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Was ist ein Framework

Middleware

„Middleware ist eine zusätzliche Schicht zwischen Betriebssystem und Anwendungen.“ Wikipedia

Aufgaben und Funktion einer Middleware

- ▶ Versteckt komplizierte Systeme
- ▶ Bietet einfache Schnittstellen
- ▶ Modularisierung von Software
- ▶ Konkreter und beschränkter Anwendungsbereich



Alternative PHP-Frameworks

Zend Framework

<http://framework.zend.com/>

Laravel

<https://laravel.com/>

Symphony

<http://symfony.com/>



System - PHP Framework

System kann in PHP-basierten Anwendungen eingesetzt werden.

- ▶ Websites
- ▶ Webtools
- ▶ Webapps

Features von System

System vereinfacht die Entwicklung von PHP basierten Anwendungen

- ▶ Kapselung
- ▶ REST Schnittstelle
- ▶ Moderne Webtechnologien
- ▶ Utilities
- ▶ Modulare GUI für administrative Aufgaben

Teilintegration möglich

Klassische Struktur von PHP Projekten

Die klassische Struktur von PHP Projekten orientiert sich oft an der HTML Struktur.

```
<?php
$something = "classname";
$ip = "127.0.0.1";
$port = "8080";
?>
<!-- This works -->
<p>Your IP: <?php echo $ip." ".$port?></p>

<!-- This doesn't work -->
<p class="<?php echo $something?>">Hello</p>
<p class="<?=$something?>">Hello</p>
<span data-ip="<?php echo $ip." ".$port?>">Click here</span>
```

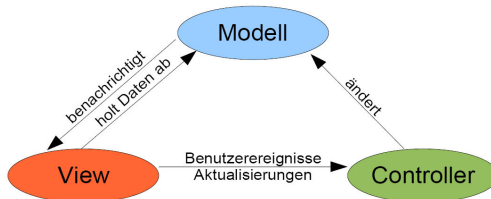

Kapselung in System

Eine Gute Kapselung vereinfacht die Übersicht über das Programm.

- ▶ nach Sprache
- ▶ nach Art der Rückgabe (Website/Daten/Administratives)
- ▶ nach Sinneinheit (Seiten/Module)

Kapselung nach Sprache - MVC-Modell

Der Begriff model view controller (MVC) ist ein Muster zur Strukturierung von Software-Entwicklung in die drei Einheiten Datenmodell, Präsentation und Programmsteuerung. (wikipedia)

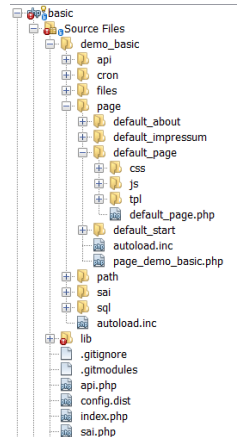


System - PHP Framework

Kapselung nach Sinneinheit

- ▶ Ordnerstrukturen ordnen den Code
- ▶ Modulare Schnittstellen - pages, sai module
- ▶ Frei wählbar

Das PHP-Feature “autoload” ermöglicht es Klassen bei Bedarf nachzuladen.



REST in System - quality APIs

Funktion

- ▶ Mapping von URL-Parametern auf Funktionsnamen
- ▶ Regeln definiert zulässige Aufrufe
- ▶ Parameter-Typ-Prüfung

Nutzen

- ▶ Sicherheit
- ▶ Zuverlässigkeit
- ▶ Persistenz

Moderne Webtechnologien, von System unterstützt

- ▶ Hashbang Crawling-Scheme - #!adresse
- ▶ JQuery & Bootstrap
- ▶ SCSS(SASS)
- ▶ Minify
- ▶ Git



