

# CASE STUDY

## NATIONALE-NEDERLANDEN



## ROWDY RABOUW

SENIOR SOFTWARE ENGINEER  
NATIONALE-NEDERLANDEN

FREELANCE WEBDEVELOPER  
DOUBLE-R WEBDEVELOPMENT

CURATOR  
NATIVESCRIPT.NL

TELERIK DEVELOPER EXPERT  
FOR NATIVESCRIPT





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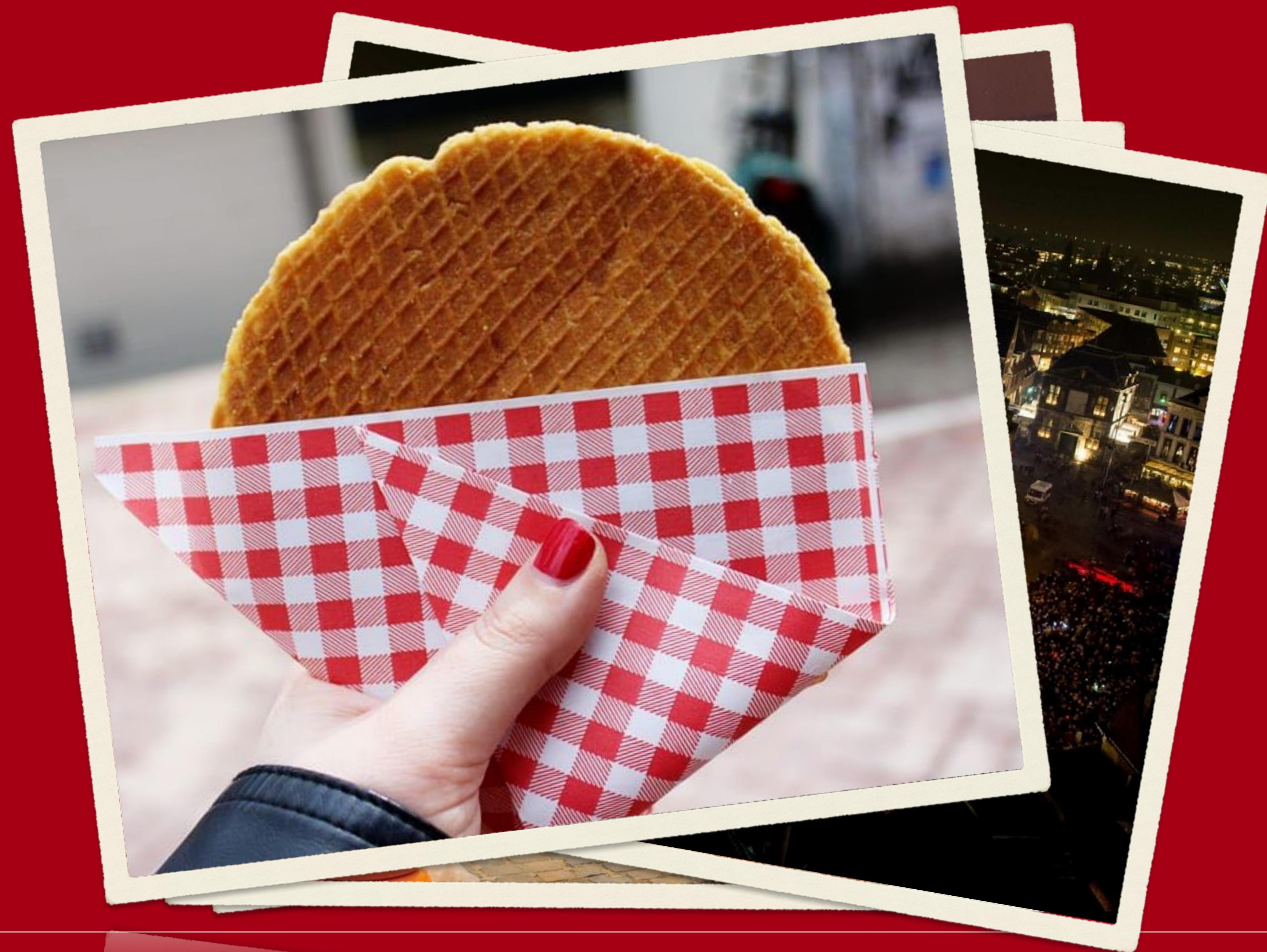
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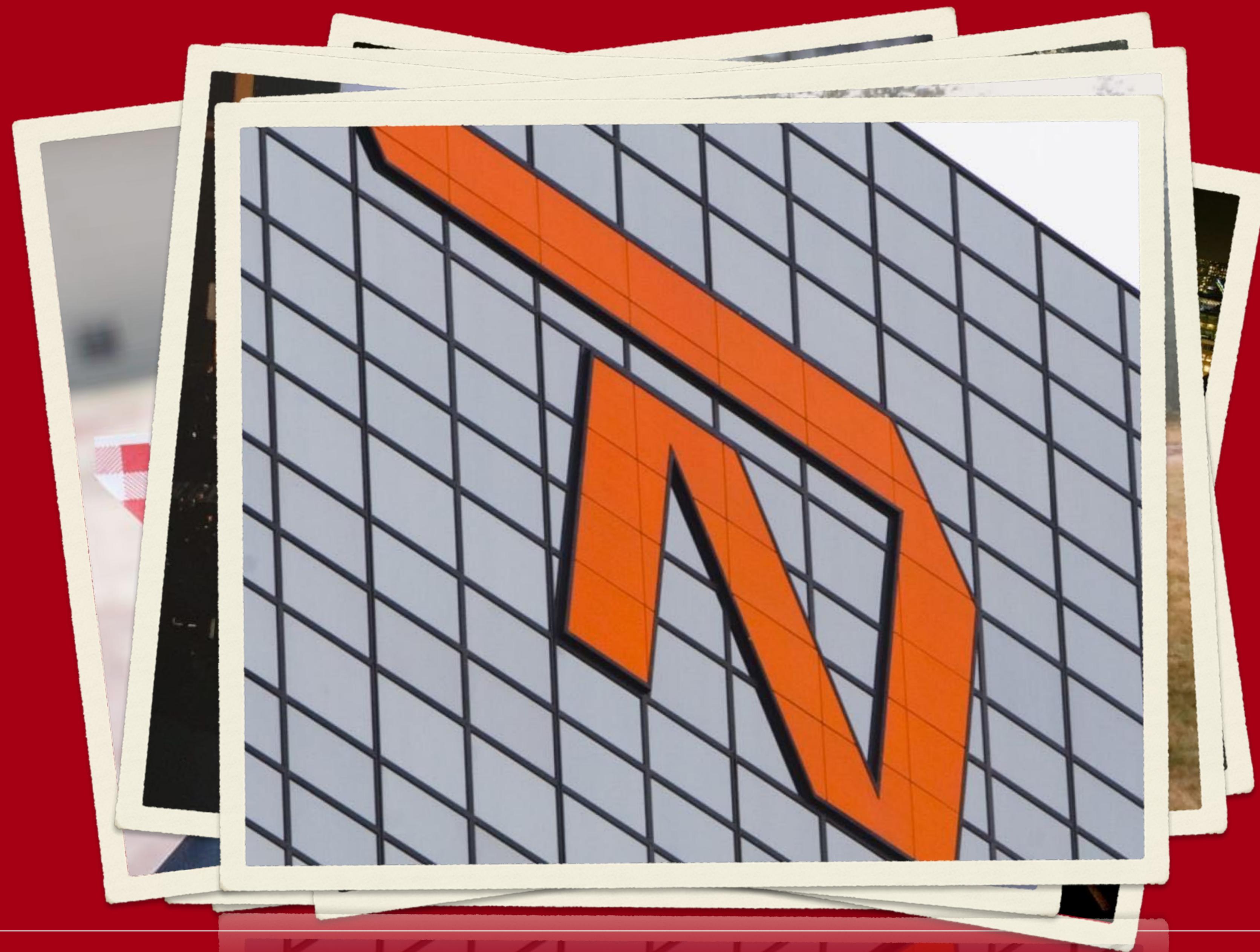
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# PENSION PORTALS TEAM



nationale  
nederlanden

mijn.pensioen

# MIJN PENSIOENCOACH

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# MIJN PENSIOENCOACH



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# MIJN PENSIOENCOACH

## CALCULATION OBJECTS

- PENSION APP CALCULATION ENGINE (PACE)
- PENSION ADVISORY CALCULATION ENGINE (PEACE)
- FAMILY PENSION PLAN (FPP)
- DOELINKOMEN ADVISEUR (DIA)

