

# Opening TYPO3 to the Outside: The TYPO3 iPhone App and Other Examples

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Please note: This article is an overview only. The full presentation is available for download on [www.naw.info/typo3-webservice/](http://www.naw.info/typo3-webservice/).

## Summary

This talk presents a generic TYPO3 web service which allows you to access TYPO3 data entities from the outside.

Due to its generic architecture, this includes all data records that could normally be represented in the TYPO3 list module.

Furthermore, the TYPO3 iPhone application is presented as one sample use case for the web service.

## Introduction

The TYPO3 (backend) interface offers editors easy access to create and maintain content by using a browser. This seems to not be sufficient when using a mobile device due to its poor screen resolution.

Imagine the following scenario:

An editor intends to report directly from an event. He or she has an iPhone on-hand. Accessing the TYPO3 backend by using the browser of the iPhone is not a feasible solution.

In this case it would be desirable to have a native iPhone application to enable the editor to create and publish an article in a clear and structured way. Up till now, this had not been possible.

Using the TYPO3 web service - developed by naw.info – you can now use other applications (including an iPhone application) to access a TYPO3 instance and its data.

Possible other use cases for this web service could be:

- Applications with customized features for editors (e.g. live ticker at sport event)
- Applications to maintain data off-line to be published later
- Applications to maintain several TYPO3 sites centrally
- To feed TYPO3 data from external applications (e. g. editorial staff for paper)
- Monitoring of one or more TYPO3 systems (e. g. monitoring the version of extensions via Nagios)

Implementation on a third party system is possible in several different programming languages (e. g. PHP, Air, Java, .NET, Cocoa).

## Solution Overview

In order to find a solution to above mentioned scenario, naw.info developed a TYPO3 web service that enables external applications to be authorized by TYPO3 to retrieve and change data.

naw.info implemented the possibility for data munging of all data that is shown in the TYPO3 list module. To accomplish this, the web service exclusively accesses the application programming interface (API) provided by TYPO3. This guarantees an optimal data consistency and integrity.

Since the web service is built in a modular way other functions can easily be added.

For the above mentioned case, where the editor wants to report directly from a live event, naw.info developed an iPhone application that enables editors to maintain news records (TYPO3 Extension “tt\_news”).

For each action that the user of the iPhone application performs, the iPhone application queries the web service. The service interprets the enquiry and submits the answer to the iPhone application. If for example the user deletes a news record, this enquiry is sent to the web service. The service then verifies the enquiry, activates the TYPO3 feature to delete a news record and reports failure or transaction back to the iPhone.

## Example of Implementation: iPhone App

In order to use the web service via iPhone application three easy steps are necessary:

- Install the TYPO3 extension typo3\_webservices
- Setup a backend user, who is entitled to use the web service module and who is also entitled to read pages and read and write news records (tt\_news). Assign the backend user one or more news sys folders via “mount points”. Optional, you can hide certain fields of the news records from the user.
- Enter the URL for the TYPO3 installation and the user name with the password on the iPhone application.

Afterwards, news may be maintained via iPhone application.

The following screenshots provide a first impression to the functionality of the iPhone App.



Home Screen



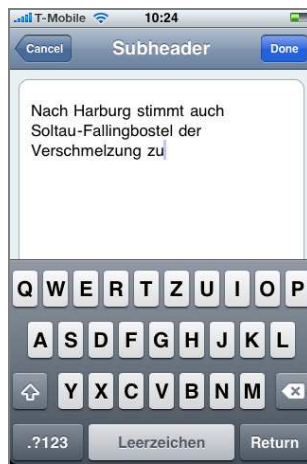
Newsfolder List



News List



News Details



Edit a News Field



Take a Photo

## Details to TYPO3 Web Service

The web service consists of three different areas: Transport, authentication and data output / data munging.

