# Appendices

## IDE Used:

### Netbeans 7.3.1

NetBeans is an open-source project dedicated to providing rock solid software development that address the needs of developers, users and the businesses who rely on NetBeans as a basis for their products; particularly, to enable them to develop these products quickly, efficiently and easily by leveraging the strengths of the Java platform and other relevant industry standards.

#### Features:

Best Support for Latest Java Technologies

NetBeans IDE provides first-class comprehensive support for the newest Java technologies and latest Java enhancements before other IDEs. It is the first IDE providing support for JDK 7, Java EE 7, and JavaFX 2.   
  
With its constantly improving Java Editor, many rich features and an extensive range of tools, templates and samples, NetBeans IDE sets the standard for developing with cutting edge technologies out of the box.

Fast & Smart Co de Editing

An IDE is much more than a text editor. The NetBeans Editor indents lines, matches words and brackets, and highlights source code syntactically and semantically. It also provides code templates, coding tips, and refactoring tools.   
  
The editor supports many languages from Java, C/C++, XML and HTML, to PHP, Groovy, Javadoc, JavaScript and JSP. Because the editor is extensible, you can plug in support for many other languages.

Easy & Efficient Project Management

Keeping a clear overview of large applications, with thousands of folders and files, and millions of lines of code, is a daunting task. NetBeans IDE provides different views of your data, from multiple project windows to helpful tools for setting up your applications and managing them efficiently, letting you drill down into your data quickly and easily, while giving you versioning tools via Subversion, Mercurial, and Git integration out of the box.

Rapid User Interface Development

Design GUIs for Java EE, Java SE, and Java ME applications quickly and smoothly by dragging and positioning GUI components from a palette into the NetBeans Editor.   
  
For Java SE applications, the NetBeans GUI Builder automatically takes care of correct spacing and alignment, while supporting in-place editing, as well. The GUI builder is so intuitive that it has been used to prototype GUIs at customer presentations.

Write Bug Free Code

The cost of buggy code increases the longer it remains unfixed. NetBeans provides static analysis tools, especially integration with the widely used FindBugs tool, for identifying and fixing common problems in Java code. In addition, the NetBeans Debugger lets you place breakpoints in your source code, add field watches, step through your code, run into methods, take snapshots and monitor execution as it occurs.

### Eclipse IDE for Android

In [computer programming](http://en.wikipedia.org/wiki/Computer_programming), **Eclipse** is a multi-language [Integrated development environment](http://en.wikipedia.org/wiki/Integrated_development_environment) (IDE) comprising a base [workspace](http://en.wikipedia.org/wiki/Workspace) and an extensible [plug-in](http://en.wikipedia.org/wiki/Plug-in_(computing)) system for customizing the environment. It is written mostly in [Java](http://en.wikipedia.org/wiki/Java_(programming_language)). It can be used to develop applications in Java and, by means of various plug-ins, other [programming languages](http://en.wikipedia.org/wiki/Programming_language)including [Ada](http://en.wikipedia.org/wiki/Ada_(programming_language)), [C](http://en.wikipedia.org/wiki/C_(programming_language)), [C++](http://en.wikipedia.org/wiki/C%2B%2B), [COBOL](http://en.wikipedia.org/wiki/COBOL), [Fortran](http://en.wikipedia.org/wiki/Fortran), [Haskell](http://en.wikipedia.org/wiki/Haskell_(programming_language)), [JavaScript](http://en.wikipedia.org/wiki/JavaScript), [Lasso](http://en.wikipedia.org/wiki/Lasso_(programming_language)), [Perl](http://en.wikipedia.org/wiki/Perl), [PHP](http://en.wikipedia.org/wiki/PHP),[Python](http://en.wikipedia.org/wiki/Python_(programming_language)), [R](http://en.wikipedia.org/wiki/R_(programming_language)), [Ruby](http://en.wikipedia.org/wiki/Ruby_(programming_language)) (including [Ruby on Rails](http://en.wikipedia.org/wiki/Ruby_on_Rails) framework), [Scala](http://en.wikipedia.org/wiki/Scala_(programming_language)" \o "Scala (programming language)), [Clojure](http://en.wikipedia.org/wiki/Clojure" \o "Clojure), [Groovy](http://en.wikipedia.org/wiki/Groovy_(programming_language)), [Scheme](http://en.wikipedia.org/wiki/Scheme_(programming_language)), and [Erlang](http://en.wikipedia.org/wiki/Erlang_(programming_language)" \o "Erlang (programming language)). It can also be used to develop packages for the software [Mathematica](http://en.wikipedia.org/wiki/Mathematica" \o "Mathematica). Development environments include the Eclipse Java development tools (JDT) for Java and Scala, Eclipse CDT for C/C++ and Eclipse PDT for PHP, among others.