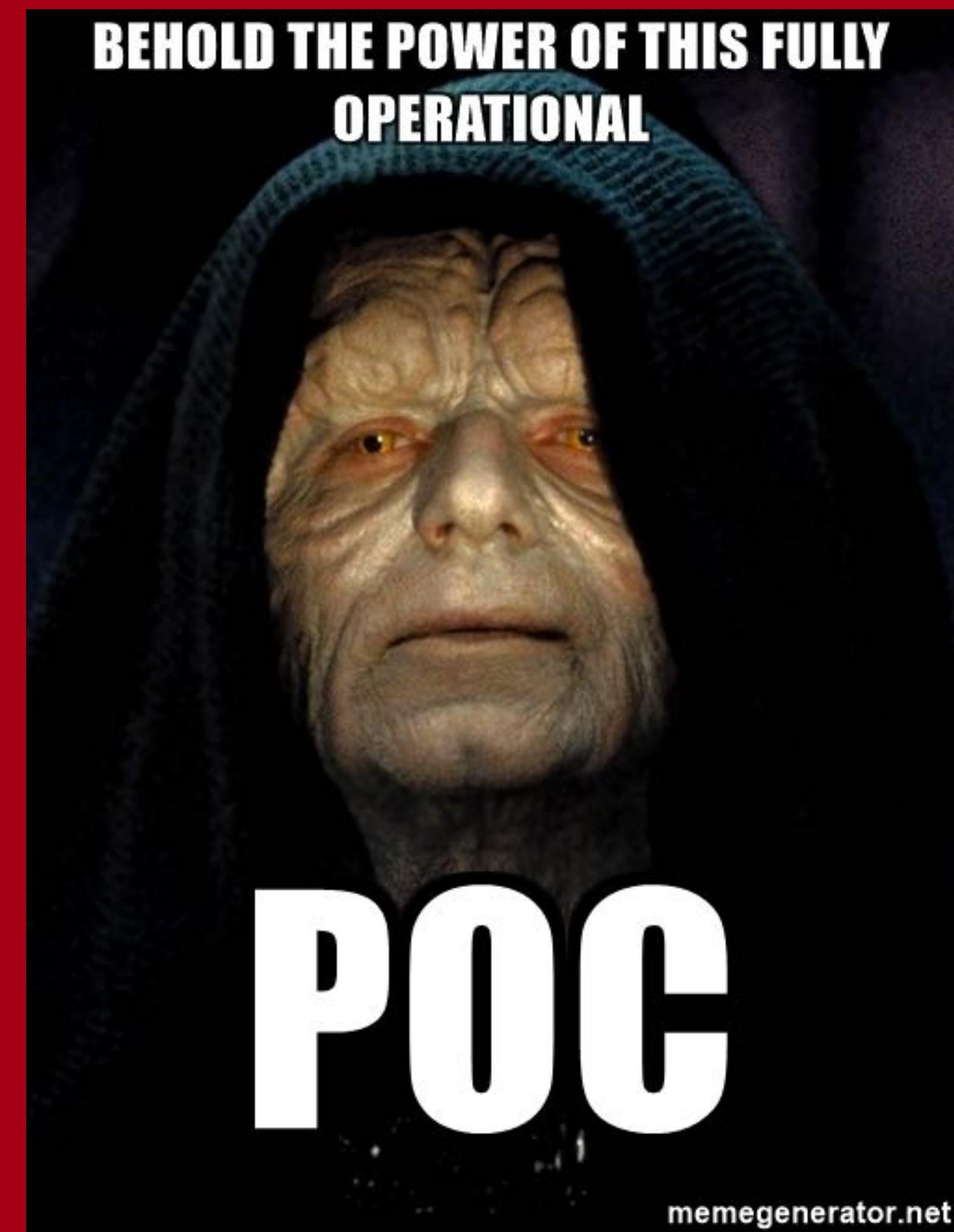
# MIJN PENSIOENCOACH

2014		
APPCELERATOR TITANIUM		
CROSS-PLATFORM		
JAVASCRIPT		
PERFORMANCE MWAH		
BAD ANIMATIONS		
NEW PLATFORM		

# MIJN PENSIOENCOACH

2014	2015	
APPCELERATOR TITANIUM	NATIVE	
CROSS-PLATFORM	IOS + ANDROID	
JAVASCRIPT	OBJECTIVE-C + JAVA	
PERFORMANCE MWAH	PERFORMANCE	
BAD ANIMATIONS	ANIMATIONS	
NEW PLATFORM	UNHAPPY WITH PROGRESS	

# PROOF OF CONCEPT



# ANGULAR 2

- OPINIONATED FRAMEWORK
- OBJECT ORIENTED
- CLASSES
- TYPESCRIPT
- FULL-FEATURED ROUTING
- DEPENDENCY INJECTION
- DATA BINDING
- DOCUMENTATION
- COMMUNITY



# MIJN PENSIOENCOACH

## CALCULATION OBJECTS

- PENSION APP CALCULATION ENGINE (PACE)
- PENSION ADVISORY CALCULATION ENGINE (PEACE)
- FAMILY PENSION PLAN (FPP)
- DOELINKOMEN ADVISEUR (DIA)
  
- BELASTINGDIENST
- CALCULATOR
- DATABASE
- HELPER
- LOGGER
- NNVERZEKERAAAR
- SOCIALEVERZEKERINGSBANK

# MIJN PENSIOENCOACH

## CALCULATION OBJECTS

- PENSION APP CALCULATION ENGINE (3169)
- PENSION ADVISORY CALCULATION ENGINE
- FAMILY PENSION PLAN (1428)
- DOELINKOMEN ADVISEUR (266)
  
- BELASTINGDIENST (332)
- CALCULATOR (286)
- DATABASE (671)
- HELPER (235)
- LOGGER (81)
- NNVERZEKERAAAR (532)
- SOCIALEVERZEKERINGSBANK (200)

# SERVICES

## DATASERVICE

- INstantiate CALCULATION OBJECTS
- CALL CALCULATION OBJECTS METHODS
- GET AND SET SETTINGS LIKE LANGUAGE
- LOAD JSON DATABASE (TAFFYDB - JS LIBRARY WITH DATABASE FEATURES)
- ENCRYPT AND SAVE SENSITIVE USER INPUT
  
- GROWN TOO BIG, HAVE TO SPLIT
- PACE / PEACE / FPP / DIA
- SETTINGS
- USER INPUT

# SERVICES

## VALIDATION SERVICE

- RANGES FOR SPINNERS
- MINIMUM AND MAXIMUM VALUES FOR SLIDERS
- MAXLENGTH FOR INPUTS
- VALIDATE INPUT FIELDS

```
"SparenSaldo": {  
    "type": "number",  
    "required": true,  
    "minimum": 0,  
    "maximum": 5000000,  
    "maxLength": 7  
},  
"SparenRentePercentage": {  
    "type": "number",  
    "minimum": 0,  
    "maximum": 12,  
    "steps": 0.05,  
    "digits": true  
}
```

# MULTILINGUAL



NGX-TRANSLATE IS AN INTERNATIONALIZATION LIBRARY FOR ANGULAR 2+.

IT LETS YOU DEFINE TRANSLATIONS FOR YOUR CONTENT IN DIFFERENT LANGUAGES  
AND SWITCH BETWEEN THEM EASILY.

