

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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NATIVESCRIPT DEVELOPER DAY EUROPE 2017

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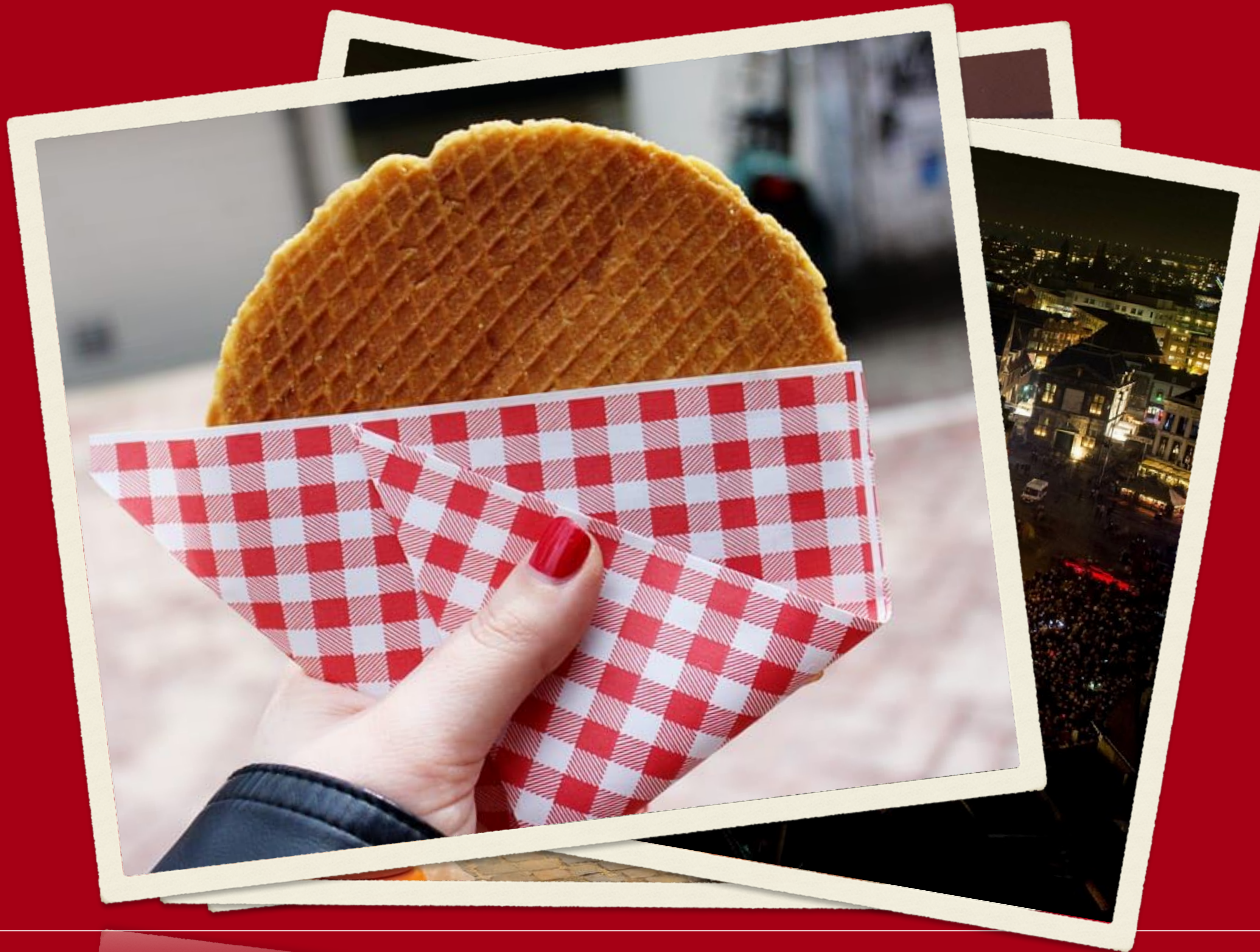
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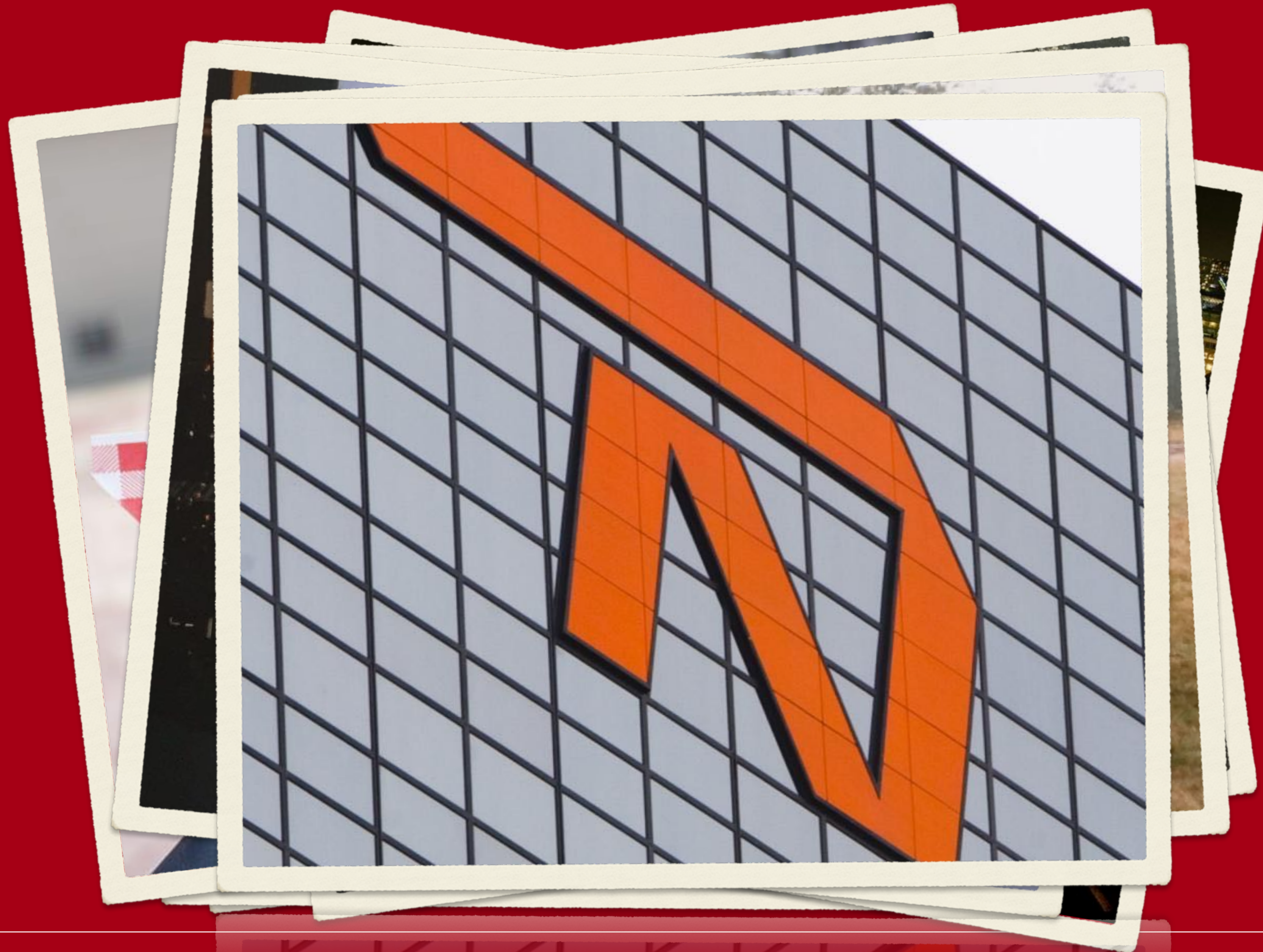
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PENSION PORTALS TEAM



