mister-toy !(yourToy)

Part 1 – Frontend First!

Name of the app: *mister-toy*

Note: this is going to be an end-to-end project so we will eventually have two folders inside the *mister-toy* folder: *frontend* and *backend*.

Setup your folders and your Git repository, in this project, the Git log should be meaningful and present the progress of the development work.

Here is an initial model:

```
const labels = ["On wheels", "Box game", "Art", "Baby", "Doll", "Puzzle", "Outdoor"]

const toy = {
    "_id": "t101",
    "name": "Talking Doll",
    "price": 123,
    "labels": ["Doll", "Battery Powered", "Baby"],
    "createdAt": 1631031801011,
    "inStock": true
}
```

Frontend

Build your frontend from scratch.

- Use the **CLI** inside your *mister-toy* folder and create a project named ***frontend***
- implement full CRUD, manage your state with a store.

You should have the following:

1. store
2. toyService
    a. We kick off the frontend first using a service that works with storageService which provides an async access (CRUDL) on a collection kept to the browser's localStorage)
    b. We will later convert this service communicate remotely with our backend via AJAX
3. toy-details (Smart, Routable)

   a. This page renders full details about the toy
   b. It should also render the toy's reviews.
   c. In the toyService.getById() add a dummy "reviews" property to the returned toy object. For now use hardcoded reviews in the toyService.
4. toy-edit (Smart, Routable)
5. toy-app (Smart, Routable)
   a. toy-list
   b. toy-preview
   c. toy-filter
      i. By name
      ii. In stock
      iii. Toy label multiselect dropdown
      iv. Sort by: name / price / created

Done? Build that backend

Create your own backend.

1. Provide an API for CRUD based on a json file.
2. Use the inClass project as reference
3. Use postman to test your API

Best strategy

1. In your project folder *mister-toy* create an empty folder: backend
2. npm init --yes
3. Set up a basic express application
4. Copy & Paste & Refactor yourself a backend toyService
5. LIST toys:
   - Create a request for GET */api/toy* in Postman and watch it failing with 404 NOT FOUND
   - Implement endpoint GET */api/toy* that returns all toys
   - Test with Postman
   - Add basic *filterBy* support
6. READ toy
   - Create a request for GET */api/toy/:id* in Postman and watch it fail
   - Implement endpoint GET */api/toy/:id* that returns a specific toy

- This endpoint should add a dummy "reviews" property to the returned toy object. For now use hardcoded reviews in the backend toyService
    - Test with Postman

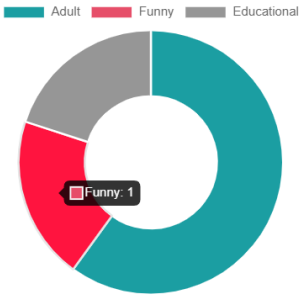
7. DELETE toy
    - Create a request for DELETE */api/toy/:id* in Postman
    - Implement endpoint DELETE /api/toy/:id that deletes a toy
8. CREATE toy
    - Create a request for POST */api/toy* in Postman
    - Implement endpoint POST /api/toy that adds a new toy
9. UPDATE toy
    - Create a request for PUT */api/toy* in Postman
    - Implement endpoint PUT /api/toy that updates the toy
10. Refactor your frontend's *toySercive* to work with the backend via AJAX

* Note: The frontend runs on a different port than our backend.
in this situation we need our backend to allow CORS requests (Cross Origin).

- This is simply done by: *npm install cors* (in the backend)
- Then, add the following code in server.js:

```
const cors = require('cors')
app.use(cors());
```

Part 2 – Awesome mister-toy



Use Community components and libraries.

