



Smart Documents for Home Automation

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A Smart Document is the integration of both: a functional description and the operation of an appliance. A smart document can be created by using a large variety of applications available in home computers and mobile devices. We tested several smart documents created using Mail, iCal, Safari and OmniGraffle applications common on Apple computers, but, other similar applications are available for PCs with MS Windows. We created software, as middleware, to discover and operate the devices present in a smart home with Legrand and Bticino My Home .Devices.

OPEN SESAMO:

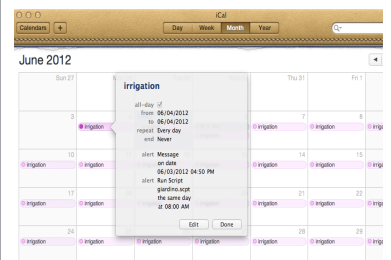
1) An infrared sensor turns ON a light when a visitor approaches the front door. 2) The network camera sensing an image motion sends an email to the user. 3) The user receives the mail with the image, and forward it to the home computer after adding a password. 4) The home computer receives the mail from the user and runs a rule to open the door when all conditions are met.



Sesto Fiorentino

IRRIGATION SCHEDULE:

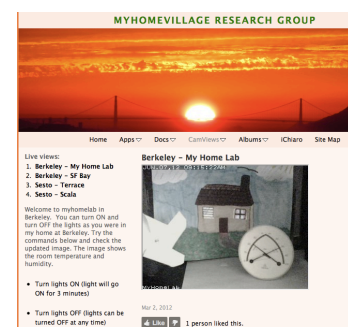
1) The user opens the iCal application and creates repetitive events using the irrigation script in the alarm field, an action similar to schedule a meeting, or 2) the user may create reminders as an alternative way to calendar events. A reminder action ends when the completion box is checked and it continues when the completion box is unchecked by a user.



iCal Application

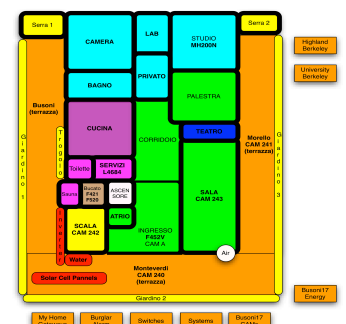
WIKI SERVER:

Systems, rooms, and appliances are searchable as wiki pages. Each page contains the hyperlinks to control the devices described within the page. The access to the pages is determined by permission rules for a user, a user group, or other users. A file log is created with the history of web access and url requests. The server has software programs to discover the home devices and to automatically create the cgi files for the wiki pages for the home.



MULTIPAGE DOCUMENTS:

Hyperlinks within the pages (canvas) of a document help to trigger actions, including changing the canvas, to facilitate the navigation among several systems (burglar alarm, temperature regulation, lightings, webcams) and locations (cities, rooms, and floors). A simple click on a box enables the user to focus on a specific system or location to limit the choice of actions within a canvas and to avoid clutter.



(OmniGraffle Presentations -->)