

Manifold: Federating 3d models

James Smith // floppy.org.uk

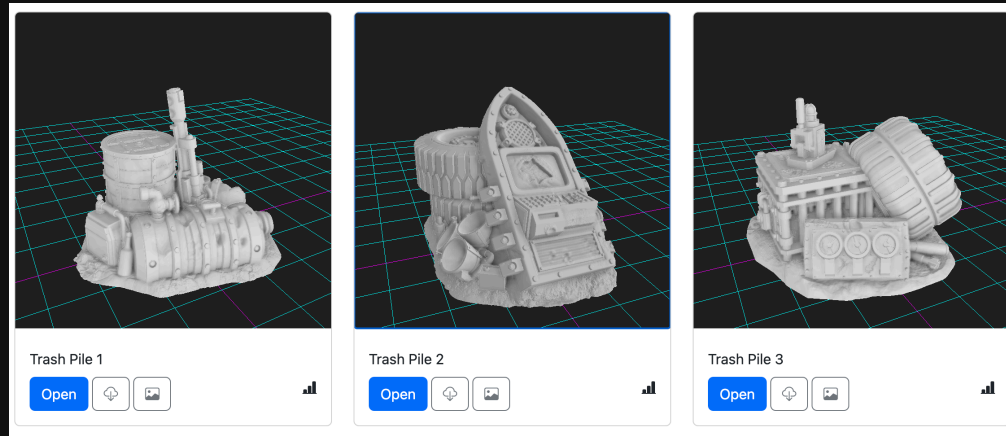
@Floppy@mastodon.me.uk

What's Manyfold?

manyfold.app

Organising 3d print models

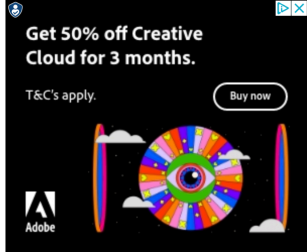
- Browse & Preview
- Organise & Tidy
- Troubleshoot & Convert




...a bit like having your own Thingiverse, but without this:

Check out the Latest Challenge

Downloading in 21



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[Floppy disk coasters w/ interchangeable labels](#) by [jonblanchard](#) is licensed under the [Creative Commons - Attribution - Share Alike](#) license.


Printing this?

Remember to come back and post what you've printed as a Make. It's good for the designer and the community... you!

[Post a make!](#)

Show some love

Say thanks by giving [jonblanchard](#) a tip and help them continue to share amazing Things with the Thingiverse community.

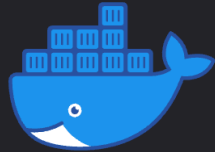
[Tip designer](#) 

These ads help us maintain Thingiverse and Cura

Thingiverse and Cura are incredible resources to the 3D printing community. Running a large website that hosts millions of files requires a lot of upkeep and costs. Running ads helps us acquire more resources to keep maintaining and improving Thingiverse and Cura. From everyone at UltiMaker, we appreciate you all.

[Want to give us feedback?](#) [Join the Thingiverse group](#)

Self Hosted Container



[Docker](#)



[Cosmos](#)



[Linuxserver.io](#)



[Synology NAS](#)



[Unraid Server](#)

Operation Modes

- Private single-user
- Multiuser
- Federated!

Federation

manyfold.app/technology/activitypub

Note: this is *about* to release, probably next week

f3di namespace

<https://purl.org/f3di/ns>

Extension properties for 3d content.

- concreteType
- compatibilityNote

...with many more to come.

Name chosen to be platform-independent.

Actors

Internal type	Actor type	concreteType
Creator	"Person"	"Creator"
Model	"Service"	"Model"
Collection	"Group"	"Collection"
User	"Person"	"User"

Activities

	Model/Creator/Collection	User	Note
Create	both		send
Update	both		send
Delete	both		send
Flag	recv	both	recv
Follow	recv	send	
Accept	send	recv	
Undo	recv	send	

Floppy

@floppy@manyfold.floppy.org.uk

Creator of Manyfold, and a terrible 3D designer

[!\[\]\(4729e517bc6a7cd81c8025b9646574fb_img.jpg\) Thingiverse](#)

[!\[\]\(cbe80b694ebd74fcfe136a095b608235_img.jpg\) Cults3D](#)

[!\[\]\(a03a7eb2f4046e1d3c76772003e549ea_img.jpg\) Floppy.](#)

[!\[\]\(cbe2492b119e39e02a1dab2af4a4b296_img.jpg\) Mastodon](#)

0 Models



Compatibility Notes

Most activities are changes to Actors; these won't show in microblog feeds.

So: post "Compatibility Notes", which describe the other activities.

```
"f3di:compatibilityNote": true
```



Floppy

55s

@floppy@manyfold.floppy...

I've just added a new model: "Hello Fediverse, this is Manyfold"

#fediverse #activitypub

Translate



manyfold.floppy.org.uk

Hello Fediverse, this is Manyfold

Hello Fediverse! This is Manyfold, a self-...



Federails

by @mtancoigne@mamot.fr

gitlab.com/experimentslabs/federails

#federails:matrix.org

Setup

```
bundle add federails
```

```
# config/routes.rb  
mount Federails::Engine => '/'
```

```
rails generate federails:install  
rails generate federails:install:migrations
```

Federails::ActorEntity

```
# app/models/user.rb

class User < ApplicationRecord
  # Include the concern here:
  include Federails::ActorEntity

  # Configure field names
  acts_as_federails_actor username_field: :username, name_field:
    profile_url_method: :user_url
end
```


Following

```
target = Federails::Actor.find_by_account "@floppy@mastodon.me.uk"
user.federails_actor.following_follows.create(target_actor: target)
```

Incoming requests:

```
class User < ApplicationModel
  include Federails::ActorEntity

  after_follow :throw_party
end
```

Federails::Activity

```
Federails::Activity.create!(  
  actor: user.federails_actor,  
  action: "Create",  
  entity: comment  
)
```

Object Serialization

```
class Comment < ApplicationRecord

  include Federails::DataEntity
  acts_as_federails_data handles: "Note", actor_entity_method: :c

  def to_activitypub_object
    Federails::DataTransformer::Note.to_federation(
      self,
      content: comment.to_html,
      custom: {
        "sensitive" => sensitive,
      }
    )
  end
end
```

Trust & Safety

<https://github.com/manyfold3d/federails-moderation>

- "Flag" activities
- Domain blocks

Thanks!

manyfold.app // [@manyfold@3dp.chat](https://3dp.chat/@manyfold)

mastodon.me.uk // [@Floppy@mastodon.me.uk](https://mastodon.me.uk/@Floppy)