Utilities von System

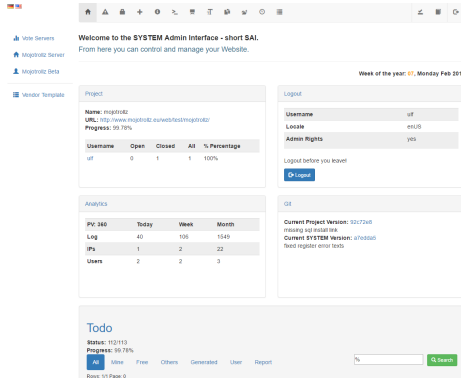
Codebeispiel - Template System

```

default_page.tpl
Source History
1 <html>
2 <head>
3 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
4 <meta name="viewport" content="width=device-width, initial-scale=1">
5 <meta name="description" content="{meta_description}">
6 <meta name="keywords" content="{meta_keywords}">
7 <meta name="author" content="{meta_author}">
8 <title>{meta_title}</title>
9 {css}
10 {js}
11 <link rel="shortcut icon" href="/api.php?call=files&cat=img&id=favicon.png" type="image/x-icon" />
12 </head>
13 <body style="background: #000000; padding-top: 10px;">
14 <div class="modal fade" id="modal_text" style="" tabindex="-1" role="dialog" aria-labelledby="myModalLabel" aria-hidden="true">
15 <div class="modal-dialog">
16 <div class="modal-content">
17 <div class="modal-body" id="modaltxt"></div>
18 <div class="modal-footer">
19 <button type="button" class="btn" data-dismiss="modal" id="edit_close">Close</button>
20 </div>
21 </div><!-- /.modal-content -->
22 </div><!-- /.modal-dialog -->
23 </div><!-- /.modal -->
24 <div id="menu">
25 <div id="menu_content">
26 <a href="#!start">{menu_start}</a>
27 <a href="#!about">{menu_about}</a>
28 </div>
29 </div>
30 <div id="content"></div>
31 <div id="footer">
32 <a href="#!impressum" id="impressum">{menu_imprint}</a>
33 </div>
34 </body>
35 </html>

```


SAI - Start



SAI - Log

System Log

Log Analytics

Exception LOGPLAYER_COUNT_CLASSIC LOGPLAYER_COUNT_TBC LOGPLAYER_COUNT_TS RuntimeException

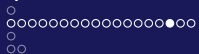
SYSTEMLOGICORROR SYSTEMLOGICORROR SYSTEMLOGGERORROR SYSTEMLOGGERORROR_EXCEPTION

SYSTEMLOGWARNING TeamSpeak3_Adapter_ServerQuery_Exception TeamSpeak3_Node_Exception