mijn.pensioen

MIJN PENSIOENCOACH

MIJN PENSIOENCOACH



MIJN PENSIOENCOACH

CALCULATION OBJECTS

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

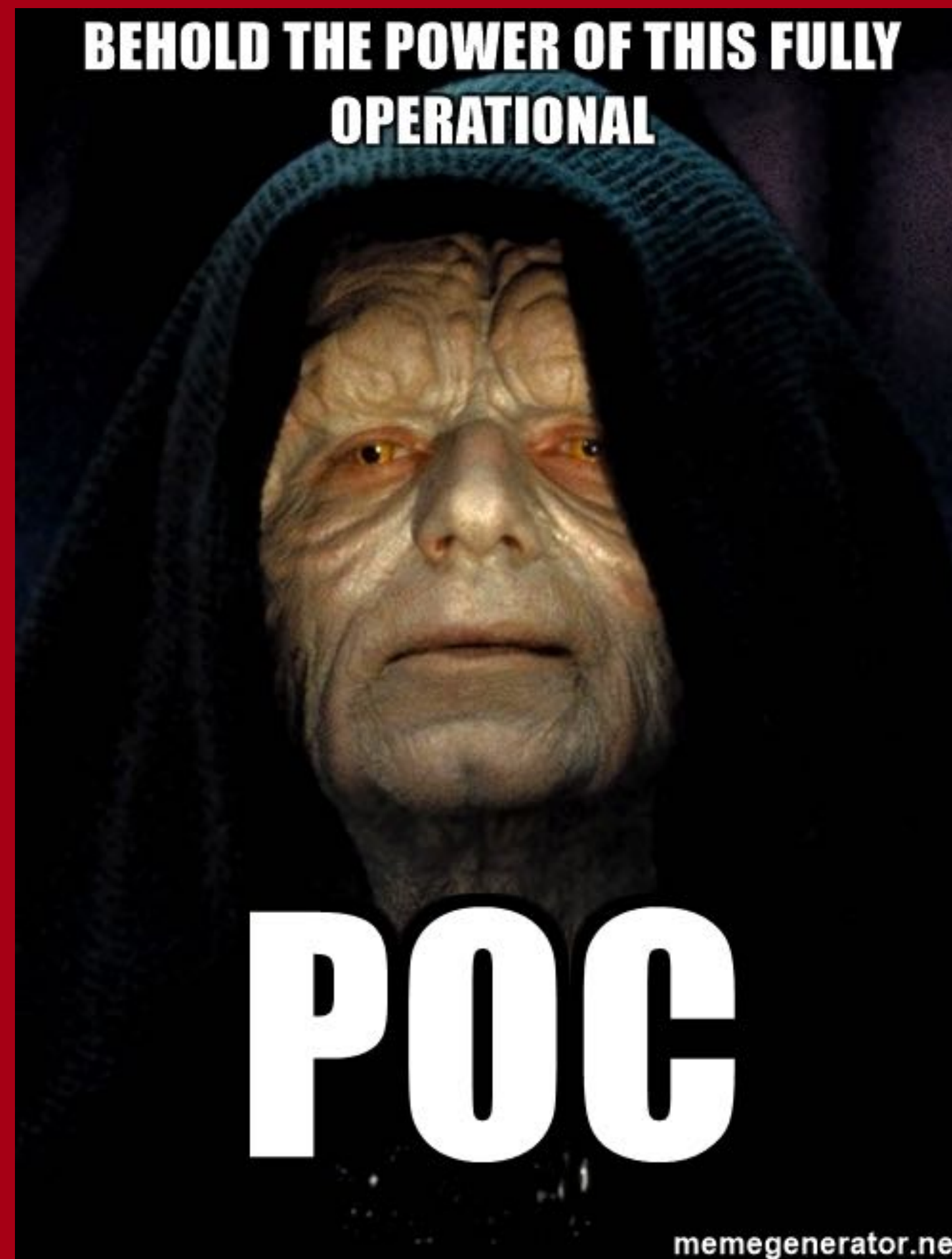
MIJN PENSIOENCOACH

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

MIJN PENSIOENCOACH

2014	2015	
APPCCELERATOR 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
- NNVERZEKERAAR
- 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)
 - NNVERZEKERAAR (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",  
  "QTX_T_01": "Are you currently saving for your pension?",  
  "QTX_T_02": "How much have you already saved for your pension?  
    (per {{currentmonthyear}})",  
  "QTX_T_03": "How much per month do you save for your pension?",  
  "QTX_T_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

T-Mobile NL 22:24 67%

< Sparen



Spaar je momenteel voor later?

Hoeveel heb je al gespaard voor later? (per september 2017)

€ 200

Hoeveel spaar je per maand voor later?

€ 100


Welk rentepercentage ontvang je?

0.45%

Opslaan

T-Mobile NL 22:25 67%

< Saving



Are you currently saving for your pension?

How much have you already saved for your pension? (per september 2017)

€ 200

How much per month do you save for your pension?

€ 100

What interest rate do you receive?

