

Interface pour contrôle photo pour OpenHAB

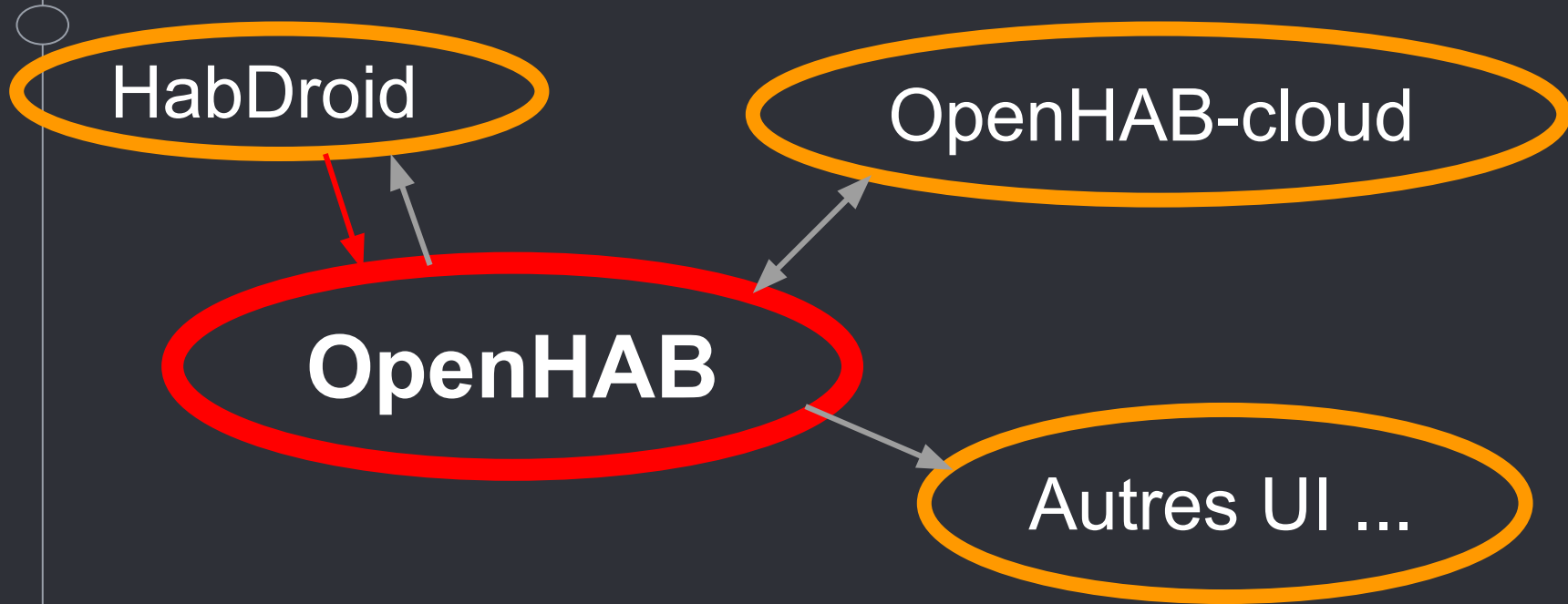


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• Présentation d'OpenHAB

- logiciel libre permettant la gestion de systèmes de maison connectée
- fortement modulable

- Fonctionnement d'openHAB



- Notre projet

- L'interface photo

- Aspect serveur : modifier l'API rest afin de gérer le stockage de photos (ajout, suppression, envoi)



- Aspect application : gérer les photos

L'API rest

- org.eclipse.smarthome.core.binding.test [smarthome master]
- org.eclipse.smarthome.core.thing.xml [smarthome master]
- org.eclipse.smarthome.core.thing.xml.test [smarthome master]
- org.eclipse.smarthome.core.transform [smarthome master]
- org.eclipse.smarthome.core.voice [smarthome master]
- org.eclipse.smarthome.core.voice.test [smarthome master]
- org.eclipse.smarthome.io.console [smarthome master]
- org.eclipse.smarthome.io.console.eclipse [smarthome master]
- org.eclipse.smarthome.io.console.karaf [smarthome master]
- org.eclipse.smarthome.io.console.rfc147 [smarthome master]
- org.eclipse.smarthome.io.monitor [smarthome master]
- org.eclipse.smarthome.io.net [smarthome master]
- org.eclipse.smarthome.io.net.test [smarthome master]
- org.eclipse.smarthome.io.rest [smarthome master]
- org.eclipse.smarthome.io.rest.auth [smarthome master]
- org.eclipse.smarthome.io.rest.auth.basic [smarthome master]
- org.eclipse.smarthome.io.rest.core [smarthome master]
- org.eclipse.smarthome.io.rest.core.test [smarthome master]
- org.eclipse.smarthome.io.rest.log [smarthome master]
- org.eclipse.smarthome.io.rest.mdns [smarthome master]
- org.eclipse.smarthome.io.rest.sitemap [smarthome master]
- org.eclipse.smarthome.io.rest.sse [smarthome master]