## Front End

### XML

**Extensible Markup Language** (**XML**) is a [markup language](http://en.wikipedia.org/wiki/Markup_language" \o "Markup language) that defines a set of rules for encoding documents in a [format](http://en.wikipedia.org/wiki/File_format) that is both [human-readable](http://en.wikipedia.org/wiki/Human-readable_medium) and [machine-readable](http://en.wikipedia.org/wiki/Machine-readable_data). It is defined in the XML 1.0 Specification produced by the [W3C](http://en.wikipedia.org/wiki/W3C), and several other related specifications, all free [open standards](http://en.wikipedia.org/wiki/Open_standard).

The design goals of XML emphasize simplicity, generality, and usability over the [Internet](http://en.wikipedia.org/wiki/Internet). It is a textual data format with strong support via [Unicode](http://en.wikipedia.org/wiki/Unicode) for the languages of the world. Although the design of XML focuses on documents, it is widely used for the representation of arbitrary [data structures](http://en.wikipedia.org/wiki/Data_structures), for example in [web services](http://en.wikipedia.org/wiki/Web_service).

Many [application programming interfaces](http://en.wikipedia.org/wiki/Application_programming_interfaces) (APIs) have been developed to aid software developers with processing XML data, and several [schema systems](http://en.wikipedia.org/wiki/XML_schema) exist to aid in the definition of XML-based languages.

### HTML

**HyperText Markup Language** (**HTML**) is the main [markup language](http://en.wikipedia.org/wiki/Markup_language" \o "Markup language) for creating [web pages](http://en.wikipedia.org/wiki/Web_page) and other information that can be displayed in a [web browser](http://en.wikipedia.org/wiki/Web_browser).

HTML is written in the form of [HTML elements](http://en.wikipedia.org/wiki/HTML_element) consisting of *tags* enclosed in [angle brackets](http://en.wikipedia.org/wiki/Angle_brackets) (like <html>), within the web page content. HTML tags most commonly come in pairs like <h1> and </h1>, although some tags represent *empty elements* and so are unpaired, for example <img>. The first tag in a pair is the *start tag*, and the second tag is the *end tag* (they are also called *opening tags* and *closing tags*). In between these tags web designers can add text, further tags, [comments](http://en.wikipedia.org/wiki/Comment_(computer_programming)) and other types of text-based content.

The purpose of a [web browser](http://en.wikipedia.org/wiki/Web_browser) is to read HTML documents and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page.

HTML elements form the building blocks of all [websites](http://en.wikipedia.org/wiki/Website). HTML allows [images and objects](http://en.wikipedia.org/wiki/Img_(HTML_element)) to be embedded and can be used to create [interactive forms](http://en.wikipedia.org/wiki/Fieldset). It provides a means to create [structured documents](http://en.wikipedia.org/wiki/Structured_document) by denoting structural [semantics](http://en.wikipedia.org/wiki/Semantic) for text such as headings, paragraphs, lists, [links](http://en.wikipedia.org/wiki/Hyperlink), quotes and other items. It can embed [scripts](http://en.wikipedia.org/wiki/Scripting_language) written in languages such as [JavaScript](http://en.wikipedia.org/wiki/JavaScript) which affect the behavior of HTML web pages.