# MULTILINGUAL

```
"KVL_SPAREN": {  
    "PAGETITLE": "Saving",  
    "TL_BTNTXT_01": "Cancel",  
    "TR_BTNTXT_01": "Save",  
    "TL_BTNTXT_02": "Back",  
    "TR_BTNTXT_02": "Next",  
    "HDRTXT": "Question 1 of 7",  
    "QTXT_01": "Are you currently saving for your pension?",  
    "QTXT_02": "How much have you already saved for your pension?  
                (per {{currentmonthyear}})",  
    "QTXT_03": "How much per month do you save for your pension?",  
    "QTXT_04": "What interest rate do you receive?"  
}
```

# MULTILINGUAL

```
<StackLayout>
    <Label [text]="'KVL_SPAREN.QTXT_01' | translate"></Label>
</StackLayout>
```

# MULTILINGUAL

```
<StackLayout>
    <Label [text]="'KVL_SPAREN.QTXT_01' | translate"></Label>
    <Label [text]="'KVL_SPAREN_QTXT_02'"></Label>
</StackLayout>
```

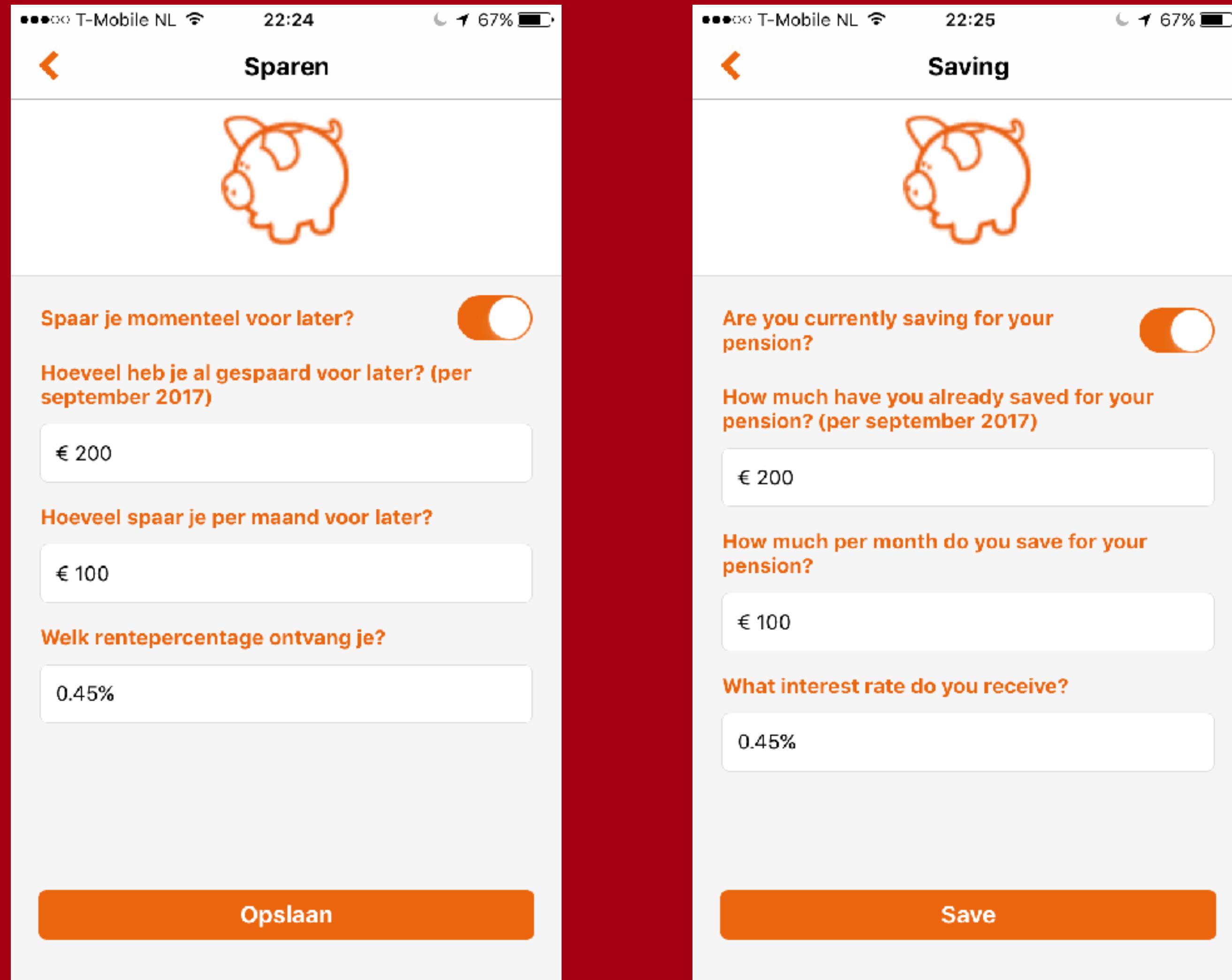
# MULTILINGUAL

```
<StackLayout>
    <Label [text]="'KVL_SPAREN.QTXT_01' | translate"></Label>
    <Label [text]="KVL_SPAREN_QTXT_02"></Label>
</StackLayout>

let today: Date = new Date();
let month: number = nu.getMonth() + 1;
let monthstr: string = maand < 10 ? "0" + month.toString() :
month.toString();
let domein: string = "DOMEINMAAND.MAAND_" + monthstr;

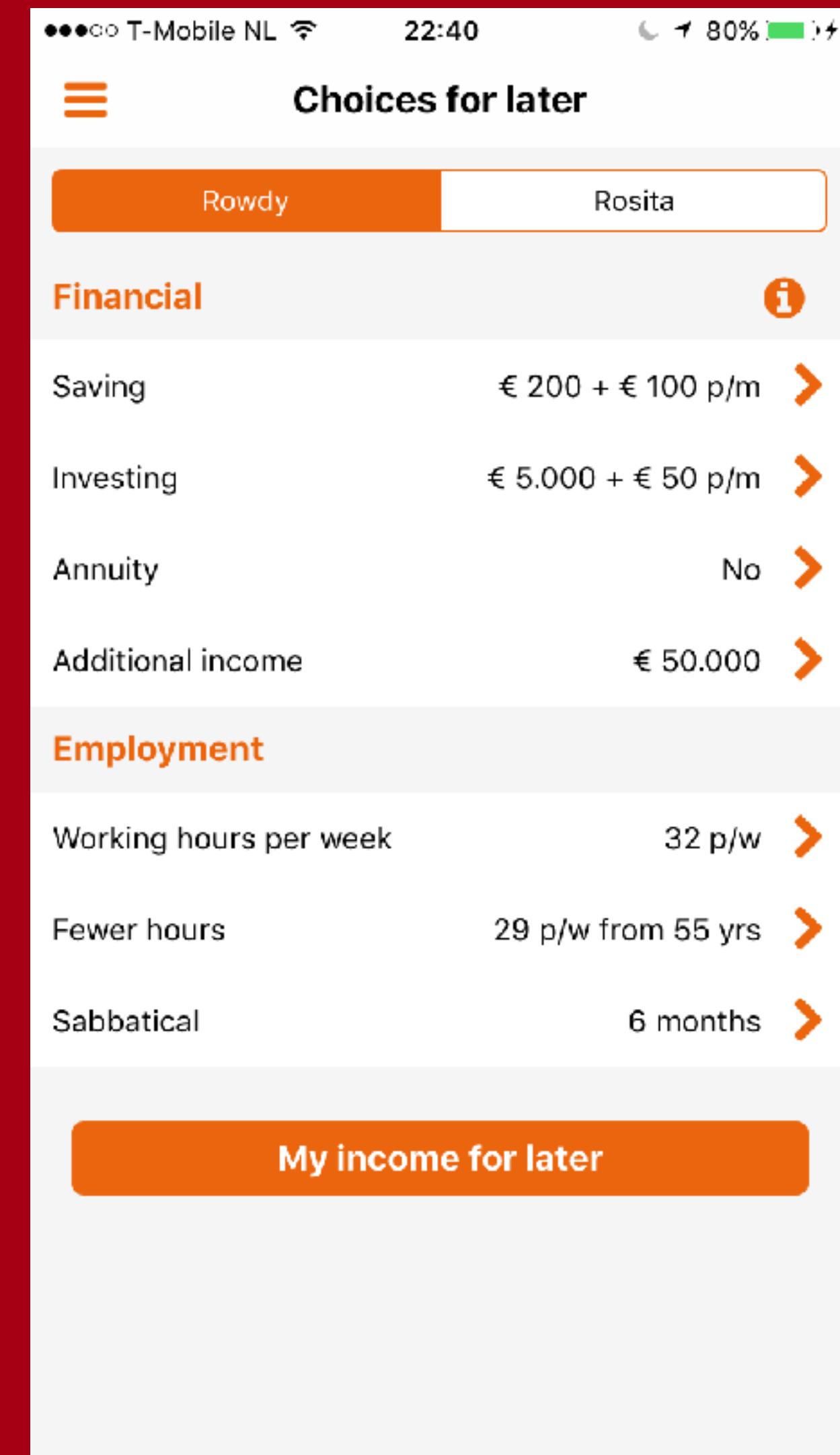
this.dataService.translateService.get(domein, {})
    .subscribe(res => {
        this.dataService.translateService
            .get("KVL_SPAREN.QTXT_02", {
                currentmonthyear: res + " " + today.getFullYear()
            })
            .subscribe((res: string) => {
                this.KVL_SPAREN_QTXT_02 = res;
            });
    });
});
```

