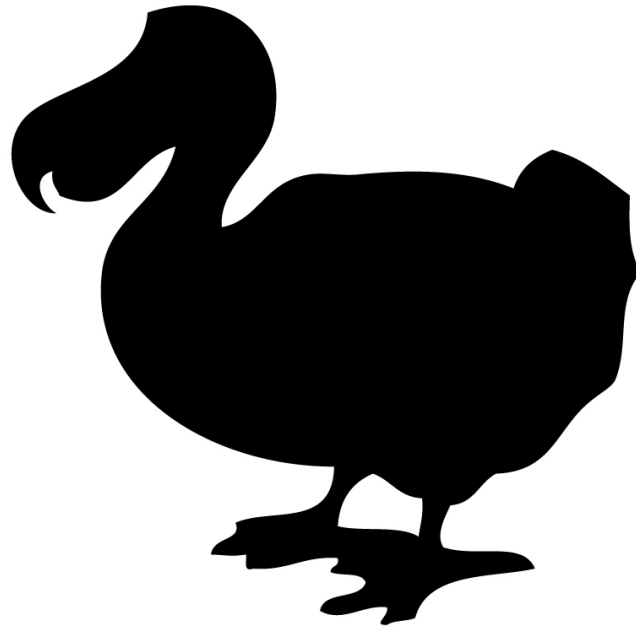


# Dodo system explained



# Dodo System

Dodo is a Wordpress plugin that brings the concepts of personalization and recommendation into the world of blogs.

In a few words, Dodo extracts interests from blog users based on their activities inside a blog and builds appropriate user profiles. Having this kind of information, Dodo can offer a personalized view of this blog which is represented through a personalized page. This page conceptually depicts user preferences and consists of several modules, which will be introduced below. An abstract view of Dodo is shown in Figure 1.

In the following paragraphs, we will describe all of those modules as well as the functionality behind the visual interface. Before we delve into the secrets of Dodo, however, it will be wise to explain how the notions of personalization and recommendation appear in this system and, especially, how they are combined.

Personalization in Dodo refers to the concepts of user profile and personalized page. Every time some user reads a post, performs a search or leaves a comment, Dodo tracks this action and informs the corresponding user record in the database. In essence, all of those actions form the user profile. Furthermore, users have the ability to manage the appearance of their personalized page by adding the modules that they want or placing them in a desired order.

Recommendation in Dodo is basically a system that takes user profiles as input and gives suggestions as a result. The suggestions can be blog posts for users and stories for bloggers. Dodo offers two separate modules to deal with those situations. But, how do we get these suggestions?

The story suggestion for bloggers is a trivial task that can be performed just by finding the most popular tags and categories in the blog. On the other hand, blog post suggestions are unique for every user and depend on the similar users preferences.

To clarify the way recommendation system works, let's present a case study: Our test user prefers reading posts tagged with the keyword 'sport'. In the same moment, there are users (in the same blog) that have the same habit but also love reading posts tagged with the 'Formula1' keyword. A recommendation engine notes down this behavior and rationally comes up with post suggestions about Formula1 posts for our test user. This is all about comparing preferences and finding users that have similar tastes. Dodo recommendation engine generally follows the same logic.

At this point, the combination of personalization and recommendation is clear. User profiles contain user preferences and those preferences are the main constituents for those suggestions. In the following chapter, we will first refer to the lists that hold the data for every user. Then, we will describe Dodo modules and see how the above notions can be applied in action.