### 1. *Transport*

Communication of a third party application with TYPO3 takes place via http(s). This means that the web service can be reached at a certain URL. Enquiries to the service are transmitted to this URL. The web service translates the enquiry into a TYPO3 function and transmits the according answer back. This succession of request and response is momentarily implemented based on XMLRPC standards. Advantage of this standard is that it is available on various platforms and that it is easy to implement. Due to the fact that the web service is built in a modular way other transfer protocols (e. g. SOAP, REST) could also be implemented.

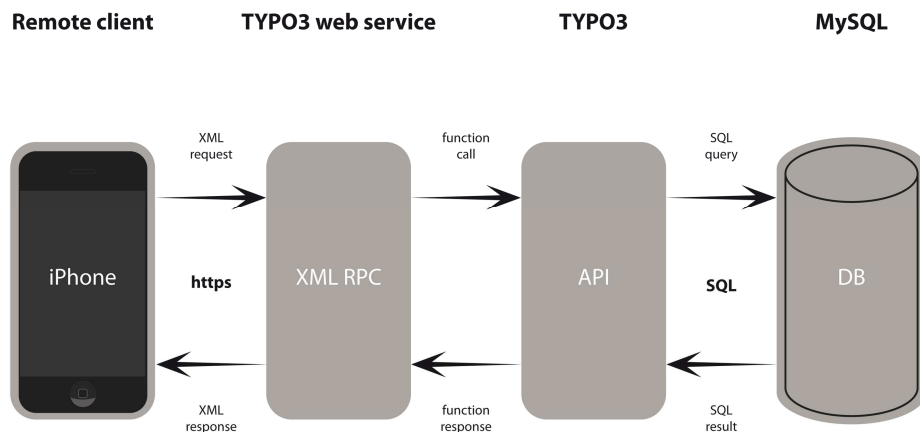
### 2. *Authentication*

Before using certain features of the web service the user needs to authenticate him- or herself. User name and password of a TYPO3 backend user are submitted to the log in function, and the user receives a so called session ID if the authentication is successful. This ID is essential in order to access the features of the web service. Just like with the standard access to the TYPO3 backend, access to the web service should for safety reasons also be solely via https.

### 3. *Data Output / Data Munging*

In the current implementation the web service enables data munging of all data that is shown in the TYPO3 list module. Technically speaking: Data munging for data from all database tables that a configuration in the so called \$TCA is given. This means, page content like "text with image", data records of TYPO3 extensions and TypoScript templates can be created, read, modified, and deleted by the web service with an application.

All authorizations given to the backend users are being considered. This includes which pages the user may see ("database mounts") as well as which types of data records he or she may edit ("tables listing / modify") and which arrays within the data record he or she may edit ("allowed excludefields").



Schematic view on the web service

## Conclusions

Because of the new TYPO3 web service, data inside of TYPO3 can now be created, read, updated and deleted via third party applications.

This opens plenty of opportunities:

You can create an interface to edit TYPO3 content that is embedded into existing working environments. The interface can be customized to fit in existing corporate processes or to fit the individual needs of an editor – more detailed than multiplex configuration options of the TYPO3 backend already offers.

Furthermore you can automatically retrieve and update TYPO3 data by third party systems or control one or more TYPO3 installation for actuality.

## Next Steps / Prospectus

naw.info published the web service as a project on [forge.typo3.org](http://forge.typo3.org) to make it available for the community. The iPhone application, developed within the framework of a master thesis as “proof of concept”, will also be published in the iPhone AppStore.

*About the authors:*

**Thomas Esders** is CEO of the naw.info GmbH Web Agency ([www.naw.info](http://www.naw.info)), Hannover. He has been involved with TYPO3 since 2001, today committing most of his time to it.

naw.info is member of the TYPO3 Association and of the TYPO3partner network.

**Helmut Hummel** is TYPO3 developer at naw.info GmbH Web Agency and member of the official TYPO3 Security Team. He has been involved with TYPO3 since 2005.