# MULTILINGUAL



# PLUGINS

**NATIVESCRIPT-NGX-FONTICON**  
NATHAN WALKER  
USE ICON FONTS (FONT AWESOME) BY THE  
SPECIFIC CLASSNAME



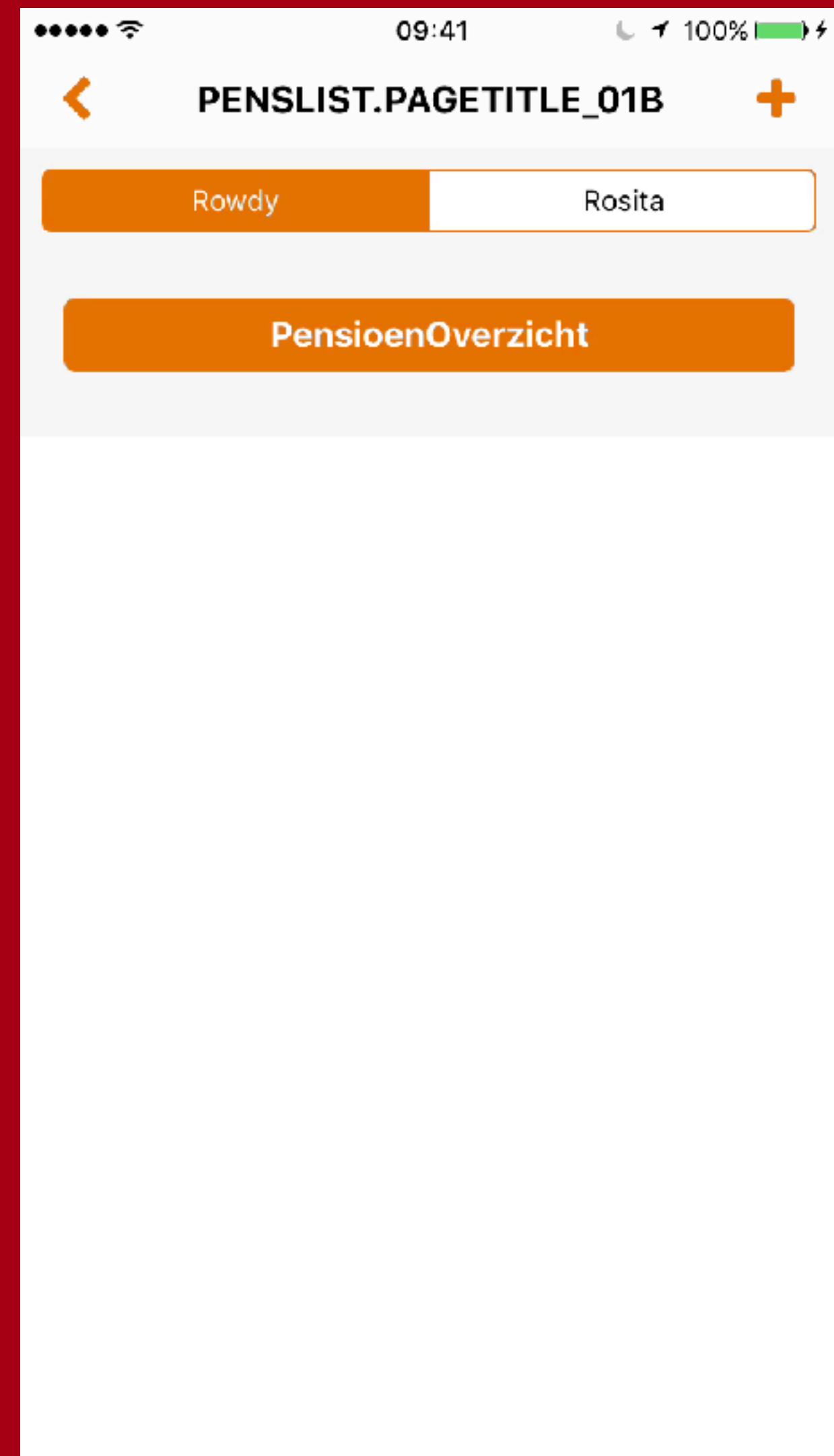
# PLUGINS

## NATIVESCRIPT-BARCODESCANNER

EDDY VERBRUGGEN  
(BULK)SCAN QR OR BARCODES

## NATIVESCRIPT-TOAST

TOBIAS HENNIG  
CONTRIBUTIONS BY EDDY VERBRUGGEN  
FEEDBACK IN A SMALL POPUP



# PLUGINS

**NATIVESCRIPT-APPVERSION**

EDDY VERBRUGGEN

RETRIEVE YOUR APP'S PACKAGE ID AND CURRENT VERSION

# PLUGINS

**NATIVESCRIPT-EMAIL**  
EDDY VERBRUGGEN  
CREATING DRAFT E-MAILS

# PLUGINS

**NATIVESCRIPT-PLUGIN-FIREBASE**

EDDY VERBRUGGEN

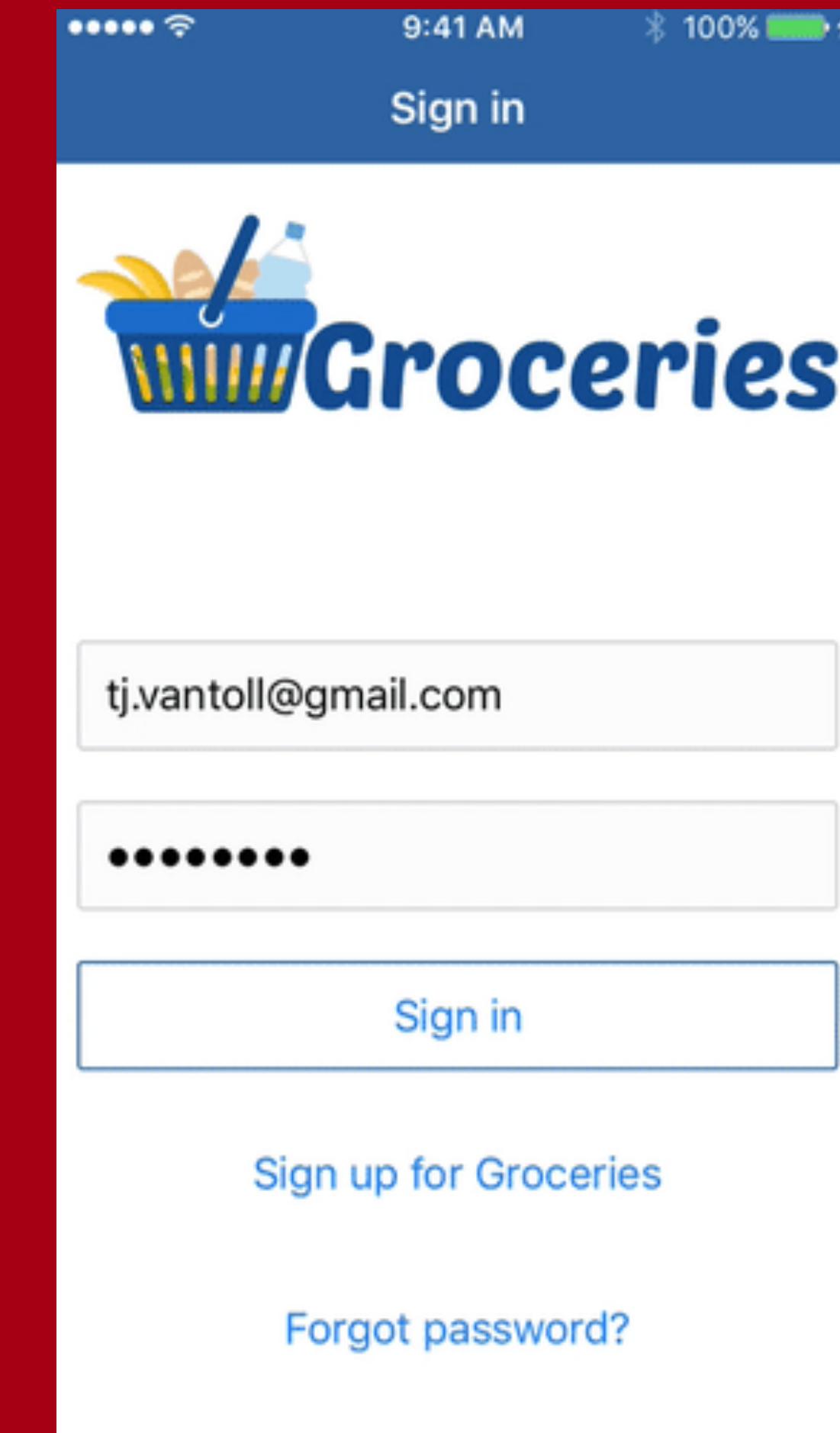
ANALYTICS

# PLUGINS

**NATIVESCRIPT-TELERIK-UI**  
PROGRESS  
LISTVIEW AND SIDEDRAWER

# PLUGINS

**NATIVESCRIPT-IQKEYBOARDMANAGER**  
TJ VANTOLL  
CONTRIBUTIONS BY EDDY VERBRUGGEN  
WRAPPER FOR THE POPULAR IQKEYBOARDMANAGER  
IOS FRAMEWORK