0.45%

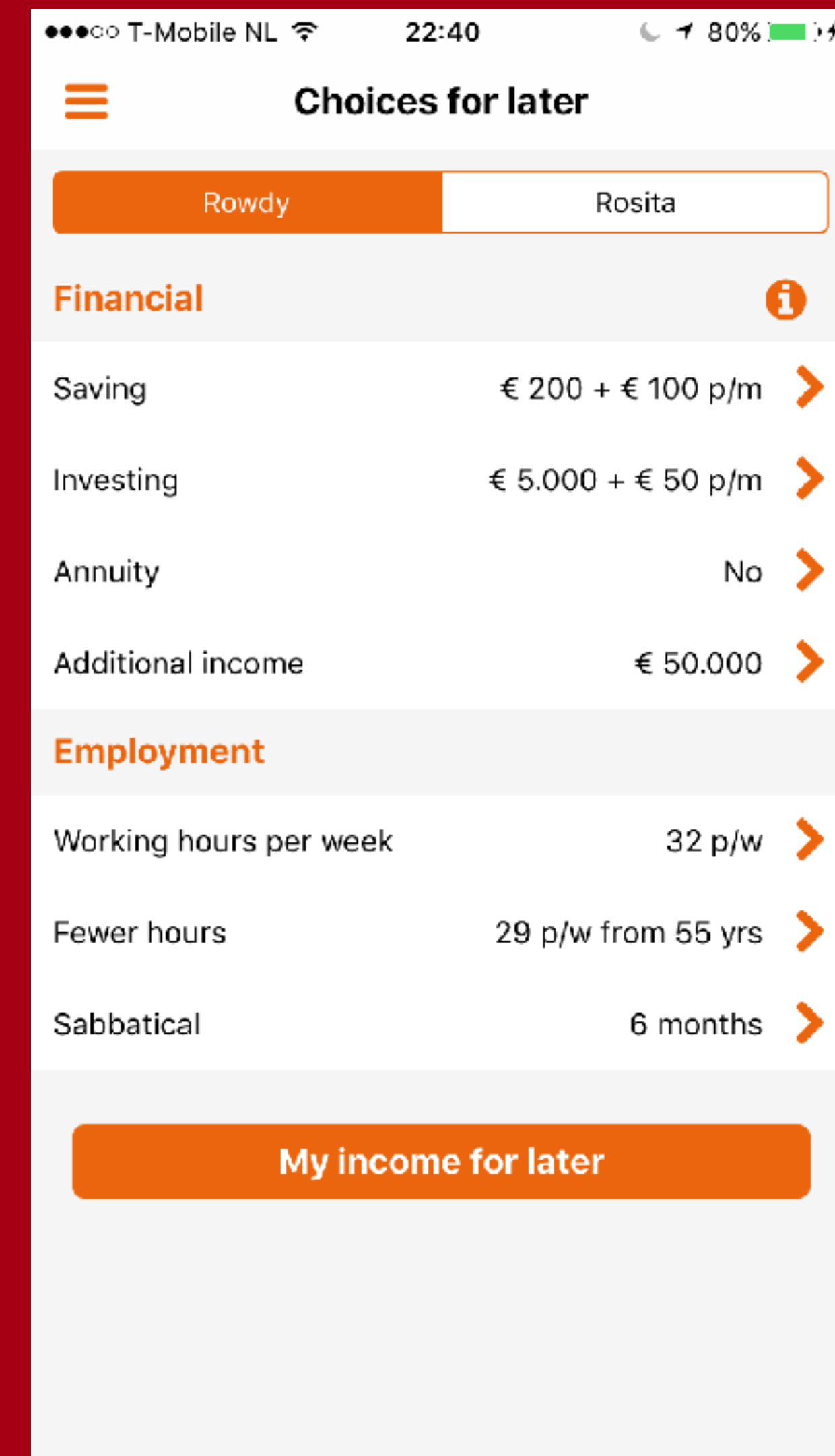
Save

PLUGINS

NATIVESCRIPT-NGX-FONTICON

NATHAN WALKER

USE ICON FONTS (FONT AWESOME) BY THE
SPECIFIC CLASSNAME