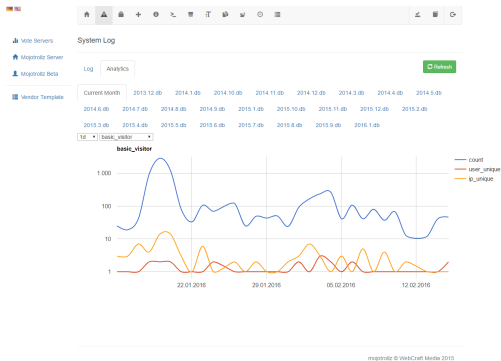
Refresh Search

Raw: 19050881 Page 0

Time Ago	Class	Message	File	Line	IP	URL	User	Quantity
1 minutes(s) ago	SYSTEMLOGCOUNTER	API was ca led success fully	b:\systemlog icorror.php	5	37.24.143.137	www.mgkdrbz.eu/80webtest/mgkdrbz2 _pi.php?ca=cacheid=1f4d8e181ccce206 6c1at10e7334ba095fe2d441cf79578_ 1455556610264	uff	0.072
1 minutes(s) ago	SYSTEMLOGCOUNTER	API was ca led success fully	b:\systemlog icorror.php	5	37.24.143.137	www.mgkdrbz.eu/80webtest/mgkdrbz2 _pi.php?ca=cacheid=1f4d8e181ccce206 6c1at10e7334ba095fe2d441cf79578_ 1455556610264	uff	0.068
1 minutes(s) ago	SYSTEMLOGCOUNTER	API was ca led success fully	b:\systemlog icorror.php	5	37.24.143.137	www.mgkdrbz.eu/80webtest/mgkdrbz2 _pi.php?ca=cacheid=1f4d8e181ccce206 6c1at10e7334ba095fe2d441cf79578_ 1455556610264	uff	0.078
2 minutes(s) ago	SYSTEMLOGCOUNTER	API was ca led success fully	b:\systemlog icorror.php	5	37.24.143.137	www.mgkdrbz.eu/80webtest/mgkdrbz2 _pi.php?ca=cacheid=1f4d8e181ccce206 6c1at10e7334ba095fe2d441cf79578_ 1455556610264	uff	0.068
2 minutes(s) ago	SYSTEMLOGCOUNTER	API was ca led success fully	b:\systemlog icorror.php	5	37.24.143.137	www.mgkdrbz.eu/80webtest/mgkdrbz2 _pi.php?ca=cacheid=1f4d8e181ccce206 6c1at10e7334ba095fe2d441cf79578_ 1455556610264	uff	0.108
2 minutes(s) ago	SYSTEMLOGCOUNTER	API was ca led success fully	b:\systemlog icorror.php	5	37.24.143.137	www.mgkdrbz.eu/80webtest/mgkdrbz2 _pi.php?ca=cacheid=1f4d8e181ccce206 6c1at10e7334ba095fe2d441cf79578_ 1455556610264	uff	0.06
2 minutes(s) ago	SYSTEMLOGCOUNTER	API was ca led success fully	b:\systemlog icorror.php	5	37.24.143.137	www.mgkdrbz.eu/80webtest/mgkdrbz2 _pi.php?ca=cacheid=1f4d8e181ccce206 6c1at10e7334ba095fe2d441cf79578_ 1455556610264	uff	0.128



SAI - Analysis





SAI - Cron

[Documentation](#)

Sysmon Cron

Last Visit: 11 Stunden(s) zuvor
Start Cron

class	min	hour	day	day_week	month	last_run	next_run	status	action
cron_postprocessing	0	0	1	0	0	2016-02-15 07:40:29+01	2016-02-15 07:40:00		
cron_preprocessing	0	0	1	0	0	2016-02-15 07:40:29+01	2016-02-15 07:40:00		
SYSTEMCRON/cron_cache_delete	0	0	1	0	0	2016-02-15 07:40:29+01	2016-02-15 07:40:00		
SYSTEMCRON/cron_logsizefile	0	0	1	0	0	2016-02-15 05:17:01+01	2016-02-15 05:17:00		

Push Message

Calibration

desense © WebCraft Media 2015

Vorteile bei Einsatz von System

- ▶ Kompakt und Einfach
- ▶ Noch jung, keine starren Strukturen
- ▶ Git kompatibel
- ▶ frei (<https://github.com/webcraftmedia/system>)

Nachteile bei Einsatz von System

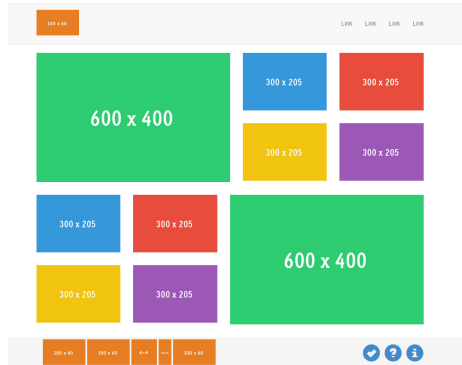
- ▶ Geringe Verbreitung
- ▶ Geringer Anteil an Dokumentation
- ▶ Unzureichende Nutzerverwaltung

Ausblick - Bootstrap

- ▶ Bootstrap Grid
- ▶ Col füllen/nachladen
- ▶ Bootstrap Menü

Nutzen

- ▶ “Click Click” Webseiten
- ▶ Noch einfacher
- ▶ Wiederverwertung von Templates/Code