- architecture OSGI

- on modifie le module "rest.core"

L'API rest

exemple de requête:

```
@GET
@Produces("image/jpg")
@RolesAllowed({ Role.USER, Role.ADMIN })
@ApiOperation(value = "Gets one specific picture.")
@Path("/{pictures}")
@ApiResponses(value = @ApiResponse(code = 200, message = "OK"))
public Response getOne(@PathParam("pictures") @ApiParam(value = "name of the picture + .jpg") String pictures) {
    BufferedImage bufferedImage = null;
    try {
        bufferedImage = ImageIO.read(new java.io.File(
            "../../../../../openhob-distro/features/distro-resources/src/main/resources/pictures/" + (pictures)));
        ByteArrayOutputStream baos = new ByteArrayOutputStream();

        ImageIO.write(bufferedImage, "jpg", baos);
        byte[] imageBytes = baos.toByteArray();

        return Response.ok(imageBytes).build();
    } catch (Exception e) {
        e.printStackTrace();
        return Response.status(Response.Status.INTERNAL_SERVER_ERROR).entity("Error while loading picture.")
            .build();
    }
}
```

persistence	Show/Hide	List Operations	Expand Operations
pictures	Show/Hide	List Operations	Expand Operations
GET /pictures			Gets all pictures name.
POST /pictures			Stores a pictures.
DELETE /pictures/{pictures}			Deletes a pictures.
GET /pictures/{pictures}			Gets one specific picture.
services	Show/Hide	List Operations	Expand Operations
sitemaps	Show/Hide	List Operations	Expand Operations

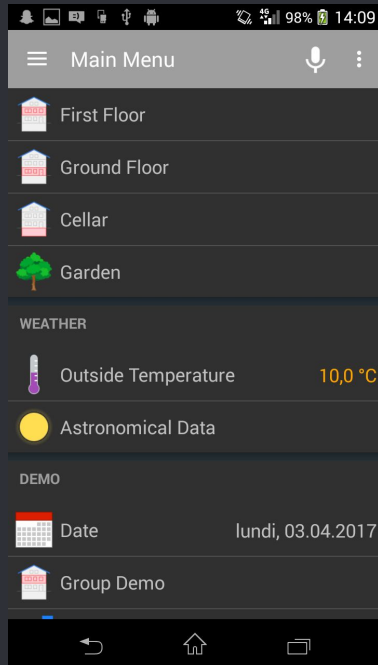
résultat sur l'API
REST

L'application Habdroid

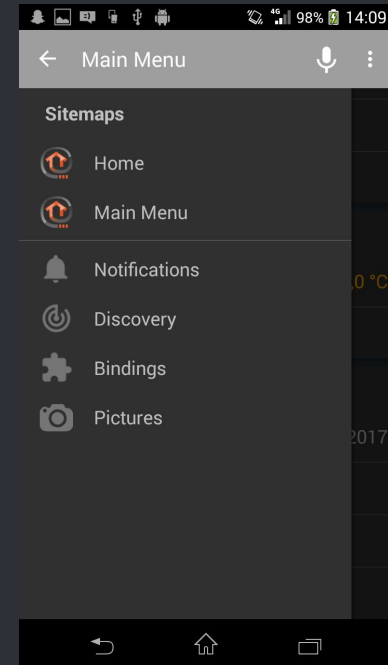
- Permet :
 - D'afficher l'état et de contrôler les différents systèmes connectés de la maison
 - D'ajouter de nouveaux éléments
- Utilise l'API pour communiquer avec le serveur et charger toutes les données

Aperçu de l'application

Menu de contrôle des parties de la maison :



Menu de navigation dans l'application :



Utilisation de l'API pour les photos

```
if (mAsyncHttpClient != null) {
    startProgressIndicator();
    mRequestHandle = mAsyncHttpClient.get(openHABBaseUrl + "rest/pictures", new AsyncHttpResponseHandler()
        @Override
        public void onSuccess(int statusCode, Header[] headers, byte[] responseBody) {
            stopProgressIndicator();
            Log.d(TAG, "Picture list request success");
            String list_pictures = new String(responseBody);
            Log.d(TAG, "Pictures list : " + list_pictures);
            String[] separated = list_pictures.split("\n");
            for (String name_pic: separated)
            {
                Log.d(TAG, "Picture name : " + name_pic);
                loadPicture(name_pic);
            }
        }
    }
```

On voit ici comment on relie l'API à l'application, au moyen de la fonction GET.

Résultats obtenus

On obtient une page affichant toutes les images contenues sur le serveur.

Le bouton “+” permet de lancer l’appareil photo.

