NOT NULL,
148     currency CHARACTER VARYING(10) DEFAULT 'USD' CONSTRAINT NN_currency NOT NULL,
149     profitsharing_min DOUBLE PRECISION CONSTRAINT NN_profitsharing_min NOT NULL,
150     profitsharing_max DOUBLE PRECISION CONSTRAINT NN_profitsharing_max NOT NULL,
151     description_additional CHARACTER VARYING(255) CONSTRAINT NN_description_additional NOT NULL,
152     CONSTRAINT PK_kapitaloffer PRIMARY KEY (ko_id)
153 );
154
155 COMMENT ON COLUMN kapitaloffer.ko_id IS 'KapitalofferID';
156
157 COMMENT ON COLUMN kapitaloffer.validation IS 'Zufallszahl_um_Eintrag_durch_Admin_zu_validieren.';
158
159 COMMENT ON COLUMN kapitaloffer.advert_header IS 'Betreff_/_Überschrift';
160
161 COMMENT ON COLUMN kapitaloffer.timestamp IS 'Zeitstempel_-_letzte_Änderung';
162
163 COMMENT ON COLUMN kapitaloffer.investment_min IS 'Investitionsvolumen_(min)';
164
165 COMMENT ON COLUMN kapitaloffer.investment_max IS 'Investitionsvolumen_(max)';
166
167 COMMENT ON COLUMN kapitaloffer.currency IS 'Währung';
168
169 COMMENT ON COLUMN kapitaloffer.profitsharing_min IS 'Beteiligungsquote_(min)';
170
171 COMMENT ON COLUMN kapitaloffer.profitsharing_max IS 'Beteiligungsquote_(max)';
172
173 COMMENT ON COLUMN kapitaloffer.description_additional IS 'Zusätzliche_Beschreibung';
174
175 /* ----- */
176 /* Add table "category" */
177 /* ----- */
178
179 CREATE TABLE category (
180     c_id SERIAL CONSTRAINT NN_c_id NOT NULL,
181     priority INTEGER,
182     name CHARACTER VARYING(50) CONSTRAINT NN_name NOT NULL,
183     CONSTRAINT PK_category PRIMARY KEY (c_id),
184     CONSTRAINT TU_C_category_1 UNIQUE (name)
185 );
186
187 /* ----- */
188 /* Add table "category_kapitaloffer" */
189 /* ----- */
190
191 CREATE TABLE category_kapitaloffer (
192     c_id INTEGER CONSTRAINT NN_c_id NOT NULL,
193     ko_id INTEGER CONSTRAINT NN_ko_id NOT NULL,
194     CONSTRAINT PK_category_kapitaloffer PRIMARY KEY (c_id, ko_id)
195 );
196
197 /* ----- */
198 /* Add table "users_kapitalrequest" */
199 /* ----- */
200
201 CREATE TABLE users_kapitalrequest (
202     uid INTEGER CONSTRAINT NN_uid NOT NULL,
203     kr_id INTEGER CONSTRAINT NN_kr_id NOT NULL,
204     CONSTRAINT PK_users_kapitalrequest PRIMARY KEY (uid, kr_id)
205 );
206

```