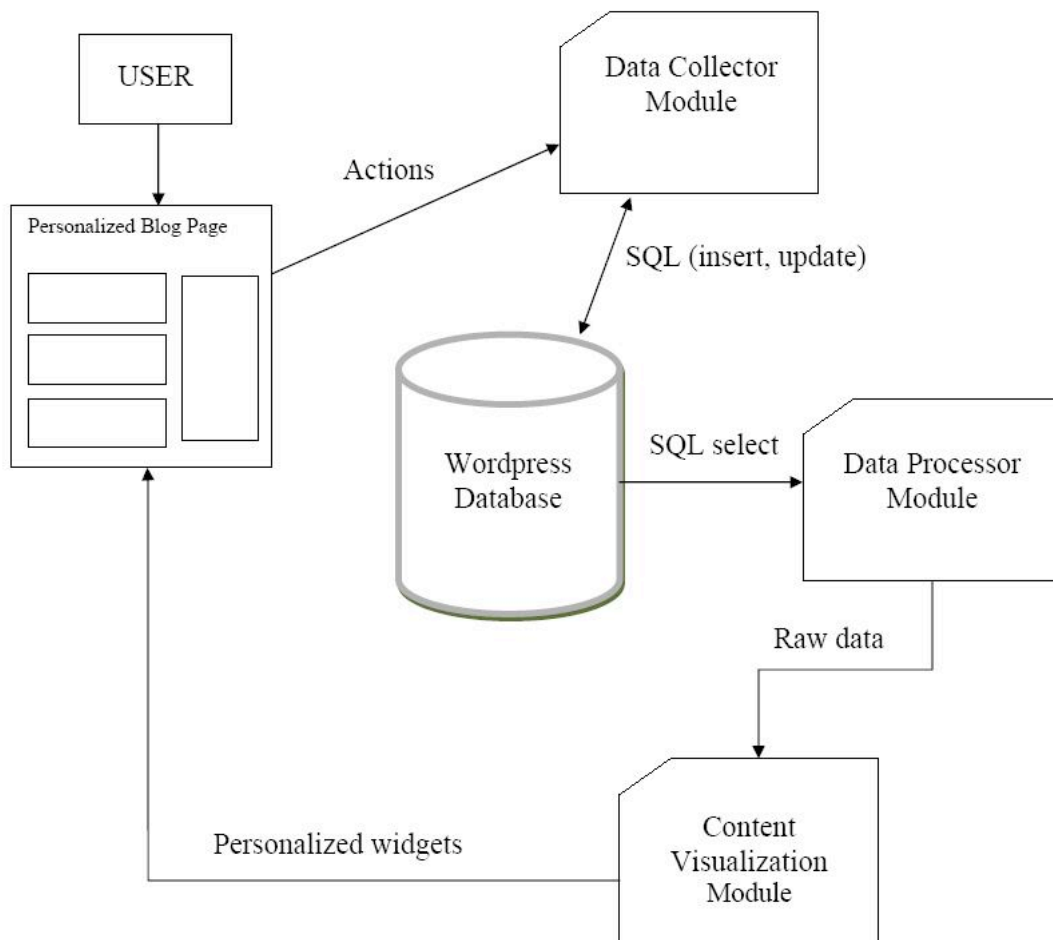


Figure 1

## User Profile

Dodo is equipped with a tracking system responsible for ‘hunting down’ user actions, updating, in the same time, the appropriate record in the database. But, what actions can be performed by a blog user?

As you may have imagined, reading posts, leaving comments and searching via the internal search engine are the most common actions for a simple blog user. The latter is extremely rare but the first two actions are the main activities for a blog user / visitor.

Dodo takes those actions into account, collecting post categories and tags every time a user reads a post, or the search terms from local searches. Internally, Dodo characterizes a user using four lists.

The first list contains all the tags included in posts that this user has read. One tag is described by two variables. A **frequency number** which indicates how many times this user has read a post having this specific tag and a **date** which indicates the last time this user has accessed a blog post with the specific tag.

The following two lists are related to categories and search terms, both having the same logic with the tag list. The last (fourth) list contains submitted comments and also information about the post where the comment has been made and when.

# Dodo Modules

Dodo is currently equipped with six modules, five for users and one for blogger.

Users can choose which of them will appear on their personalized page as well as the order of appearance. All of those options are available via the administration interface, where users have also the ability to select the type of information Dodo will track (tags / categories / search terms) as well as de-activating the whole plugin.

## Best Category and Best Tag Modules

Best category module provides information with the most recent article(s) – depending of the view (Figure 2) – that belong to the user “favorite” category.

“Favorite” category refers to the category from which the user has read the most articles. Similarly, best tag module provides the latest article(s) that correspond to user “favorite” tag, i.e. the tag contained in the majority of the articles user has read.