PLUGINS

NATIVESCRIPT-BARCODESCANNER

EDDY VERBRUGGEN

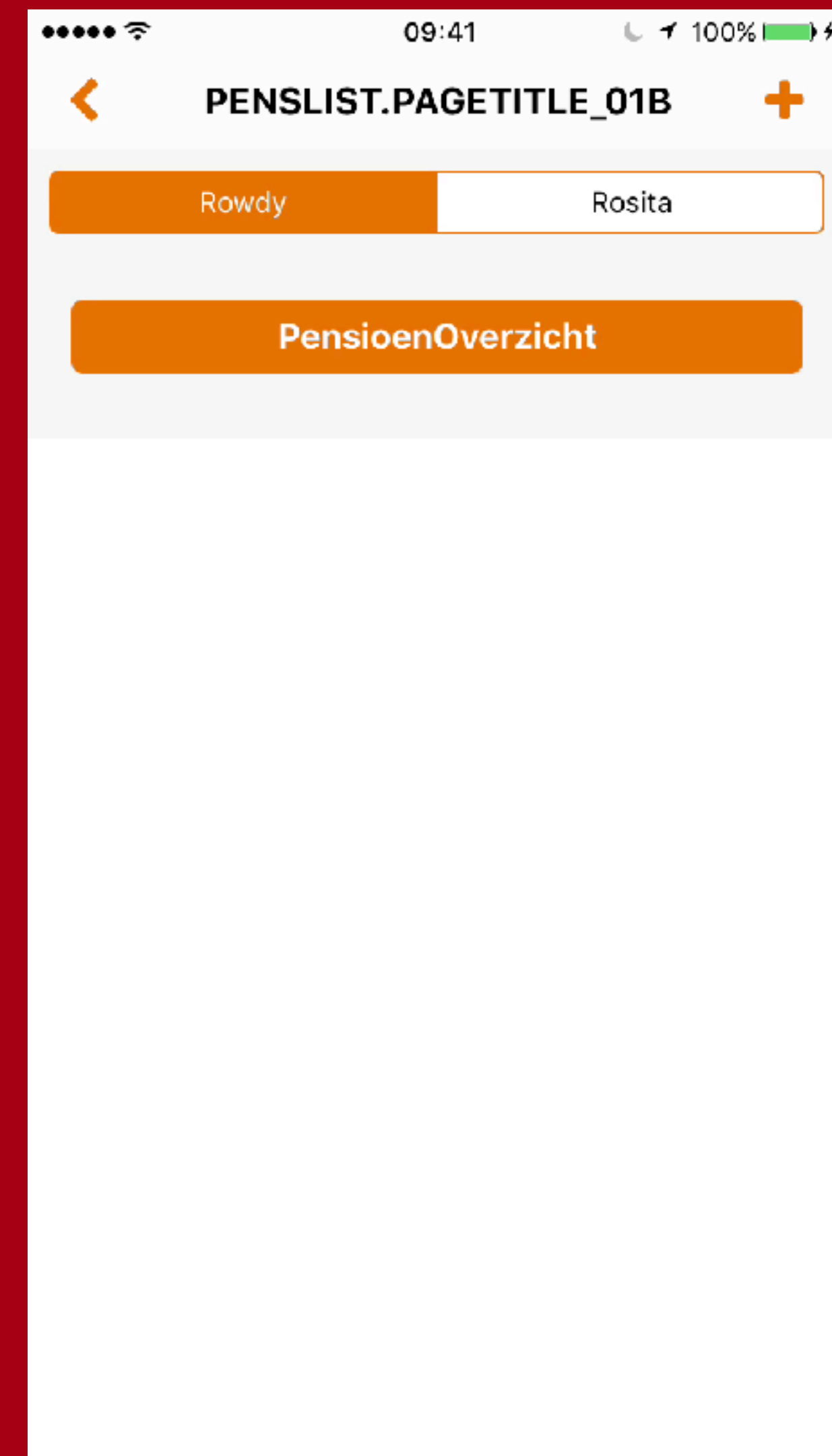
(BULK)SCAN QR OR BARCODES

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