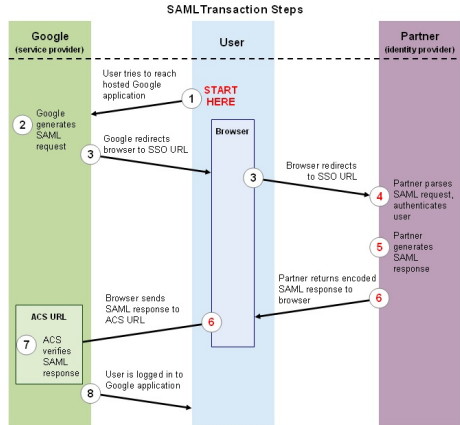


Ausblick - Usermanagement

- unzureichend
- umständlich
- Tabelle pro Projekt

SAML

- IDPs
- SPs
- verwaltung mehrer Seiten, Zentralisierung

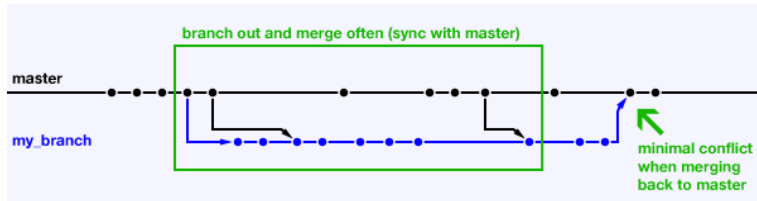


Versionskontrolle

Was Ist Versionskontrolle?



Git Branch



Git Workflow



Welche Versionskontrollsystem gibt es?

- ▶ Git
- ▶ Mercurial
- ▶ SVN
- ▶ Andere (2005)

Welches Versionskontrollsystem ist das richtige?

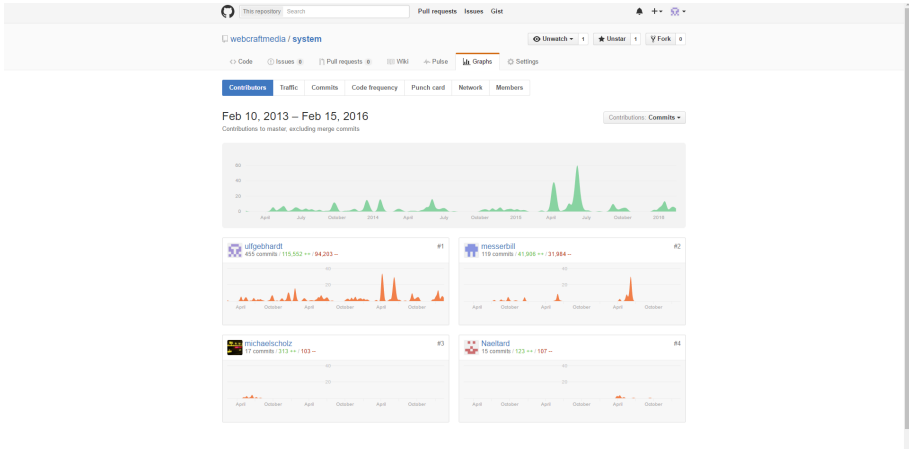
- ▶ Mercurial (code.google.com)
- ▶ SVN (Probleme, zu alt)
- ▶ Git (github.com - Die Bibliothek von Alexandria des 21. Jahrhunderts)

Features von GIT

Git ist zentraler Bestandteil jeder modernen IT-Firma.

- ▶ Kontrolle der Entwicklung/Abrechnung
- ▶ Motivation
- ▶ Deploy
- ▶ Mehrere Entwickler können an dem selben Projekt arbeiten
- ▶ Backup inklusive Historie

Projektverlauf visualisiert über Git



Software Empfehlungen - Entwicklung

Versionskontrollsoftware für GIT

- ▶ Git Console
- ▶ Tortoise Git
- ▶ Smart Git (commercial)