# PLUGINS

**CRYPTO-JS**

EVAN VOSBERG

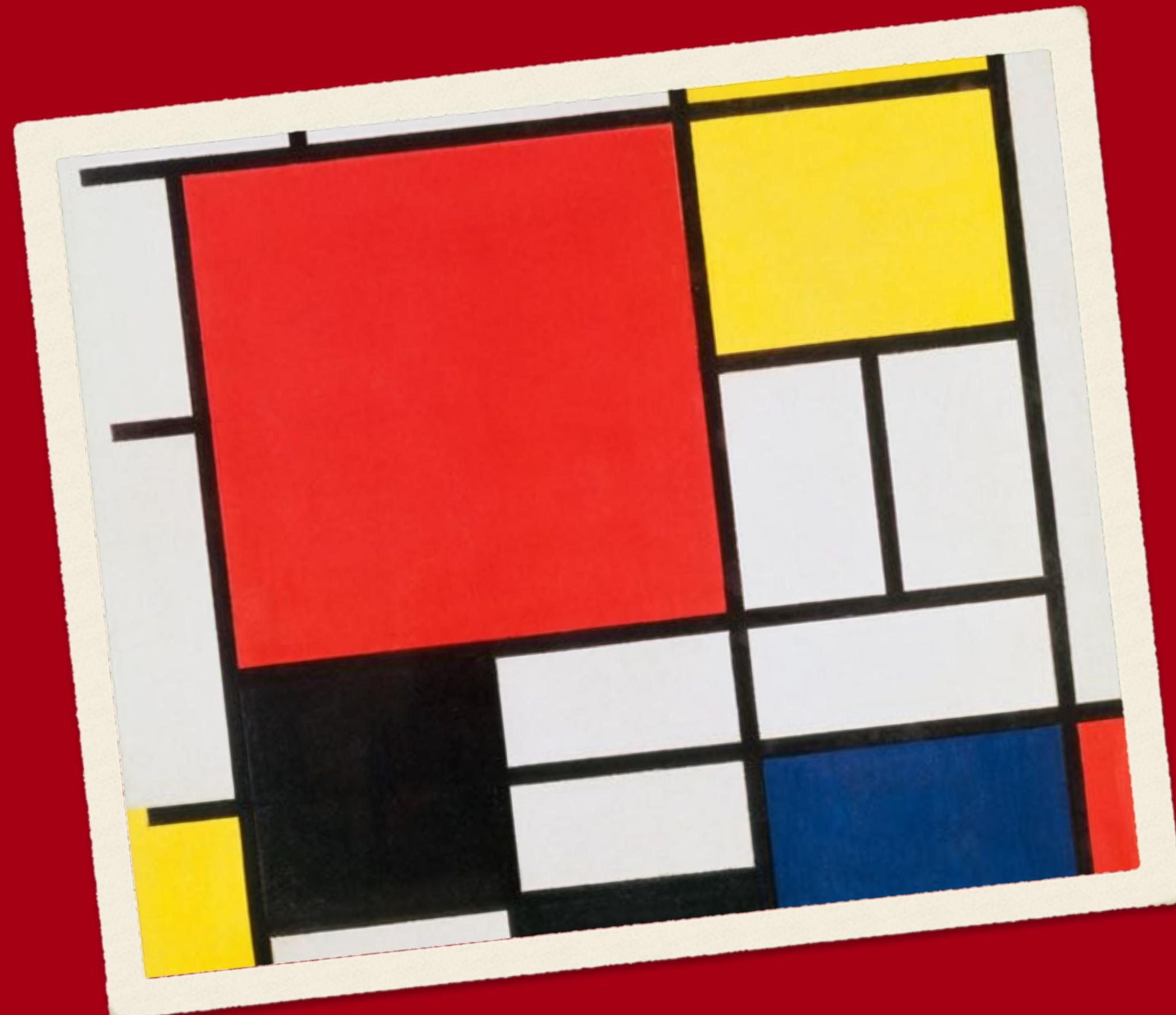
CRYPTOGRAPHY STANDARDS

# PLUGINS

**LODASH**  
LODASH

TAKING THE HASSLE OUT OF WORKING WITH ARRAYS, OBJECTS, STRINGS, ETC

# MONDRIAAN



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# MONDRIAAN



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# MONDRIAAN



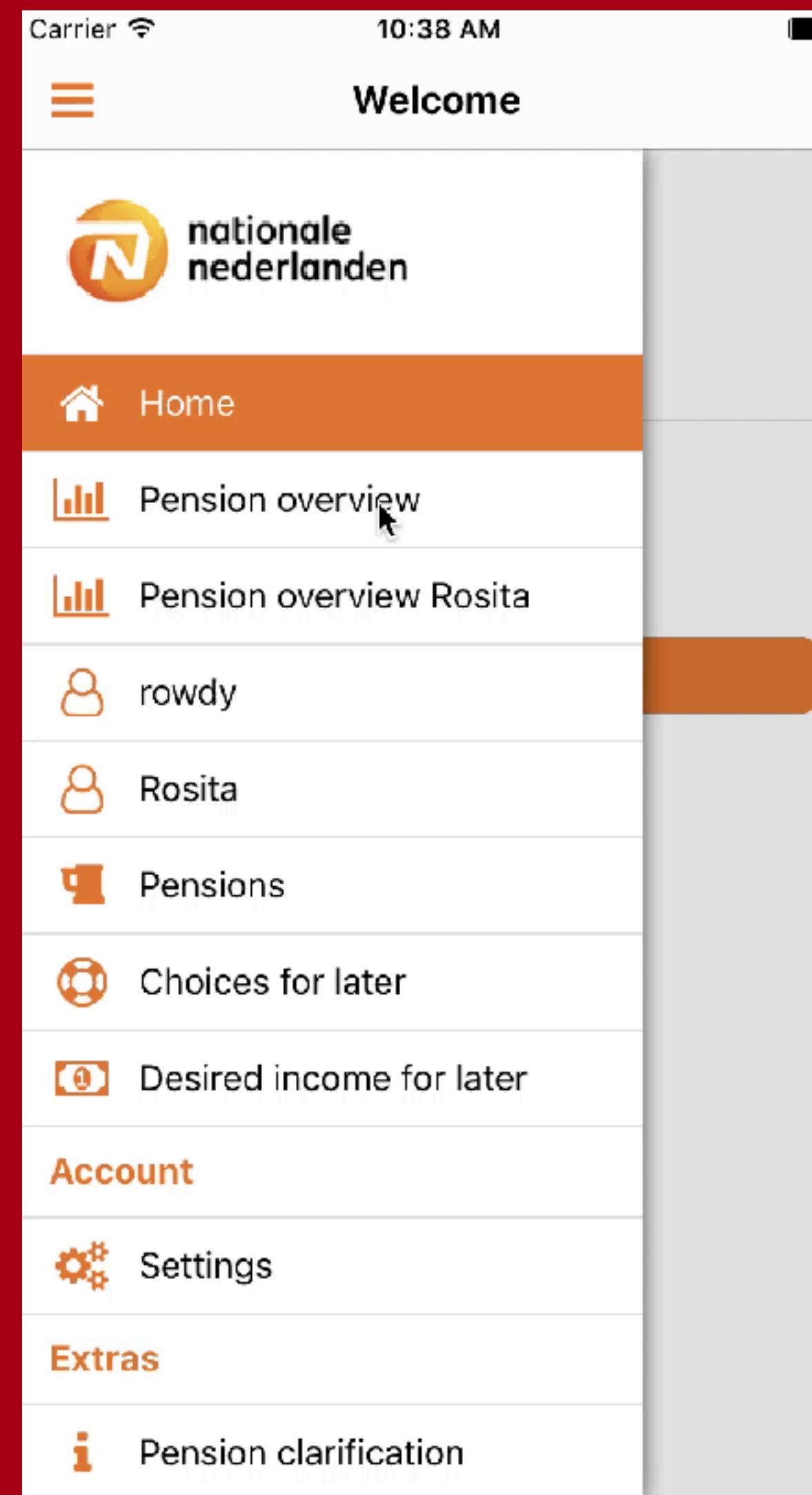