```

207 /* ----- */
208 /* Add table "users_kapitaloffer" */
209 /* ----- */
210
211 CREATE TABLE users_kapitaloffer (
212     uid INTEGER CONSTRAINT NN_uid NOT NULL,
213     ko_id INTEGER CONSTRAINT NN_ko_id NOT NULL,
214     CONSTRAINT PK_users_kapitaloffer PRIMARY KEY (uid, ko_id)
215 );
216
217 /* ----- */
218 /* Add table "category_kapitalrequest" */
219 /* ----- */
220
221 CREATE TABLE category_kapitalrequest (
222     c_id INTEGER CONSTRAINT NN_c_id NOT NULL,
223     kr_id INTEGER CONSTRAINT NN_kr_id NOT NULL,
224     CONSTRAINT PK_category_kapitalrequest PRIMARY KEY (c_id, kr_id)
225 );
226
227 /* ----- */
228 /* Add table "phase" */
229 /* ----- */
230
231 CREATE TABLE phase (
232     p_id SERIAL CONSTRAINT NN_p_id NOT NULL,
233     name CHARACTER VARYING(50) CONSTRAINT NN_name NOT NULL,
234     CONSTRAINT PK_phase PRIMARY KEY (p_id)
235 );
236
237 /* ----- */
238 /* Add table "phase_kapitaloffer" */
239 /* ----- */
240
241 CREATE TABLE phase_kapitaloffer (
242     p_id INTEGER CONSTRAINT NN_p_id NOT NULL,
243     ko_id INTEGER CONSTRAINT NN_ko_id NOT NULL,
244     CONSTRAINT PK_phase_kapitaloffer PRIMARY KEY (p_id, ko_id)
245 );
246
247 /* ----- */
248 /* Add table "cooperation" */
249 /* ----- */
250
251 CREATE TABLE cooperation (
252     co_id SERIAL CONSTRAINT NN_co_id NOT NULL,
253     name CHARACTER(40),
254     CONSTRAINT PK_cooperation PRIMARY KEY (co_id)
255 );
256
257 /* ----- */
258 /* Add table "investment_for" */
259 /* ----- */
260
261 CREATE TABLE investment_for (
262     i_id SERIAL CONSTRAINT NN_i_id NOT NULL,
263     name CHARACTER VARYING(40),
264     CONSTRAINT PK_investment_for PRIMARY KEY (i_id)
265 );
266
267 /* ----- */
268 /* Add table "investment_for_kapitaloffer" */
269 /* ----- */
270
271 CREATE TABLE investment_for_kapitaloffer (
272     i_id INTEGER CONSTRAINT NN_i_id NOT NULL,
273     ko_id INTEGER CONSTRAINT NN_ko_id NOT NULL,
274     CONSTRAINT PK_investment_for_kapitaloffer PRIMARY KEY (i_id, ko_id)
275 );
276

```

```

277 /* ----- */
278 /* Add table "kapitalrequest_cooperation" */
279 /* ----- */
280
281 CREATE TABLE kapitalrequest_cooperation (
282     kr_id INTEGER CONSTRAINT NN_kr_id NOT NULL,
283     co_id INTEGER CONSTRAINT NN_co_id NOT NULL,
284     CONSTRAINT PK_kapitalrequest_cooperation PRIMARY KEY (kr_id, co_id)
285 );
286
287 /* ----- */
288 /* Add table "Options" */
289 /* ----- */
290
291 CREATE TABLE Options (
292     name CHARACTER VARYING(50) CONSTRAINT NN_name NOT NULL,
293     value CHARACTER VARYING(9999),
294     CONSTRAINT PK_Options PRIMARY KEY (name)
295 );
296
297 /* ----- */
298 /* Add table "type" */
299 /* ----- */
300
301 CREATE TABLE type (
302     type_name CHARACTER VARYING(50) CONSTRAINT NN_type_name NOT NULL,
303     CONSTRAINT PK_type PRIMARY KEY (type_name)
304 );
305
306 /* ----- */
307 /* Add table "title" */
308 /* ----- */
309
310 CREATE TABLE title (
311     title_name CHARACTER VARYING(40) CONSTRAINT NN_title_name NOT NULL,
312     CONSTRAINT PK_title PRIMARY KEY (title_name)
313 );
314
315 /* ----- */
316 /* Add table "country" */
317 /* ----- */
318
319 CREATE TABLE country (
320     country_name CHARACTER VARYING(40) CONSTRAINT NN_country_name NOT NULL,
321     CONSTRAINT PK_country PRIMARY KEY (country_name)
322 );
323
324 /* ----- */
325 /* Foreign key constraints */
326 /* ----- */
327
328 ALTER TABLE users ADD CONSTRAINT type_users
329     FOREIGN KEY (type_name) REFERENCES type (type_name);
330
331 ALTER TABLE users ADD CONSTRAINT title_users
332     FOREIGN KEY (title_name) REFERENCES title (title_name);
333
334 ALTER TABLE users ADD CONSTRAINT country_users
335     FOREIGN KEY (country_name) REFERENCES country (country_name);
336
337 ALTER TABLE kapitalrequest ADD CONSTRAINT phase_kapitalrequest
338     FOREIGN KEY (p_id) REFERENCES phase (p_id);
339
340 ALTER TABLE category_kapitaloffer ADD CONSTRAINT category_category_kapitaloffer
341     FOREIGN KEY (c_id) REFERENCES category (c_id);
342
343 ALTER TABLE category_kapitaloffer ADD CONSTRAINT kapitaloffer_category_kapitaloffer
344     FOREIGN KEY (ko_id) REFERENCES kapitaloffer (ko_id);
345
346 ALTER TABLE users_kapitalrequest ADD CONSTRAINT users_users_kapitalrequest

```