Git Console

```

MINGW32:~/git
Welcome to Git (version 1.8.3-preview20130601)

Run 'git help git' to display the help index.
Run 'git help <command>' to display help for specific commands.

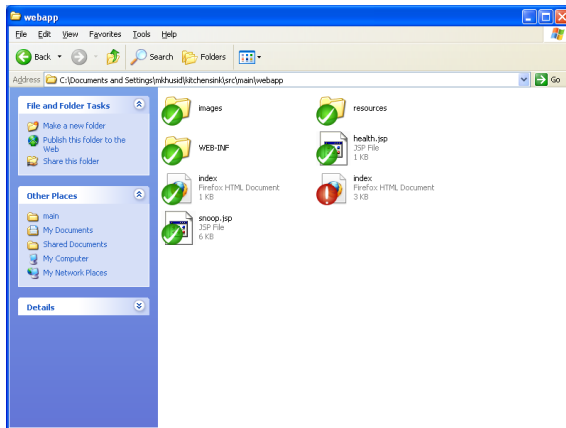
Bacon@BACON ~
$ git clone https://github.com/msysgit/git.git
Cloning into 'git'...
remote: Counting objects: 177468, done.
remote: Compressing objects: 100% (52057/52057), done.
remote: Total 177468 (delta 133396), reused 166093 (delta 123576)
Receiving objects: 100% (177468/177468), 42.16 MiB | 1.84 MiB/s, done.
Resolving deltas: 100% (133396/133396), done.
Checking out files: 100% (2576/2576), done.

Bacon@BACON ~
$ cd git

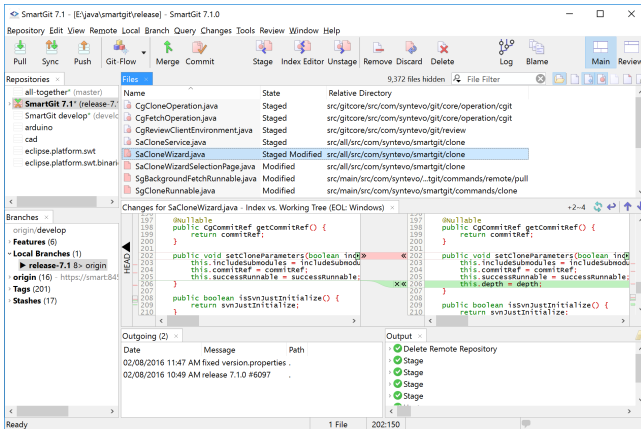
Bacon@BACON ~/git (master)
$ git status
# On branch master
nothing to commit, working directory clean

Bacon@BACON ~/git (master)
$
    
```

Tortoise Git



Smart Git



Entwicklungsumgebung

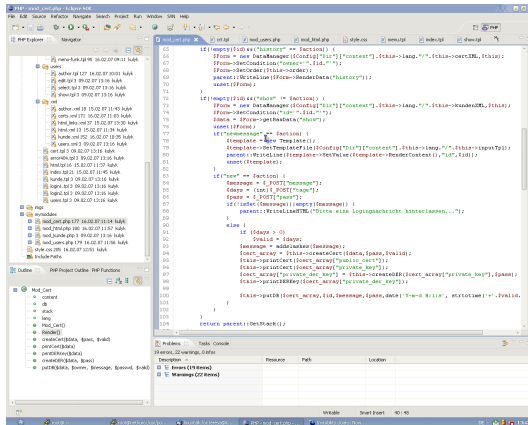
- ▶ Code-Autovervollständigung
- ▶ Strg-Click - Navigation
- ▶ Integration in den Entwicklungsprozess

Entwicklungsumgebung für PHP

- ▶ Netbeans
- ▶ Eclipse
- ▶ PhpStorm (commercial)