## Programming Framework

### Codeigniter

**CodeIgniter** is an [open source](http://en.wikipedia.org/wiki/Open_source) rapid development [web application framework](http://en.wikipedia.org/wiki/Web_application_framework), for use in building dynamic web sites with [PHP](http://en.wikipedia.org/wiki/PHP). "Its goal is to enable [developers] to develop projects much faster than writing code from scratch, by providing a rich set of libraries for commonly needed tasks, as well as a simple interface and logical structure to access these libraries." The first public version of CodeIgniter was released on February 28, 2006, and the latest stable version 2.1.4 was released July 8, 2013.

CodeIgniter is loosely based on the popular [Model-View-Controller](http://en.wikipedia.org/wiki/Model-View-Controller) development pattern. While view and controller classes are a necessary part of development under CodeIgniter, models are optional.

### ADT

The Android Developer Tools (ADT) plugin for Eclipse provides a professional-grade development environment for building Android apps. It's a full Java IDE with advanced features to help you build, test, debug, and package your Android apps.

Free, open-source, and runs on most major OS platforms.

#### Features:

Full Java IDE

* Android-specific refactoring, quick fixes, integrated navigation between Java and XML resources.
* Enhanced XML editors for Android XML resources.
* Static analysis tools to catch performance, usability, and correctness problems.
* Build support for complex projects, command-line support for CI through Ant. Includes ProGuard and app-signing.
* Template-based wizard to create standard Android projects and components.

Graphical UI Builders

* Build rich Android UI with drag and drop.
* Visualize your UI on tablets, phones, and other devices. Switch themes, locales, even platform versions instantly, without building.
* Visual refactoring lets you extracts layout for inclusion, convert layouts, extract styles.
* Editor support for working with custom UI components.

Develop on Hardware Devices

* Use any commercial Android hardware device or multiple devices.
* Deploy your app to connected devices directy from the IDE.
* Live, on-device debugging, testing, and profiling.

Develop on Virtual Devices

* Emulate any device. Use custom screen sizes, keyboards, and other hardware components.
* Advanced hardware emulation, including camera, sensors, multitouch, and telephony.
* Develop and test for broad device compatibility.

Powerful Debugging

* Full Java debugger with on-device debugging and Android-specific tools.
* Built-in memory analysis, performance/CPU profiling, OpenGL ES tracing.
* Graphical tools for debugging and optimizing UI, runtime inspecton of UI structure and performance.
* Runtime graphical analysis of your app's network bandwidth usage.

Testing

* Fully instrumentated, scriptable test environment.
* Integrated reports using standard test UI.
* Create and run unit tests on hardware devices or emulator.

Native Development

* Support for compiling and packaging existing code written in C or C++.
* Support for packaging multiple architectures in a single binary, for broad compatibility.

## Database/backend:

### MySQL



MySQL is the world's most popular open source database software, with over 100 million copies of its software downloaded or distributed throughout its history.

The MySQL Community Edition includes:

* Pluggable Storage Engine Architecture
* Multiple Storage Engines: InnoDB , MyISAM, NDB (MySQL Cluster),Memory ,Merge , Archive, CSV
* MySQL Replication to improve application performance and scalability
* MySQL Partitioning to improve performance and management of large database applications
* Stored Procedures to improve developer productivity

#### Detailed features of mysql

The following list shows the most important properties of MySQL. This section is directed to the reader who already has some knowledge of relational databases. We will use some terminology from the relational database world without defining our terms exactly. On the other hand, the explanations should make it possible for database novices to understand to some extent what we are talking about.

**Relational Database System:** Like almost all other database systems on the market, MySQL is a relational database system.