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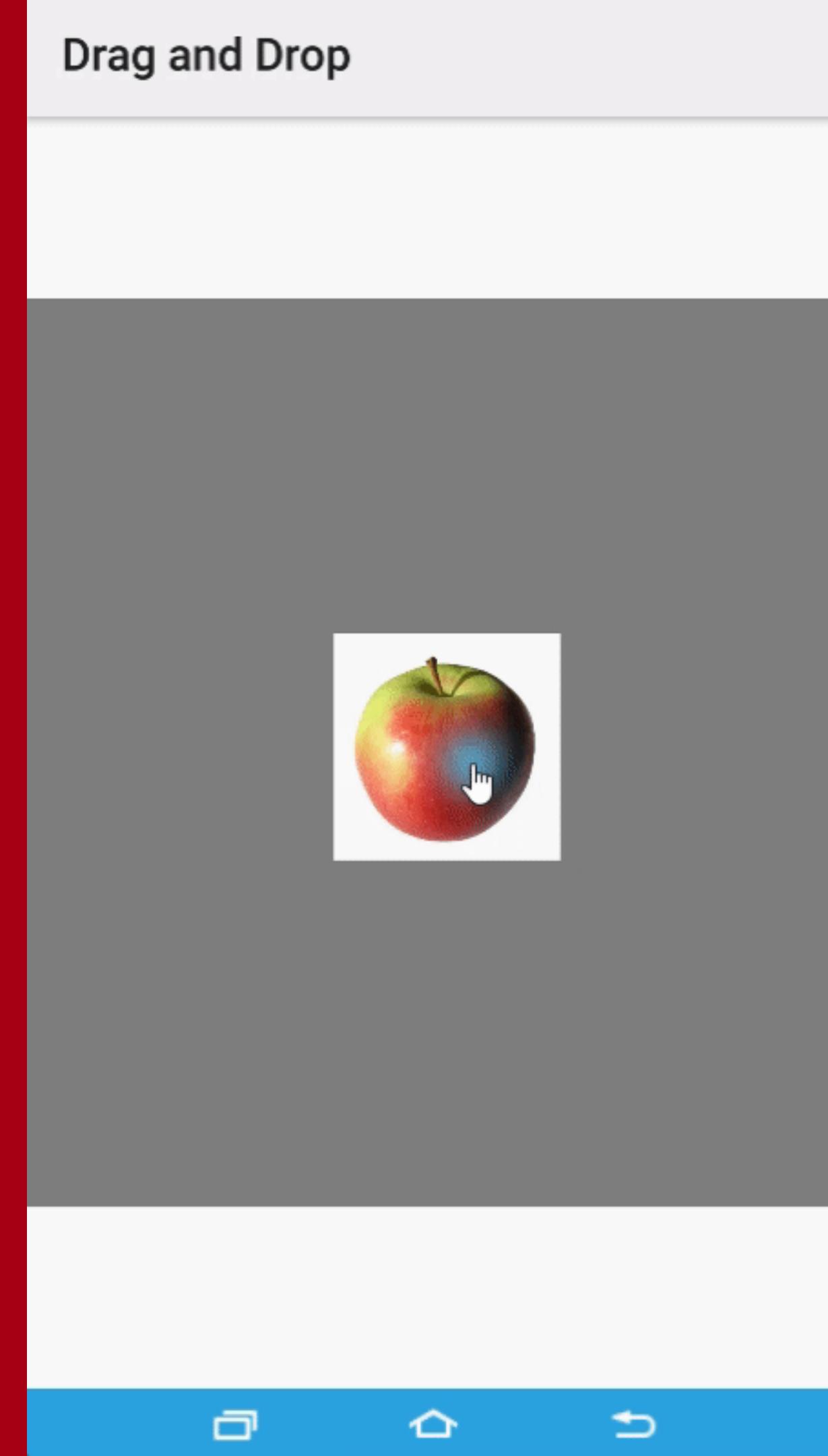
# MONDRIAAN



# MONDRIAAN



# MONDRIAAN



# MONDRIAAN

```
<StackLayout (tap)="onTap($event)" (pan)="onPan($event)">  
</StackLayout>
```

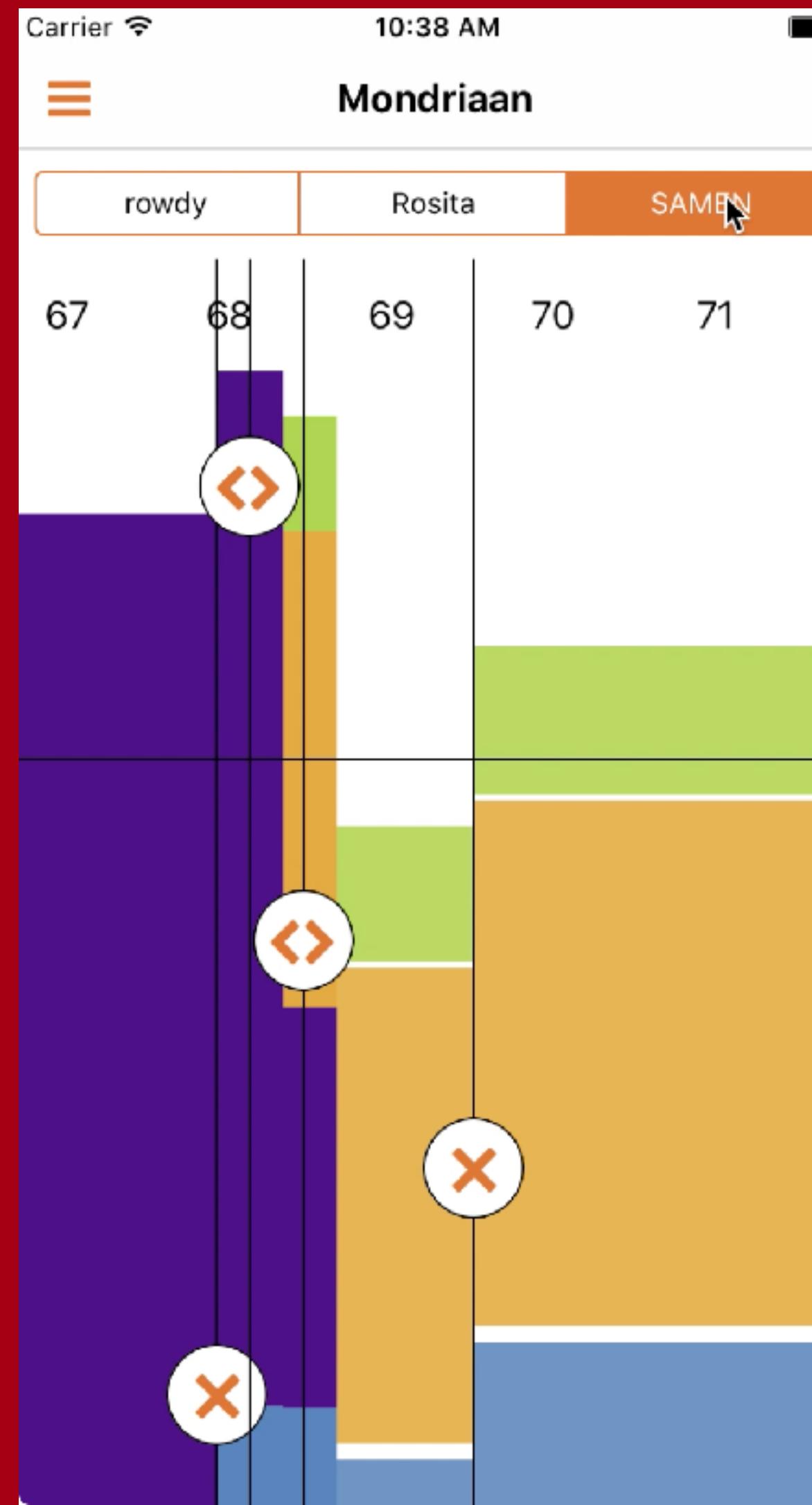
```
onTap() {  
    // do something  
}
```

```
onPan() {  
    // do something  
}
```