Eclipse

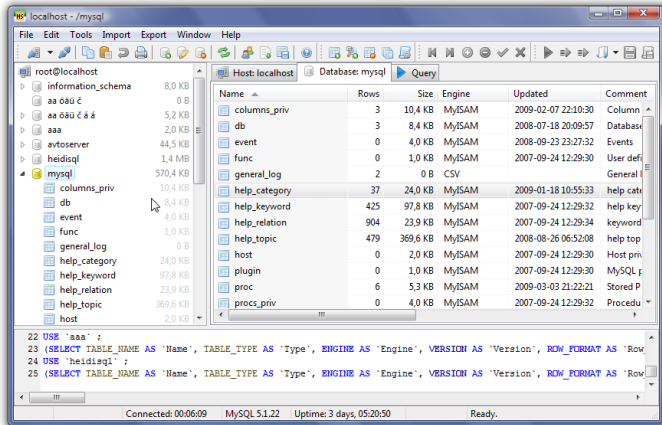





SQL Client

- ▶ Heidi SQL
- ▶ phpMyAdmin
- ▶ Navicat (commercial)

Heidi SQL



phpMyAdmin



Database:

base2 (28)




































base2






- ngesappel
- annusiae
- artid
- bikes
- binary_data
- fraglong
- ram
- chiffe
- clients
- colors
- comments
- contenents
- countries
- net1__b
- net1__a
- net1__tblb2
- nodes
- poconter
- permons
- process
- self_jan

Server: localhost Database: base2 Table: persons

Structure Browse SQL Search Insert Export Operations Empty Drop









table personnes aaa; InnoDB free: 343040 kB; ('town_code') REFER 'base2:towns' ('town_code'); ('country_code') REFER 'base2:countries' ('country_code')

Field	Type	Attributes	Null	Default	Extra	Action
<input type="checkbox"/> id	tinyint(4)		No		auto_increment	      
<input type="checkbox"/> person_name	varchar(200)		No			      
<input type="checkbox"/> town_code	varchar(5)		Yes 0			      
<input type="checkbox"/> country_code	char(1)		Yes NULL			      
<input type="checkbox"/> car_code	char(3)		No			      

Check All / Uncheck All With selected:     

Print view Relation view Propose table structure

Add 1 field(s) At End of Table At Beginning of Table After id Go

Keyname	Type	Cardinality	Action	Field
PRIMARY	PRIMARY	2	 	id
town_code	INDEX	2	 	town_code
country_code	INDEX	2	 	country_code
pays-ville	INDEX	2	 	country_code town_code

Space usage:

Type	Usage
Data	16,384 Bytes
Index	49,152 Bytes
Total	65,536 Bytes

Row Statistic:

Statements	Value
Format	dynamic
Next Autoindex	5

More than one INDEX key was created for column 'country_code'

Create an index on 1 columns Go

Navicat

The screenshot displays the Navicat for SQL Server application window. The title bar reads "Navicat for SQL Server". The menu bar includes File, View, Favorites, Tools, Window, and Help. The toolbar contains icons for Connection, User, Table, View, Function, Others, SQL Server Backup, Query, Report, Schedule, and Model. The main workspace is divided into three panes:

- Left Pane (Object Explorer):** Shows the database hierarchy. The "Tables" folder under the "HumanResources" schema is expanded, listing tables: Department, Employee, EmployeeAddress, EmployeeDepart..., EmployeePayHi..., JobCandidate, and Shift.
- Top Center Pane (Table Structure):** Displays the structure of the selected "Department" table. It shows columns: Name (16), Rows (290), and Modified Date (2013-02-26 15:33:24).
- Bottom Center Pane (Table Properties):** Shows the "General" tab for the "Department" table. It lists properties such as Name, OID, Schema, Database, Group Name, Rows, Created Date, Modified Date, Data Size, Index Size, and Comment.

The status bar at the bottom indicates: "7 Tables (7 in current group)" and "SQL Server 2008 User: sa Database: AdventureWorks Schema: HumanResources".

