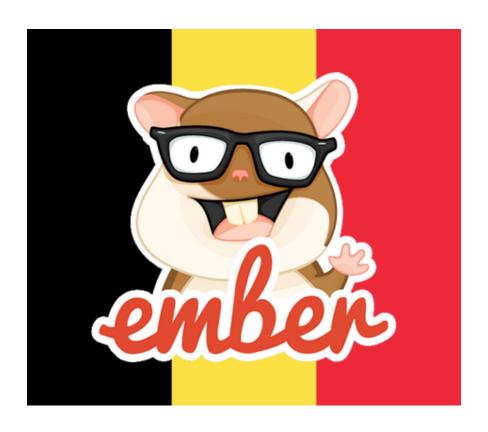# A client-side image uploader in Ember.js

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Demo

Traditional method: server-side

- Client sends image to server as form payload

- Server processes image, create multiple sizes

- Server uploads all sizes to storage (S3 in our case)

High load on server

We found our servers are not great at resizing images

Latency to upload an image was long

We used `carrierwave` gem, we were stuck with its imposed way of working

Hard to provide responsive images

Decided we needed to optimize this

Switched to a client-side uploader:

- Client does the processing and resizing

- Client uploads directly to S3

- Server is hardly involved

Fear that resizing would take too long on clients.
Not the case ([Demo](#))

What does client need?

- File API: Firefox, Chrome, Safari, IE10+ (caniuse.com)

- Web Workers (optional): Firefox, Chrome, Safari, IE10+ (caniuse.com)

Models

```
App.ImageFile = DS.Model.extend({
  /* Associations */
  imageVersions: DS.hasMany('imageVersion'),
  /* Attributes */
  caption: DS.attr('string')
});
```

```
App.ImageVersion = DS.Model.extend({
  /* Associations */
  imageFile: DS.belongsTo('imageFile'),
  /* Attributes */
  width: DS.attr('number'),
  height: DS.attr('number'),
  url: DS.attr('string')
});
```

Component

```
{{image-uploader sizes=imageSizes imageUpdated="someActionOnController"}}
```

- Input: `sizes` (array of `{ width: ..., height: ... }` objects)

- Event: `imageUpdated`

Serving responsive images

Idea: serve images adapted to the screen size.

No point showing a 1920px image on smartphone

Look at your analytics for deciding which sizes to serve

How does it work?

- Each `ImageFile` has multiple `ImageVersion`s of different sizes

- After rendering, measure width and height of image container

- Pick best `ImageVersion` according to this (first biggest dimension)

- Set `imageFile.get('url')` as `src` attribute of the `<img>`

Advantages

Lower latency for the client

No heavy processing anymore for server

Much for flexible than a library like `carrierwave`

Possibility to adapt resizing algorithm according to client

2500€ PC vs smartphone

Questions?