# MONDRIAAN

```
ngAfterViewInit() {
  this.dragAgeKlant.nativeElement.on("tap,pan", args => {
    switch (args.eventName) {
      case "tap":
        this._tapRuler(this.AgeRulerKlant, "ageKlant");
        break;
      case "pan":
        this.onPanAgeKlant(args);
        break;
    }
  });
}
```

# MONDRIAAN



# MONDRIAAN

```
ngAfterViewInit() {
  this.dragAgeKlant.nativeElement.on("tap,pan,touch", args => {
    switch (args.eventName) {
      case "tap":
        this._tapRuler(this.AgeRulerKlant, "ageKlant");
        break;
      case "pan":
        this.onPanAgeKlant(args);
        break;
      case "touch":
        this._setXandYpos(args, this.AgeRulerKlant);
        break;
    }
  });
}
```

# MONDRIAAN



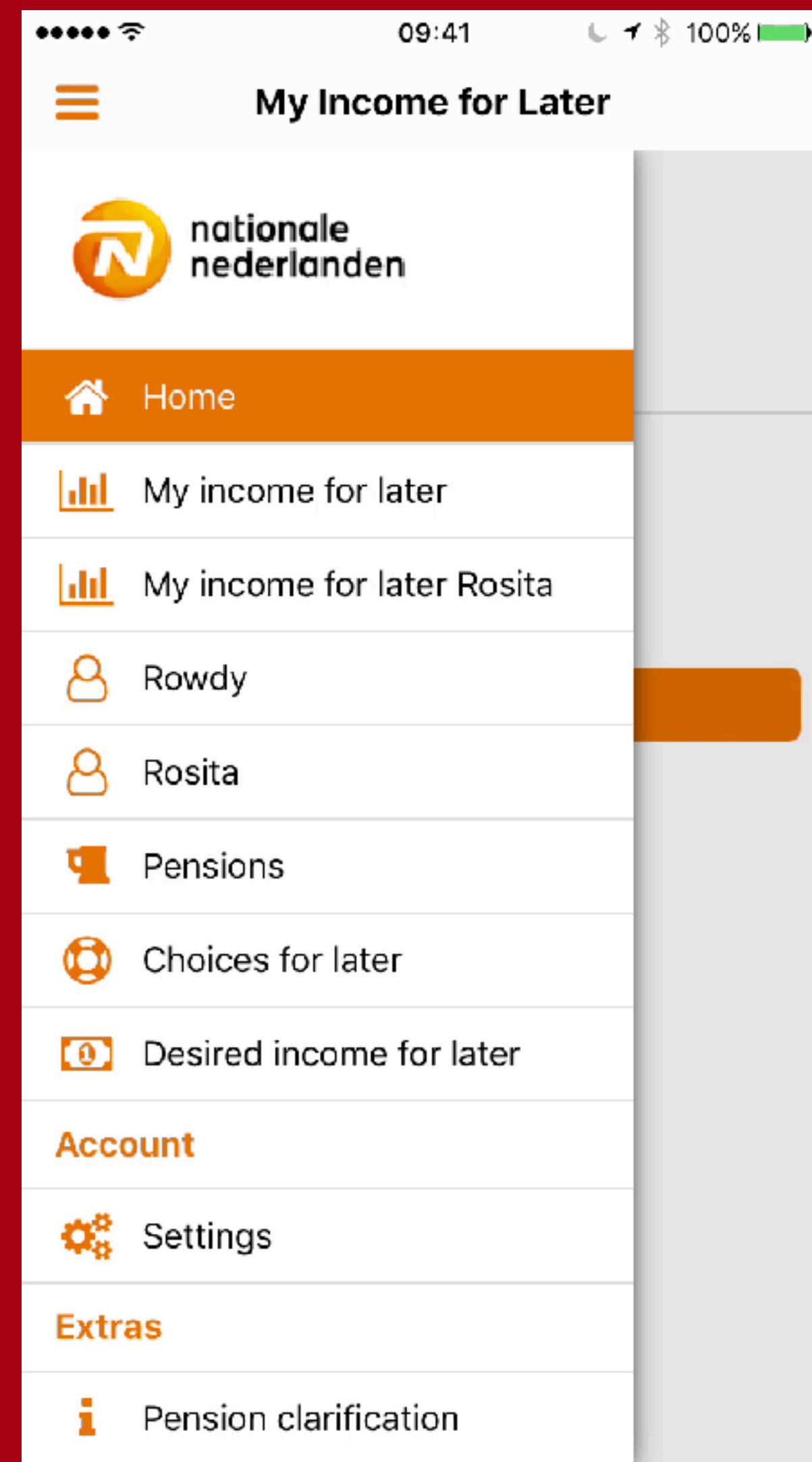
# MONDRIAAN



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# MONDRIAAN



# PERSISTENT DATA

## COUCHBASE LITE

- NO SQL DATABASE
- REPLACEMENT FOR COMMON DATABASE TECHNOLOGIES LIKE SQLITE
- EASY TO USE PLUGIN
- ENCRYPTED USER INPUT
- JSON DATABASE
- USER PREFERENCES

# PERSISTENT DATA

## APPLICATION SETTINGS

- SAVE AND RESTORE ANY KIND OF INFORMATION RELATED TO YOUR APP
- EVEN EASIER TO USE
- KEY / VALUE PAIRS

```
getString("settings");

remove("settings");

setString(
  "paceInput",
  this._encryptData(JSON.stringify(pace.GetJson()))).toString()
);
```



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# WEBPACK

## NATIVESCRIPT-DEV-WEBPACK

```
$ NPM INSTALL --SAVE-DEV NATIVESCRIPT-DEV-WEBPACK
```

```
$ NPM INSTALL
```

```
$ NPM RUN START-IOS-BUNDLE
```

```
$ NPM RUN START-ANDROID-BUNDLE
```