**Client/Server Architecture:** MySQL is a client/server system. There is a database server (MySQL) and arbitrarily many clients (application programs), which communicate with the server; that is, they query data, save changes, etc. The clients can run on the same computer as the server or on another computer (communication via a local network or the Internet).

|  |  |
| --- | --- |
|  | |
|  |  |
|  | |

Almost all of the familiar large database systems (Oracle, Microsoft SQL Server, etc.) are client/server systems. These are in contrast to the file-server systems, which include Microsoft Access, dBase and FoxPro. The decisive drawback to file-server systems is that when run over a network, they become extremely inefficient as the number of users grows.

**SQL compatibility:** MySQL supports as its database language -- as its name suggests – SQL (Structured Query Language). SQL is a standardized language for querying and updating data and for the administration of a database. There are several SQL dialects (about as many as there are database systems). MySQL adheres to the current SQL standard (at the moment SQL:2003), although with significant restrictions and a large number of extensions.

Through the configuration setting sql-mode you can make the MySQL server behave for the most part compatibly with various database systems. Among these are IBM DB/2 and Oracle. (The setting sql-mode changes some of the syntax conventions, and performs no miracles.

**SubSELECTs:** Since version 4.1, MySQL is capable of processing a query in the form SELECT \* FROM table1 WHERE x IN (SELECT y FROM table2) (There are also numerous syntax variants for subSELECTs.)

**Views:** Put simply, views relate to an SQL query that is viewed as a distinct database object and makes possible a particular view of the database. MySQL has supported views since version 5.0.

**Stored procedures:** Here we are dealing with SQL code that is stored in the database system.

Stored procedures (SPs for short) are generally used to simplify certain steps, such as inserting or deleting a data record. For client programmers this has the advantage that they do not have to process the tables directly, but can rely on SPs. Like views, SPs help in the administration of large database projects. SPs can also increase efficiency. MySQL has supported SPs since version 5.0.

**Triggers:** Triggers are SQL commands that are automatically executed by the server in certain database operations (INSERT, UPDATE, and DELETE). MySQL has supported triggers in a limited form from version 5.0, and additional functionality is promised for version 5.1.

**Unicode:** MySQL has supported all conceivable character sets since version 4.1, including Latin-1, Latin-2, and Unicode (either in the variant UTF8 or UCS2).

**User interface:** There are a number of convenient user interfaces for administering a MySQL server.

**Full-text search:** Full-text search simplifies and accelerates the search for words that are located within a text field. If you employ MySQL for storing text (such as in an Internet discussion group), you can use full-text search to implement simply an efficient search function.

**Replication:** Replication allows the contents of a database to be copied (replicated) onto a number of computers. In practice, this is done for two reasons: to increase protection against system failure (so that if one computer goes down, another can be put into service) and to improve the speed of database queries.

**Transactions:** In the context of a database system, a transaction means the execution of several database operations as a block. The database system ensures that either all of the operations are correctly executed or none of them. This holds even if in the middle of a transaction there is a power failure, the computer crashes, or some other disaster occurs. Thus, for example, it cannot occur that a sum of money is withdrawn from account A but fails to be deposited in account B due to some type of system error.

Transactions also give programmers the possibility of interrupting a series of already executed commands (a sort of revocation). In many situations this leads to a considerable simplification of the programming process. In spite of popular opinion, MySQL has supported transactions for a long time. One should note here that MySQL can store tables in a variety of formats. The default table format is called MyISAM, and this format does not support transactions. But there are a number of additional formats that do support transactions. The most popular of these is InnoDB, which will be described extensively in this book.

**Foreign key constraints:** These are rules that ensure that there are no cross references in linked tables that lead to nowhere. MySQL supports foreign key constraints for InnoDB tables.

**GIS functions:** Since version 4.1, MySQL has supported the storing and processing of two-dimensional geographical data. Thus MySQL is well suited for GIS (geographic information systems) applications.

**Programming languages:** There are quite a number of APIs (application programming interfaces) and libraries for the development of MySQL applications. For client programming you can use, among others, the languages C, C++, Java, Perl, PHP, Python, and Tcl.