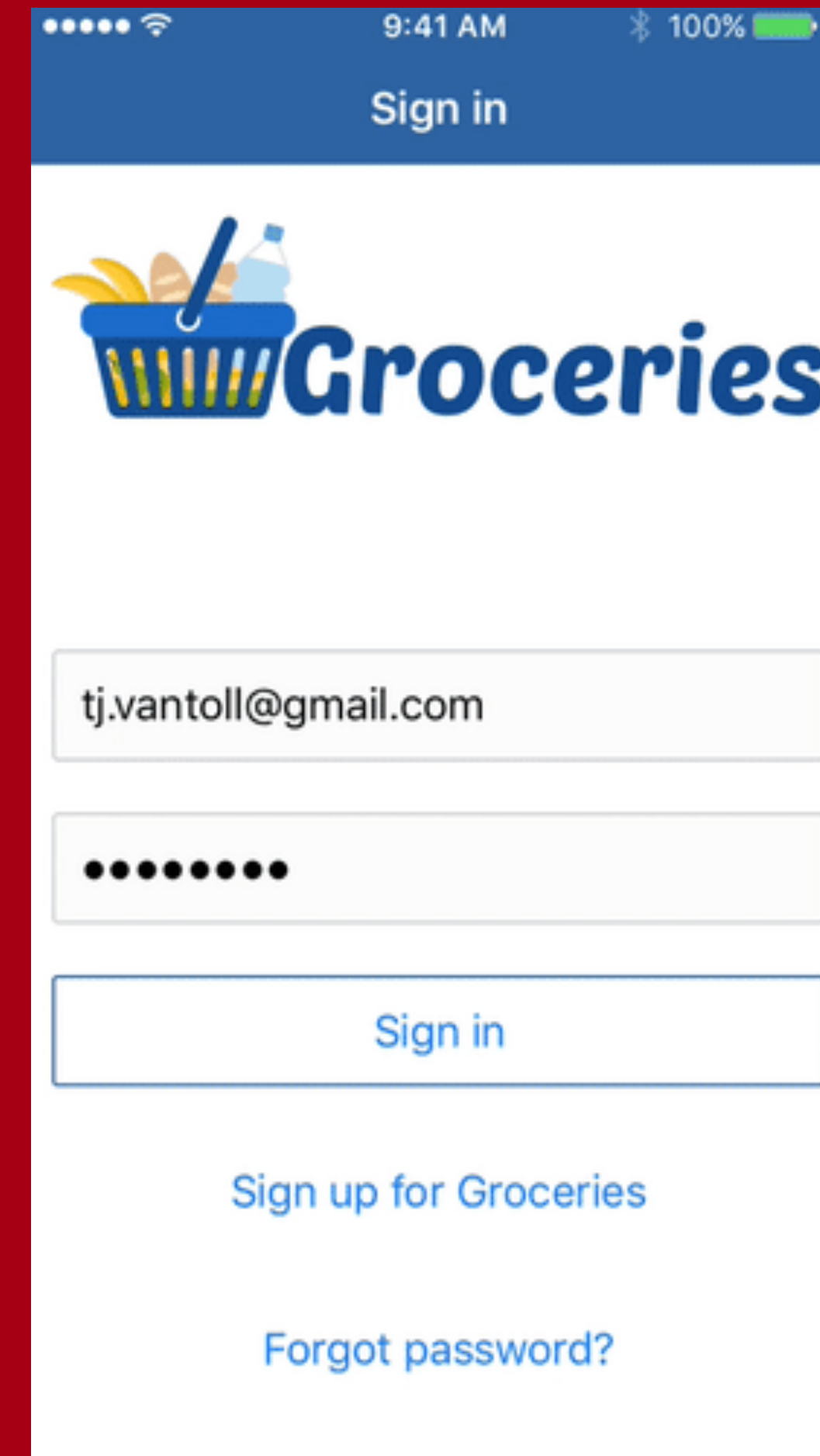
PLUGINS

NATIVESCRIPT-IQKEYBOARDMANAGER

TJ VANTOLL

CONTRIBUTIONS BY EDDY VERBRUGGEN