```

347     FOREIGN KEY (uid) REFERENCES users (uid);
348
349 ALTER TABLE users_kapitalrequest ADD CONSTRAINT kapitalrequest_users_kapitalrequest
350     FOREIGN KEY (kr_id) REFERENCES kapitalrequest (kr_id);
351
352 ALTER TABLE users_kapitaloffer ADD CONSTRAINT users_users_kapitaloffer
353     FOREIGN KEY (uid) REFERENCES users (uid);
354
355 ALTER TABLE users_kapitaloffer ADD CONSTRAINT kapitaloffer_users_kapitaloffer
356     FOREIGN KEY (ko_id) REFERENCES kapitaloffer (ko_id);
357
358 ALTER TABLE category_kapitalrequest ADD CONSTRAINT category_category_kapitalrequest
359     FOREIGN KEY (c_id) REFERENCES category (c_id);
360
361 ALTER TABLE category_kapitalrequest ADD CONSTRAINT kapitalrequest_category_kapitalrequest
362     FOREIGN KEY (kr_id) REFERENCES kapitalrequest (kr_id);
363
364 ALTER TABLE phase_kapitaloffer ADD CONSTRAINT phase_phase_kapitaloffer
365     FOREIGN KEY (p_id) REFERENCES phase (p_id);
366
367 ALTER TABLE phase_kapitaloffer ADD CONSTRAINT kapitaloffer_phase_kapitaloffer
368     FOREIGN KEY (ko_id) REFERENCES kapitaloffer (ko_id);
369
370 ALTER TABLE investment_for_kapitaloffer ADD CONSTRAINT investment_for_investment_for_kapitaloffer
371     FOREIGN KEY (i_id) REFERENCES investment_for (i_id);
372
373 ALTER TABLE investment_for_kapitaloffer ADD CONSTRAINT kapitaloffer_investment_for_kapitaloffer
374     FOREIGN KEY (ko_id) REFERENCES kapitaloffer (ko_id);
375
376 ALTER TABLE kapitalrequest_cooperation ADD CONSTRAINT kapitalrequest_kapitalrequest_cooperation
377     FOREIGN KEY (kr_id) REFERENCES kapitalrequest (kr_id);
378
379 ALTER TABLE kapitalrequest_cooperation ADD CONSTRAINT cooperation_kapitalrequest_cooperation
380     FOREIGN KEY (co_id) REFERENCES cooperation (co_id);

```

15.2 DROP-Statements

Listing 7: DROP

```

1  /* ----- */
2  /* Script generated with: DeZign for Databases v4.0.3 */
3  /* Target DBMS: PostgreSQL 7 */
4  /* Project file: VentureCapitalManagement.dez */
5  /* Project name: VentureCapitalManagement */
6  /* Author: Jan Helber */
7  /* Script type: Database drop script */
8  /* Created on: 2006-06-22 16:51 */
9  /* ----- */
10
11
12 /* ----- */
13 /* Drop procedures */
14 /* ----- */
15
16 DROP PROCEDURE category_from_kapitalrequest;
17
18 /* ----- */
19 /* Drop foreign key constraints */
20 /* ----- */
21
22 ALTER TABLE users DROP CONSTRAINT type_users;
23
24 ALTER TABLE users DROP CONSTRAINT title_users;
25
26 ALTER TABLE users DROP CONSTRAINT country_users;
27
28 ALTER TABLE kapitalrequest DROP CONSTRAINT phase_kapitalrequest;

```