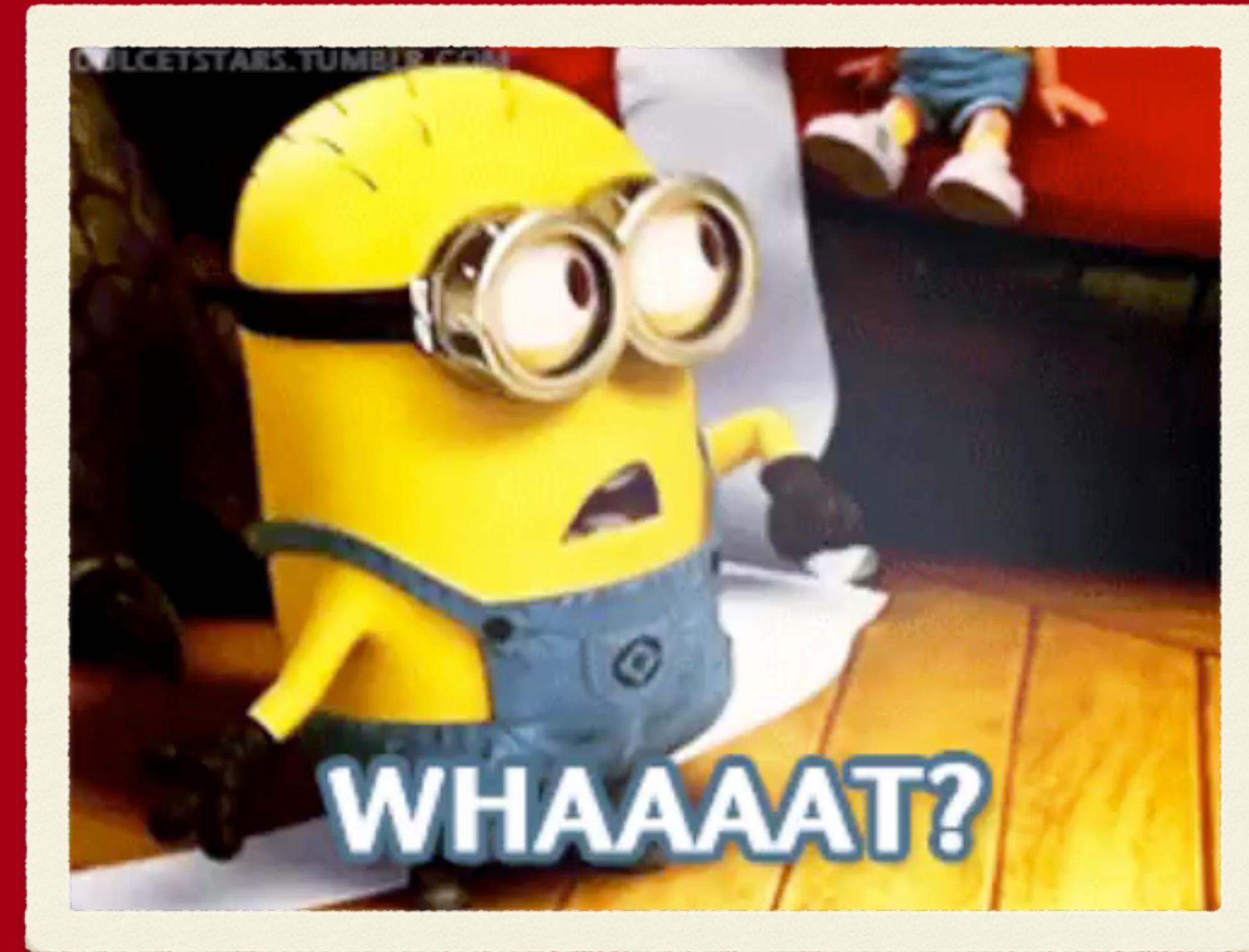
# WEBPACK

```
> ns-bundle

Running tns prepare...
Executing before-prepare hook from /Users/rowdyrabouw/Code/MijnInkommenVoorLater/hooks/before-prepare/nativescript-dev-typescript.js
Executing before-prepare hook from /Users/rowdyrabouw/Code/MijnInkommenVoorLater/hooks/before-prepare/nativescript-plugin-firebase.js
Preparing project...
Project successfully prepared (ios)
Executing after-prepare hook from /Users/rowdyrabouw/Code/MijnInkommenVoorLater/hooks/after-prepare/firebase-build-gradle.js
Configure firebase
Executing after-prepare hook from /Users/rowdyrabouw/Code/MijnInkommenVoorLater/hooks/after-prepare/firebase-copy-google-services.js
Executing after-prepare hook from /Users/rowdyrabouw/Code/MijnInkommenVoorLater/hooks/after-prepare/nativescript-plugin-firebase.js
Running webpack for ios...
  10% building modules 0/2 modules 2 active ...de/MijnInkommenVoorLater/app/vendor.ts(node:90458) DeprecationWarning: loaderUtils.parseQuery() received a non-string value which can be problematic, see https://github.com/webpack/loader-utils/issues/56
  parseQuery() will be replaced with getOptions() in the next major version of loader-utils.
Hash: ad4041e02db0fb9fe9ae
Version: webpack 3.2.0
Time: 29667ms
          Asset      Size  Chunks             Chunk Names
assets/images/App-store.png  48.3 kB           [emitted]
bundle.js                  3.77 MB    0  [emitted]  [big]  bundle
vendor.js                  3.12 MB    2  [emitted]  [big]  vendor
app.css                     691 bytes   1  [emitted]  app.css
  assets/css/border.css    69 bytes    [emitted]
  assets/css/alignment.css 104 bytes    [emitted]
  assets/css/button.css    388 bytes    [emitted]
  assets/css/actionbar.css 789 bytes    [emitted]
  assets/css/debug.css     124 bytes    [emitted]
  assets/css/font-awesome.css 371 bytes    [emitted]
  assets/css/form.css      1 kB        [emitted]
  assets/css/modal.css     365 bytes    [emitted]
  assets/css/list.css      758 bytes    [emitted]
  assets/css/mondriaan.css 1.03 kB     [emitted]
  assets/css/padding.css    38 bytes    [emitted]
  assets/css/page.css      142 bytes    [emitted]
  assets/css/picture.css   329 bytes    [emitted]
  assets/css/pin.css       1.34 kB     [emitted]
  assets/css/platform.css   60 bytes    [emitted]
  assets/css/platform.android.css 776 bytes    [emitted]

~/Code/MijnInkommenVoorLater
```

# WEBPACK



# WEBPACK

```
@Component({  
  selector: "pincode",  
  templateUrl: "./components/pincode/pincode.component.html"  
})
```

# WEBPACK

```
@Component({  
  moduleId: module.id,  
  selector: "pincode",  
  templateUrl: "pincode.component.html"  
})
```

# WEBPACK

```
<GridLayout  
    columns="2* *"  
    visibility="{{ person == Klant && !ExistsPacePartner ?  
        'visible' : 'collapsed' }}">  
</GridLayout>
```

```
export class ProfielComponent implements OnInit, OnDestroy {  
    private Klant: number;  
    private ExistsPacePartner: boolean;  
}
```

# WEBPACK

```
<GridLayout  
    columns="2* *"  
    visibility="{{ person == Klant && !ExistsPacePartner ?  
        'visible' : 'collapsed' }}">  
</GridLayout>
```

```
export class ProfielComponent implements OnInit, OnDestroy {  
    Klant: number;  
    ExistsPacePartner: boolean;  
}
```

# WEBPACK

## JUST-IN-TIME (JIT) VS AHEAD-OF-TIME (AOT) COMPILATION

JIT - COMPILE TYPESCRIPT JUST IN TIME FOR EXECUTING IT

AOT - COMPILE TYPESCRIPT DURING BUILD PHASE

# WEBPACK

```
// Copy assets to out dir. Add your own globs as needed.  
new CopyWebpackPlugin([  
  { from: mainSheet },  
  { from: "css/**" },  
  { from: "fonts/**" },  
  { from: "**/*.jpg" },  
  { from: "**/*.png" },  
  { from: "**/*.xml" },  
, { ignore: ["App_Resources/**"] })
```

# WEBPACK

```
// Copy assets to out dir. Add your own globs as needed.  
new CopyWebpackPlugin([  
  { from: mainSheet },  
  { from: "assets/**" },  
  { from: "i18n/**" },  
  { from: "fonts/**" },  
  { from: "**/*.jpg" },  
  { from: "**/*.png" },  
  { from: "**/*.xml" },  
, { ignore: ["App_Resources/**"] })
```

# WEBPACK

```
@import url("~assets/css/actionbar.css");
@import url("~assets/css/alignment.css");
@import url("~assets/css/border.css");
@import url("~assets/css/button.css");
@import url("~assets/css/font-awesome.css");
@import url("~assets/css/form.css");
@import url("~assets/css/kassabon.css");
```

# WEBPACK

```
@import url("assets/css/actionbar.css");
@import url("assets/css/alignment.css");
@import url("assets/css/border.css");
@import url("assets/css/button.css");
@import url("assets/css/font-awesome.css");
@import url("assets/css/form.css");
@import url("assets/css/kassabon.css");
```

# UPDATES

- NATIVESCRIPT CLI
- TNS-CORE-MODULES
- XCODE
- PLUGINS
- SIBBELL.COM
- @ANGULAR/...
- NATIVESCRIPT-ANGULAR



# STANDARDS

- ENTRY LEVEL 15" MACBOOK PRO (INTEL I7 PROCESSOR AND 16GB RAM)
- VISUAL STUDIO CODE
- SAME PLUGINS LIKE PRETTIER
- SETTINGS.JSON PER PROJECT
- GIT FEATURE BRANCHES
- COMMIT OFTEN
- BUILT SCRIPTS
- RELEASE PROCEDURE
- MANUAL TESTING

# MIJN PENSIOENCOACH

2014	2015	2017
APPCELERATOR TITANIUM	NATIVE	NATIVESCRIPT
CROSS-PLATFORM	IOS + ANDROID	CROSS-PLATFORM
JAVASCRIPT	OBJECTIVE-C + JAVA	WEB TECHNOLOGIES
PERFORMANCE MWAH	PERFORMANCE	NATIVE PERFORMANCE
BAD ANIMATIONS	ANIMATIONS	HAPPY WITH
NEW PLATFORM	UNHAPPY WITH THE PROGRESS	