**ODBC:** MySQL supports the ODBC interface [Connector/ODBC](http://searchenterpriselinux.techtarget.com/definition/MySQL-Connector-ODBC). This allows MySQL to be addressed by all the usual programming languages that run under Microsoft Windows (Delphi, Visual Basic, etc.). The ODBC interface can also be implemented under Unix, though that is seldom necessary.

Windows programmers who have migrated to Microsoft's new .NET platform can, if they wish, use the ODBC provider or the .NET interface Connector/NET.

**Platform independence:** It is not only client applications that run under a variety of operating systems; MySQL itself (that is, the server) can be executed under a number of operating systems. The most important are Apple Macintosh OS X, Linux, Microsoft Windows, and the countless Unix variants, such as AIX, BSDI, FreeBSD, HP-UX, OpenBSD, Net BSD, SGI Iris, and Sun Solaris.

**Speed:** MySQL is considered a very fast database program. This speed has been backed up by a large number of benchmark.

### SQLite

**SQLite** is a [relational database management system](http://en.wikipedia.org/wiki/Relational_database_management_system) contained in a small [C](http://en.wikipedia.org/wiki/C_(programming_language)) programming [library](http://en.wikipedia.org/wiki/Library_(computer_science)). In contrast to other database management systems, SQLite is not a separate process that is accessed from the client application, but an integral part of it.

SQLite is [ACID](http://en.wikipedia.org/wiki/Atomicity,_consistency,_isolation,_durability)-compliant and implements most of the [SQL](http://en.wikipedia.org/wiki/SQL) standard, using a dynamically and weakly typed SQL [syntax](http://en.wikipedia.org/wiki/Syntax) that does not guarantee the [domain integrity](http://en.wikipedia.org/wiki/Integrity_constraints).

SQLite is a popular choice as [embedded database](http://en.wikipedia.org/wiki/Embedded_database) for local/client storage in [application software](http://en.wikipedia.org/wiki/Application_software) such as [web browsers](http://en.wikipedia.org/wiki/Web_browser). It is arguably the most widely deployed [database engine](http://en.wikipedia.org/wiki/Database_engine), as it is used today by several widespread browsers, [operating systems](http://en.wikipedia.org/wiki/Operating_system), and [embedded systems](http://en.wikipedia.org/wiki/Embedded_system), among others. SQLite has many [bindings](http://en.wikipedia.org/wiki/Language_binding) to programming languages.

The [source code](http://en.wikipedia.org/wiki/Source_code) for SQLite is in the [public domain](http://en.wikipedia.org/wiki/Public_domain).

## IDE for Database

### MySQL workbench

MySQL Workbench is a visual database design tool that integrates SQL evelopment,administration, database design, creation and maintenance into a single integrated development environment for the MySQL database system. It is the successor to DBDesigner 4 from fabFORCE.net, and replaces the previous package of software,MySQL GUI Tools Bundle. [MySQL Workbench](http://www.mysql.com/products/workbench/) enables a DBA, developer, or data architect to visually design, generate, and manage all types of databases including Web, OLTP, and data warehouse databases. It includes everything a data modeler needs for creating complex ER models, and also delivers key features for performing difficult change management and documentation tasks that normally require much time and effort. MySQL Workbench is available on Windows, Linux and Mac OS.

#### benefits

* Simplifies database design and maintenance
* Automates time-consuming and error-prone tasks
* Enables data architects to visualize requirements, communicate with stakeholders, and resolve design issues before a major investment of time and resources is made
* Enables model-driven database design—the most efficient methodology for creating valid and well-performing databases—while providing the flexibility to respond to evolving business requirements
* Provides capabilities to forward-engineer physical database designs and reverse-engineer existing databases
* Allows you to import SQL scripts to build models and export models to DDL scripts that can be run at a later time
* Enables you to compare two live databases or a model and a live database, visually see the differences, and perform a synchronization between a model and a live database or vice versa
* Simplifies the documentation of database designs, providing a point-and-click process that delivers documentation in HTML or plain-text format