```

29
30 ALTER TABLE category_kapitaloffer DROP CONSTRAINT category_category_kapitaloffer;
31
32 ALTER TABLE category_kapitaloffer DROP CONSTRAINT kapitaloffer_category_kapitaloffer;
33
34 ALTER TABLE users_kapitalrequest DROP CONSTRAINT users_users_kapitalrequest;
35
36 ALTER TABLE users_kapitalrequest DROP CONSTRAINT kapitalrequest_users_kapitalrequest;
37
38 ALTER TABLE users_kapitaloffer DROP CONSTRAINT users_users_kapitaloffer;
39
40 ALTER TABLE users_kapitaloffer DROP CONSTRAINT kapitaloffer_users_kapitaloffer;
41
42 ALTER TABLE category_kapitalrequest DROP CONSTRAINT category_category_kapitalrequest;
43
44 ALTER TABLE category_kapitalrequest DROP CONSTRAINT kapitalrequest_category_kapitalrequest;
45
46 ALTER TABLE phase_kapitaloffer DROP CONSTRAINT phase_phase_kapitaloffer;
47
48 ALTER TABLE phase_kapitaloffer DROP CONSTRAINT kapitaloffer_phase_kapitaloffer;
49
50 ALTER TABLE investment_for_kapitaloffer DROP CONSTRAINT investment_for_investment_for_kapitaloffer;
51
52 ALTER TABLE investment_for_kapitaloffer DROP CONSTRAINT kapitaloffer_investment_for_kapitaloffer;
53
54 ALTER TABLE kapitalrequest_cooperation DROP CONSTRAINT kapitalrequest_kapitalrequest_cooperation;
55
56 ALTER TABLE kapitalrequest_cooperation DROP CONSTRAINT cooperation_kapitalrequest_cooperation;
57
58 /* ----- */
59 /* Drop table "users" */
60 /* ----- */
61
62 /* Drop constraints */
63
64 ALTER TABLE users DROP CONSTRAINT PK_users;
65
66 ALTER TABLE users DROP CONSTRAINT TUC_users_1;
67
68 /* Drop table */
69
70 DROP TABLE users;
71
72 /* ----- */
73 /* Drop table "kapitalrequest" */
74 /* ----- */
75
76 /* Drop constraints */
77
78 ALTER TABLE kapitalrequest DROP CONSTRAINT PK_kapitalrequest;
79
80 /* Drop table */
81
82 DROP TABLE kapitalrequest;
83
84 /* ----- */
85 /* Drop table "kapitaloffer" */
86 /* ----- */
87
88 /* Drop constraints */
89
90 ALTER TABLE kapitaloffer DROP CONSTRAINT PK_kapitaloffer;
91
92 /* Drop table */
93
94 DROP TABLE kapitaloffer;
95
96 /* ----- */
97 /* Drop table "category" */
98 /* ----- */

```