WRAPPER FOR THE POPULAR IQKEYBOARDMANAGER
IOS FRAMEWORK



PLUGINS

CRYPTO-JS

EVAN VOSBERG

CRYPTOGRAPHY STANDARDS

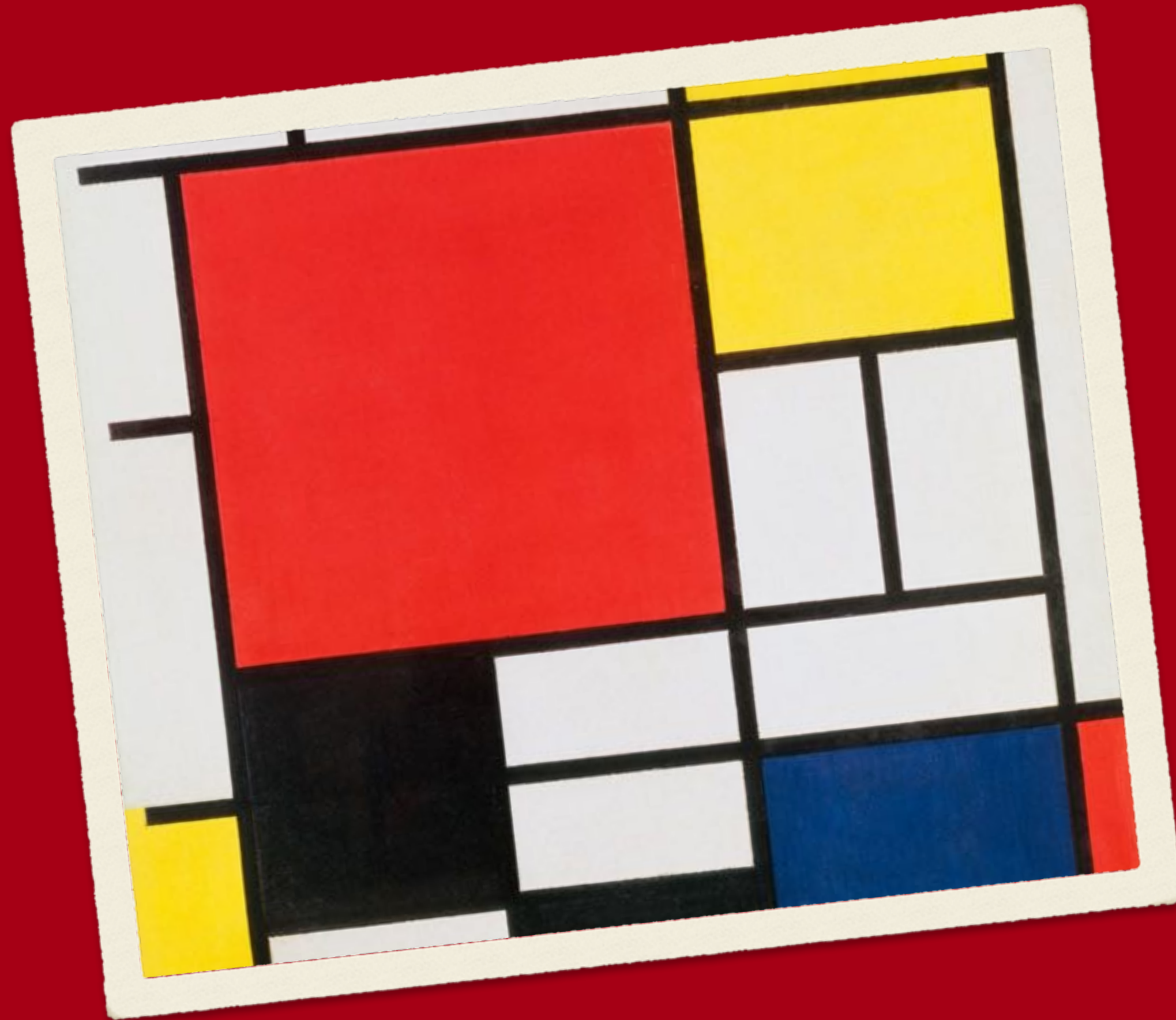
PLUGINS

LODASH