Let's use some community components and libraries:

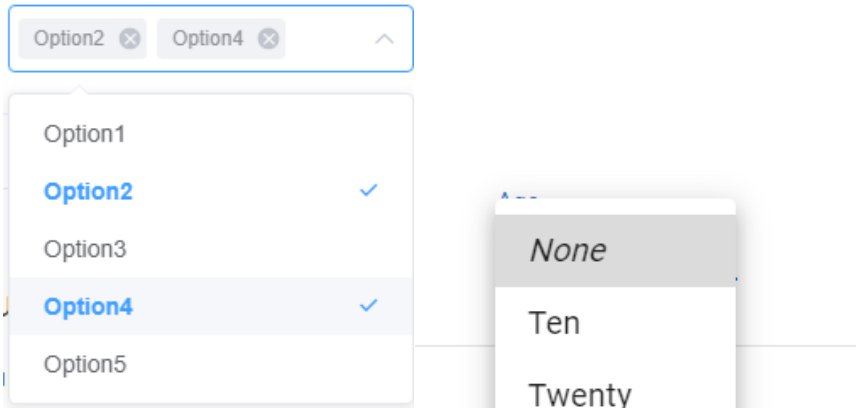
Vue-chartjs / react-chartjs-2

- Add a dashboard page with charts:
  - Prices per toy type (Adult, Educational etc.)
  - Inventory by type – Chart showing the percentage of toys that are in stock by type

ElementUI (Vue) / @material-ui/core (React)

Use various UI components

Example: in your toyFilter use a *select* component



Form Validation

Validate your inputs using vee-validate / formik (Make sure to follow the right documentation)

Maps

- In the About page, use vue-maps / google-maps-react to show markers for the shop branches.
- Each branch will appear as marker on the map.
- When user clicks a branch button the map is centered on that location.

Internationalization

Add i18n support, allow the user to switch between the locales.

Part 3 – Beautiful mister-toy with SCSS

- Use a full SCSS architecture
- Convert your CSS to SCSS
  - Use nesting
  - Use variables
  - Use mixins
  - Use functions
- Make it look amazing on desktop, tablet and mobile

Part 4 – Toys and Users with Mongo

Story

- We need shop owner (admin) to be able to manage the shop
- We need normal user to be able to add reviews about toys

General

Use async-await, try-catch across your app

In this exercise, you may start from the mister-backend project (reviewed in class), and add a route (under the API folder) for your mister-toy frontend.

- Add a toy mongodb collection
- Add a toy.service
- Add a toy.controlller
- Add a toy.route

Check your backend from *postman*

Add Users Support

- Add user collection (_id, fullname, username, password, isAdmin), have one admin user (isAdmin: true)
- Add login page
- Admin user has the Edit/Delete/Add options.
- Use a login-token in your backend
- Protect the relevant routes using a middleware.

Part 5 – Reviews

Heroku, Cloudinary, MongoDB on Atlas with Aggregation

Add Toy Reviews (we will have a review collection) -

```
{
    "_id": "5bfa538166597429743c1ff0",
    "userId": "5b507e97f20dd52bb6e67a44",
    "toyId": "5b4f0b081043ae5f9cf3494c",
    "content": "Not your Toy!"
}
```

Lets use aggregation.

Aggregation of review, toy, and user

Use the reference code to aggregate reviews with users and toys and get the following output:

```
{
    "_id": "5bfa538166597429743c1ff0",
    "content": "Not your toy!",
    "toy": {
      "_id": "5b4f0b081043ae5f9cf3494c",
      "name": "Talking Doll",
      "price": 19779
    },
    "user": {
      "_id": "5b507e97f20dd52bb6e67a44",
      "nickname": "loris"
    }
}
```

1. In toy-details allow logged in user to enter a review and show the current toy's reviews
2. In user-details show a user with all his reviews
3. In reviews-explore show all the reviews in the system and allow filtering

Part 6 – Uploading and Going Live

- Upload a toy image using **Cloudinary**
- Edit the backend config file, use your **Atlas** url for production
- Build and publish Your App to **Heroku**

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Part 6 – Getting real-time with Sockets

Implement the following chat functionality

Tasks

- In toy-details page, render a chat-room cmp.
- Each chat should be specific for the current toy (use the *toy._id* as the room topic).
- Chat cmp should render the chat-conversation, along with the user-name:

```
tal:hello
jonas: having fun with sockets?
yovel: dont forget google
```

- Add *'userName* is typing…' feature.
- Bonus: save the chat history in the toy document
- Bonus: All connected users should get a notification when the admin changes something in the shop

GOOD JOB!!!