#### Tools

The three main tools of MySQL Workbench are:

* SQL Development
* Data Modelling
* Server Administration

## Programming Language

### Java

**Java** is a [general-purpose](http://en.wikipedia.org/wiki/General_purpose_programming_language), [concurrent](http://en.wikipedia.org/wiki/Concurrent_computing), [class-based](http://en.wikipedia.org/wiki/Class-based), [object-oriented](http://en.wikipedia.org/wiki/Object-oriented_programming) [computer programming language](http://en.wikipedia.org/wiki/Computer_programming_language) that is specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere" (WORA), meaning that code that runs on one platform does not need to be recompiled to run on another. Java applications are typically [compiled](http://en.wikipedia.org/wiki/Compiler) to [bytecode](http://en.wikipedia.org/wiki/Java_bytecode" \o "Java bytecode) ([class file](http://en.wikipedia.org/wiki/Class_(file_format))) that can run on any [Java virtual machine](http://en.wikipedia.org/wiki/Java_virtual_machine) (JVM) regardless of [computer architecture](http://en.wikipedia.org/wiki/Computer_architecture). Java is, as of 2012, one of the most popular programming languages in use, particularly for client-server web applications, with a reported 10 million users.[[10]](http://en.wikipedia.org/wiki/Java_(programming_language)#cite_note-10)[[11]](http://en.wikipedia.org/wiki/Java_(programming_language)#cite_note-11) Java was originally developed by [James Gosling](http://en.wikipedia.org/wiki/James_Gosling) at [Sun Microsystems](http://en.wikipedia.org/wiki/Sun_Microsystems) (which has since [merged into Oracle Corporation](http://en.wikipedia.org/wiki/Sun_acquisition_by_Oracle)) and released in 1995 as a core component of Sun Microsystems' [Java platform](http://en.wikipedia.org/wiki/Java_(software_platform)). The language derives much of its [syntax](http://en.wikipedia.org/wiki/Syntax_(programming_languages)) from [C](http://en.wikipedia.org/wiki/C_(programming_language)) and [C++](http://en.wikipedia.org/wiki/C%2B%2B), but it has fewer [low-level](http://en.wikipedia.org/wiki/Low-level_programming_language) facilities than either of them.

The original and [reference implementation](http://en.wikipedia.org/wiki/Reference_implementation_(computing)) Java [compilers](http://en.wikipedia.org/wiki/Compiler), virtual machines, and [class libraries](http://en.wikipedia.org/wiki/Library_(computing)) were developed by Sun from 1991 and first released in 1995. As of May 2007, in compliance with the specifications of the [Java Community Process](http://en.wikipedia.org/wiki/Java_Community_Process), Sun relicensed most of its Java technologies under the [GNU General Public License](http://en.wikipedia.org/wiki/GNU_General_Public_License). Others have also developed alternative implementations of these Sun technologies, such as the [GNU Compiler for Java](http://en.wikipedia.org/wiki/GNU_Compiler_for_Java) (bytecode compiler), [GNU Classpath](http://en.wikipedia.org/wiki/GNU_Classpath) (standard libraries), and [IcedTea](http://en.wikipedia.org/wiki/IcedTea" \o "IcedTea)-Web (browser plug-in for applets).

### PHP

**PHP** is a [server-side scripting](http://en.wikipedia.org/wiki/Server-side_scripting) language designed for [web development](http://en.wikipedia.org/wiki/Web_development) but also used as a [general-purpose programming language](http://en.wikipedia.org/wiki/General-purpose_programming_language). PHP is now installed on more than 244 million [websites](http://en.wikipedia.org/wiki/Website) and 2.1 million [web servers](http://en.wikipedia.org/wiki/Web_server).[[2]](http://en.wikipedia.org/wiki/PHP#cite_note-2) Originally created by [Rasmus Lerdorf](http://en.wikipedia.org/wiki/Rasmus_Lerdorf" \o "Rasmus Lerdorf) in 1995, the [reference implementation](http://en.wikipedia.org/wiki/Reference_implementation) of PHP is now produced by The PHP Group.[[3]](http://en.wikipedia.org/wiki/PHP#cite_note-about_PHP-3) While PHP originally stood for *Personal Home Page*, it now stands for *PHP: Hypertext Preprocessor*, a [recursive acronym](http://en.wikipedia.org/wiki/Recursive_acronym).