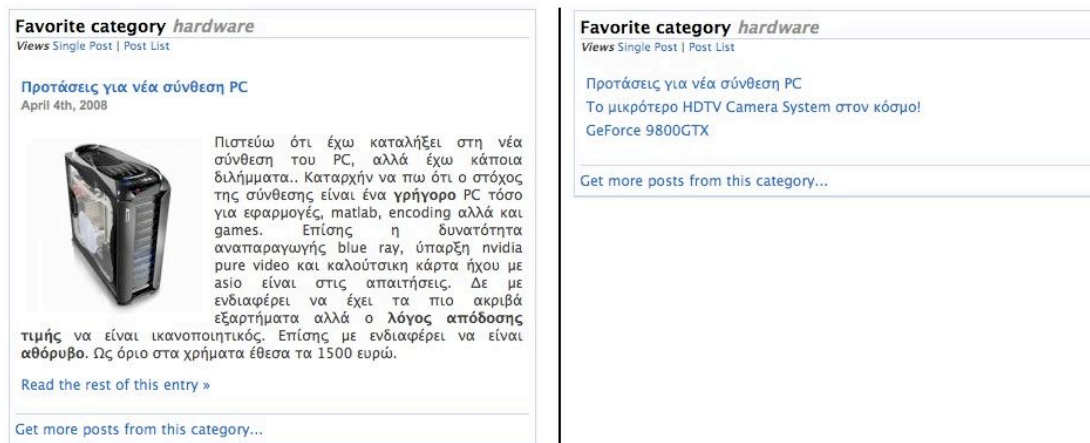


Figure 2

## Personal Tag Cloud Module

A typical tag cloud contains tags of blog posts and presents those in a way that the most commonly appearing tags are the ones in bold and larger font size.

Personal tag cloud module has the same representation but a different meaning. Bold tags express user preferences and are not related to tag frequency of appearance in articles (Figure 3).

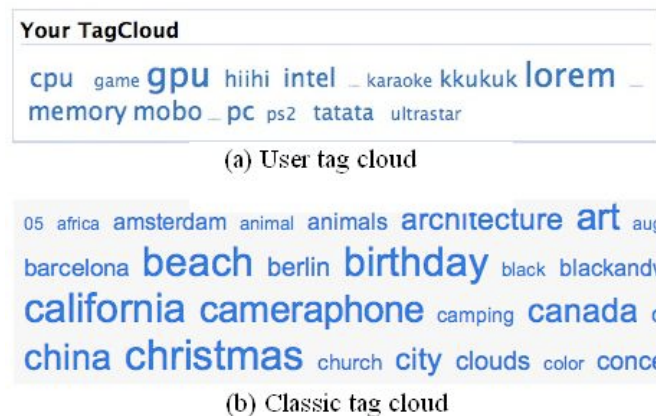


Figure 3

## Comment Module

Comment module consists of links (Figure 4) to new comments posted by other users in posts where this user has left a comment. Whenever a new comment is posted a link is automatically created. After user places a new comment in this post, this link is removed.

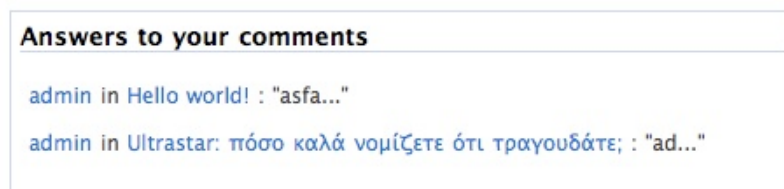


Figure 4

## Recommendation Module

Recommendation module provides articles that user might find interesting. In order to suggest articles, recommendation module finds users with similar preferences. The key to the module functionality is to locate relationships among users both qualitatively and quantitatively. The qualitative relationship between two users is defined by common tags, categories and search terms. Based on the qualitative relationships Dodo calculates the degrees of similarity between any pair of users.

### **Story Suggestion Module**

Story suggestion module presents the most visited tags and categories to the blogger, in order to inform him that stories around those elements might be successful.