```
99
100 /* Drop constraints */
101
102 ALTER TABLE category DROP CONSTRAINT PK_category;
103
104 ALTER TABLE category DROP CONSTRAINT TUC_category_1;
105
106 /* Drop table */
107
108 DROP TABLE category;
109
110 /* ----- */
111 /* Drop table "category_kapitaloffer" */
112 /* ----- */
113
114 /* Drop constraints */
115
116 ALTER TABLE category_kapitaloffer DROP CONSTRAINT PK_category_kapitaloffer;
117
118 /* Drop table */
119
120 DROP TABLE category_kapitaloffer;
121
122 /* ----- */
123 /* Drop table "users_kapitalrequest" */
124 /* ----- */
125
126 /* Drop constraints */
127
128 ALTER TABLE users_kapitalrequest DROP CONSTRAINT PK_users_kapitalrequest;
129
130 /* Drop table */
131
132 DROP TABLE users_kapitalrequest;
133
134 /* ----- */
135 /* Drop table "users_kapitaloffer" */
136 /* ----- */
137
138 /* Drop constraints */
139
140 ALTER TABLE users_kapitaloffer DROP CONSTRAINT PK_users_kapitaloffer;
141
142 /* Drop table */
143
144 DROP TABLE users_kapitaloffer;
145
146 /* ----- */
147 /* Drop table "category_kapitalrequest" */
148 /* ----- */
149
150 /* Drop constraints */
151
152 ALTER TABLE category_kapitalrequest DROP CONSTRAINT PK_category_kapitalrequest;
153
154 /* Drop table */
155
156 DROP TABLE category_kapitalrequest;
157
158 /* ----- */
159 /* Drop table "phase" */
160 /* ----- */
161
162 /* Drop constraints */
163
164 ALTER TABLE phase DROP CONSTRAINT PK_phase;
165
166 /* Drop table */
167
168 DROP TABLE phase;
```

```
169
170 /* ----- */
171 /* Drop table "phase_kapitaloffer" */
172 /* ----- */
173
174 /* Drop constraints */
175
176 ALTER TABLE phase_kapitaloffer DROP CONSTRAINT PK_phase_kapitaloffer;
177
178 /* Drop table */
179
180 DROP TABLE phase_kapitaloffer;
181
182 /* ----- */
183 /* Drop table "cooperation" */
184 /* ----- */
185
186 /* Drop constraints */
187
188 ALTER TABLE cooperation DROP CONSTRAINT PK_cooperation;
189
190 /* Drop table */
191
192 DROP TABLE cooperation;
193
194 /* ----- */
195 /* Drop table "investment_for" */
196 /* ----- */
197
198 /* Drop constraints */
199
200 ALTER TABLE investment_for DROP CONSTRAINT PK_investment_for;
201
202 /* Drop table */
203
204 DROP TABLE investment_for;
205
206 /* ----- */
207 /* Drop table "investment_for_kapitaloffer" */
208 /* ----- */
209
210 /* Drop constraints */
211
212 ALTER TABLE investment_for_kapitaloffer DROP CONSTRAINT PK_investment_for_kapitaloffer;
213
214 /* Drop table */
215
216 DROP TABLE investment_for_kapitaloffer;
217
218 /* ----- */
219 /* Drop table "kapitalrequest_cooperation" */
220 /* ----- */
221
222 /* Drop constraints */
223
224 ALTER TABLE kapitalrequest_cooperation DROP CONSTRAINT PK_kapitalrequest_cooperation;
225
226 /* Drop table */
227
228 DROP TABLE kapitalrequest_cooperation;
229
230 /* ----- */
231 /* Drop table "Options" */
232 /* ----- */
233
234 /* Drop constraints */
235
236 ALTER TABLE Options DROP CONSTRAINT PK_Options;
237
238 /* Drop table */
```

```
239
240 DROP TABLE Options;
241
242 /* ----- */
243 /* Drop table "type" */
244 /* ----- */
245
246 /* Drop constraints */
247
248 ALTER TABLE type DROP CONSTRAINT PK_type;
249
250 /* Drop table */
251
252 DROP TABLE type;
253
254 /* ----- */
255 /* Drop table "title" */
256 /* ----- */
257
258 /* Drop constraints */
259
260 ALTER TABLE title DROP CONSTRAINT PK_title;
261
262 /* Drop table */
263
264 DROP TABLE title;
265
266 /* ----- */
267 /* Drop table "country" */
268 /* ----- */
269
270 /* Drop constraints */
271
272 ALTER TABLE country DROP CONSTRAINT PK_country;
273
274 /* Drop table */
275
276 DROP TABLE country;
```

16 Marken

Diese Dokumentation beinhaltet eingetragene Marken oder Marken der jeweiligen Eigentümer.

Einige Firmen- und/oder Produktbezeichnungen in dieser Dokumentation sind Warenzeichen und/oder eingetragene Warenzeichen ihrer jeweiligen Besitzer.

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