PHP code is [interpreted](http://en.wikipedia.org/wiki/Interpreter_(computing)) by a web server with a PHP processor module, which generates the resulting web page: PHP commands can be embedded directly into an [HTML](http://en.wikipedia.org/wiki/HTML) source document rather than calling an external file to process data. It has also evolved to include a [command-line interface](http://en.wikipedia.org/wiki/Command-line_interface) capability and can be used in [standalone](http://en.wikipedia.org/wiki/Computer_software) [graphical applications](http://en.wikipedia.org/wiki/Graphical_user_interface).

PHP is [free software](http://en.wikipedia.org/wiki/Free_software) released under the [PHP License](http://en.wikipedia.org/wiki/PHP_License), which is incompatible with the [GNU General Public License](http://en.wikipedia.org/wiki/GNU_General_Public_License) (GPL) due to restrictions on the usage of the term *PHP*. PHP can be deployed on most web servers and also as a standalone [shell](http://en.wikipedia.org/wiki/Shell_(computing)) on almost every [operating system](http://en.wikipedia.org/wiki/Operating_system) and [platform](http://en.wikipedia.org/wiki/Computing_platform), free of charge.

## Libraries

### Twitter Bootstrap

**Bootstrap** is a [free](http://en.wikipedia.org/wiki/Free_Software) collection of tools for creating [websites](http://en.wikipedia.org/wiki/Website) and [web applications](http://en.wikipedia.org/wiki/Web_application). It contains [HTML](http://en.wikipedia.org/wiki/HTML) and [CSS](http://en.wikipedia.org/wiki/CSS)-based design templates for [typography](http://en.wikipedia.org/wiki/Typography), forms, buttons, navigation and other interface components, as well as optional [JavaScript](http://en.wikipedia.org/wiki/JavaScript) extensions.

It has been the most popular project in [GitHub](http://en.wikipedia.org/wiki/GitHub" \o "GitHub) and has been used by [NASA](http://en.wikipedia.org/wiki/NASA) and [MSNBC](http://en.wikipedia.org/wiki/MSNBC) among others.

### Flexi Auth

What is flexi auth?

flexi auth is a free open source user authentication/login library for use with the [CodeIgniter](http://ellislab.com/" \t "_blank) 2.0+ framework.

The flexi auth library initially started out as a modified version of the popular [Ion Auth](http://benedmunds.com/ion_auth/) library. As the original library was tweaked with feature after feature being added, the original code base had transformed into a new library all of its own.

For those that have used the Ion Auth library, the general structure of the library may be familiar, but to help anyone wanting to get a running start with using flexi auth, there is an comprehensive user guide and demo detailing covering every function within the library.

flexi auth is designed with modularised features that can be mixed and matched, turned on or off, and can be customised to suit your requirements.

### Mahana Messaging Library

A small library to help jump start your internal messaging system, for the CodeIgniter framework

#### Features:

* Create new thread
* Show thread
* Show messages
* Show all threads

## Other technologies

### REST PROTOCOL

**Representational State Transfer** (**REST**) is an architectural style that abstracts the architectural elements within a distributed [hypermedia](http://en.wikipedia.org/wiki/Hypermedia) system. REST ignores the details of component implementation and protocol syntax in order to focus on the roles of components, the constraints upon their interaction with other components, and their interpretation of significant data elements. REST has emerged as a predominant [web API](http://en.wikipedia.org/wiki/Web_API) design model.