Outro



Fragen

Danke für Ihre Aufmerksamkeit

System - Gems

- ▶ API - REST in System
- ▶ Quick Query - Sichere SQL Querys

System - Gems

API - REST in System

URL

`http://www.example.com/?page=start`

Regeln

system_api (7×1)						
ID	group	type	parentID	parentValue	name	verify
1	1	0	-1	(NULL)	page	(NULL)

Funktion

```
public static function page_start()
```

API Class Beispiel

```

1 <?php
2 class api_dasense extends \SYSTEM\API\api_system{
3     //Sensor & Geopoint
4     public static function call_page_page_sensor($sensorid){
5         return page_sensor::json($sensorid);
6     }
7     public static function call_page_page_geopoint($lat,$long,$radius,$datatype){
8         return page_geopoint::json($lat, $long, $radius, $datatype);
9     }
10    public static function call_page_page_geopoint_flag_explore($lat,$long,$radius,$datatype){
11        return page_geopoint_explore::json($lat, $long, $radius, $datatype);
12    }
13    //Accountcalls
14    public static function call_account_action_login_flag_compatibility($username, $password_sha, $password_md5, $locale, $deviceinfo){
15        return DasenseAccount::login($username, $password_sha, $password_md5, $locale, $deviceinfo);
16    }
17    public static function call_account_action_login_flag_repairSHA($username, $password_sha_wrong, $password_md5, $password_sha_new, $locale, $deviceinfo){
18        return DasenseAccount::login($username, $password_sha_wrong, $password_md5, $locale, $deviceinfo, $password_sha_new);
19    }
20    public static function call_account_action_create_flag_compatibility($username, $password_sha, $email, $locale, $deviceinfo){
21        return DasenseAccount::create($username, $password_sha, $email, $locale, $deviceinfo);
22    }
23    public static function call_account_action_update_change_password($username, $password_sha_old, $password_sha_new){
24        return DasenseAccount::changePassword($username, $password_sha_old, $password_sha_new);
25    }
26    public static function call_account_action_resetpassword($username, $email){
27        return DasenseAccount::resetPassword($username, $email);
28    }
29    public static function call_account_action_login_flag_data($username, $password_sha, $password_md5, $locale, $deviceinfo, $data){
30        return DasenseAccount::login_data($username, $password_sha, $password_md5, $locale, $deviceinfo, $data);
31    }
32    // [06.04.2013] Push Message: register a device for push notification service
33    public static function call_account_action_msg_method_register($userid,$deviceid,$token,$os){
34        return MessageController::handleRegistrationToken($userid,$deviceid,$token,$os);
35    }
36    // [06.04.2013] Push Message: allows users to invite friends via email
37    public static function call_account_action_msg_method_invite($userid,$recipient_email,$msg){
38        return MessageController::inviteUser($userid,$recipient_email,$msg);
39    }
40    // [09.04.2013] Profile: get user's public profile
41    public static function call_account_action_profile_get_public($userid){
42        return ProfileController::getPublicProfile($userid);
43    }
44    //Logging system
45    /* public static function call_log($json){
46        // ...
47    }
48    ...

```


Quick Query - Sichere SQL Querys

QQ

```
k?php
2 namespace SYSTEM\SQL;
3 class SYS_CACHE_DELETE_ALL extends \SYSTEM\DB\QQ {
4     public static function get_class(){return \get_class();}
5     public static function pgsql(){return
6         'DELETE FROM system.cache;';
7     }
8     public static function mysql(){return
9         'DELETE FROM system_cache;';
10    }
11 }
```

QP

```
k?php
2 namespace SYSTEM\SQL;
3 class SYS_CACHE_DELETE extends \SYSTEM\DB\QP {
4     public static function get_class(){return \get_class();}
5     public static function pgsql(){return
6         'DELETE FROM system.cache'.
7         ' WHERE "CacheID" = $1 AND'.
8         ' "Ident" = $2;';
9     }
}
```

Quick Query - Sichere SQL Querys

Q1 - Eine Zeile

```
$res = SYS_SAIMOD_API_SELECT::Q1(array($ID,$group));
```

QA - Alle Zeilen

```
$res = SYS_SAIMOD_API_SELECT::QA(array($ID,$group));
```

QQ - Selber Interrieren

```
$res = SYS_SAIMOD_API_SELECT::QQ(array($ID,$group));
```

QI - Einfügen/Löschen

```
$res = SYS_SAIMOD_API_SELECT::QI(array($ID,$group));
```