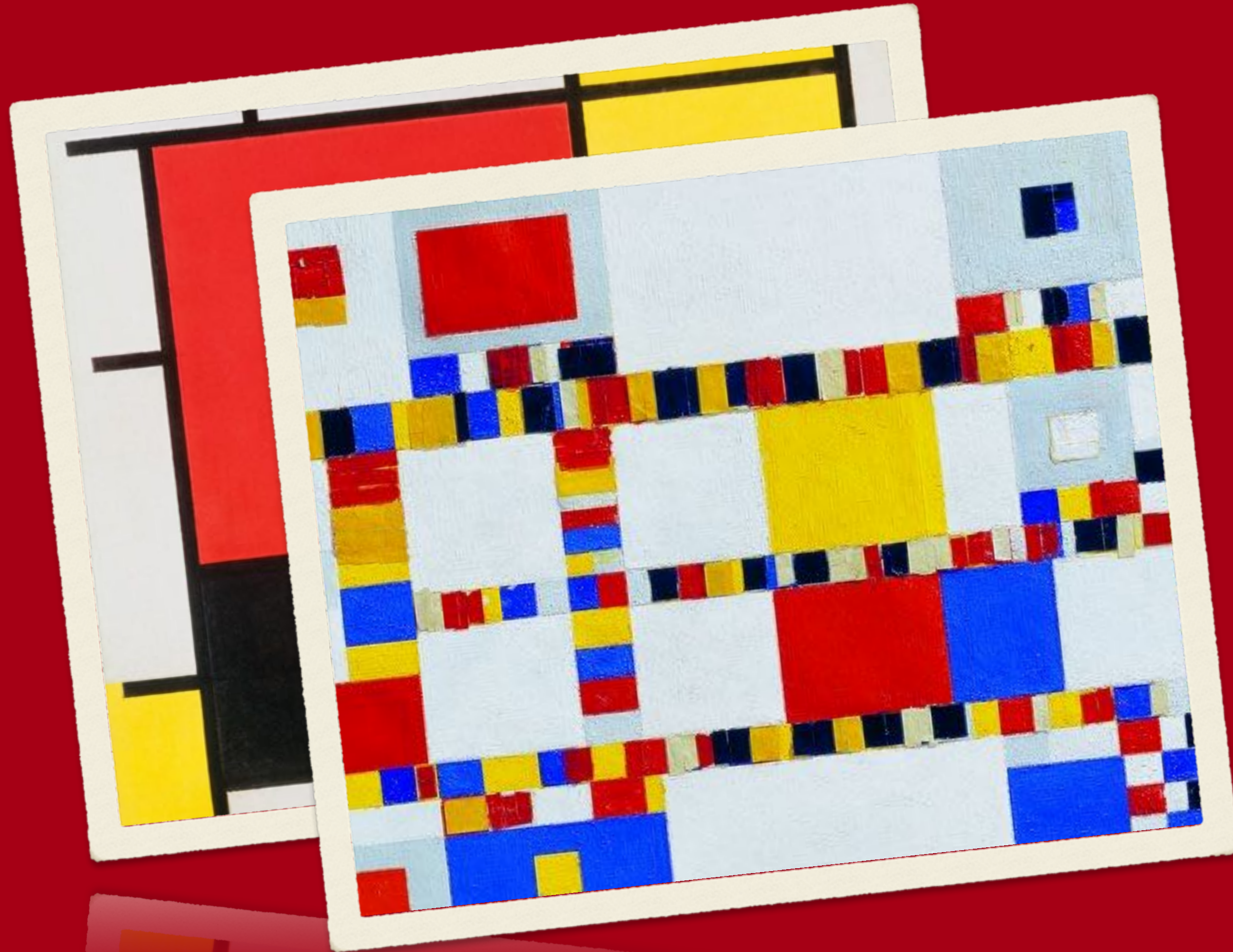
LODASH

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

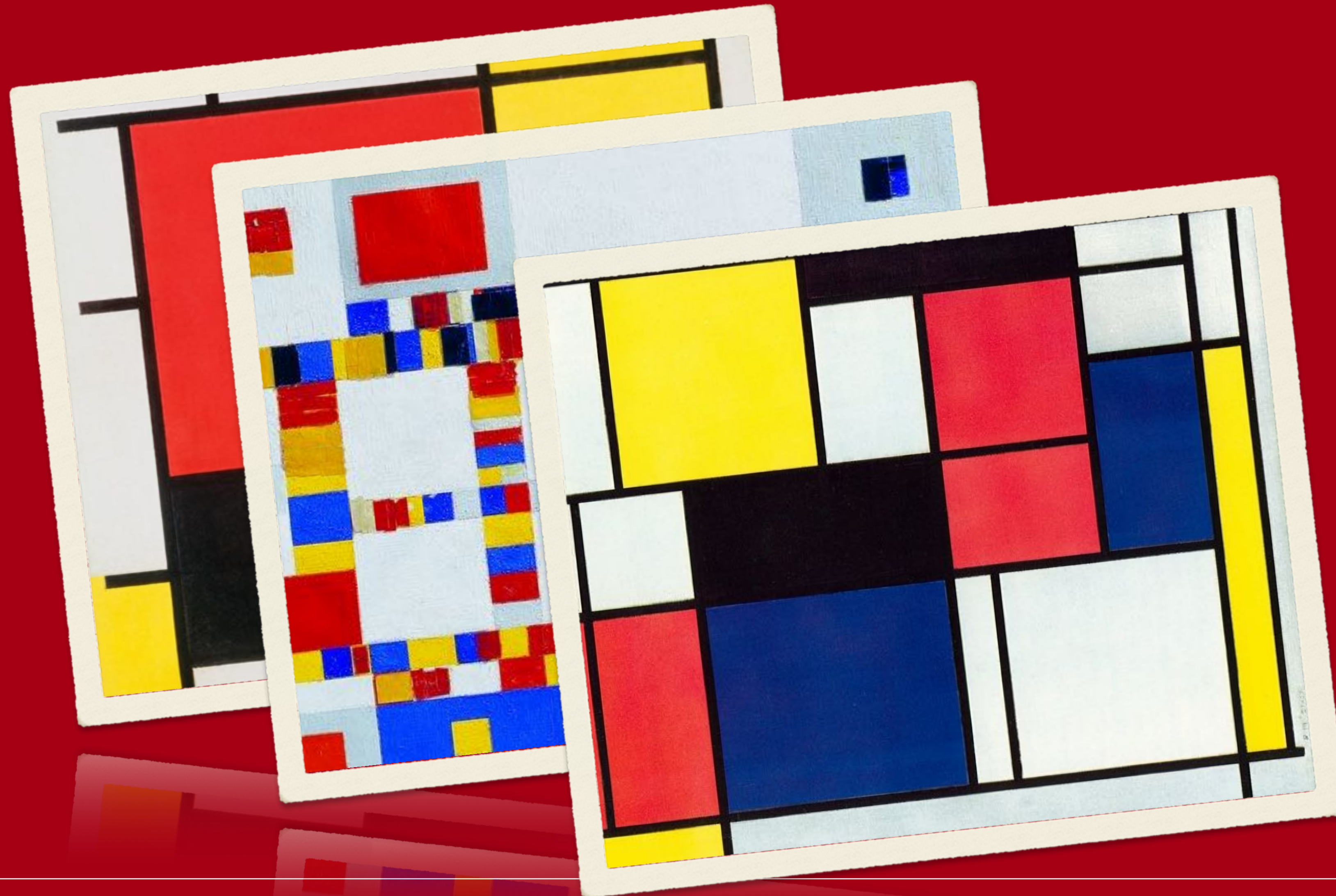
MONDRIAN



MONDRIAN



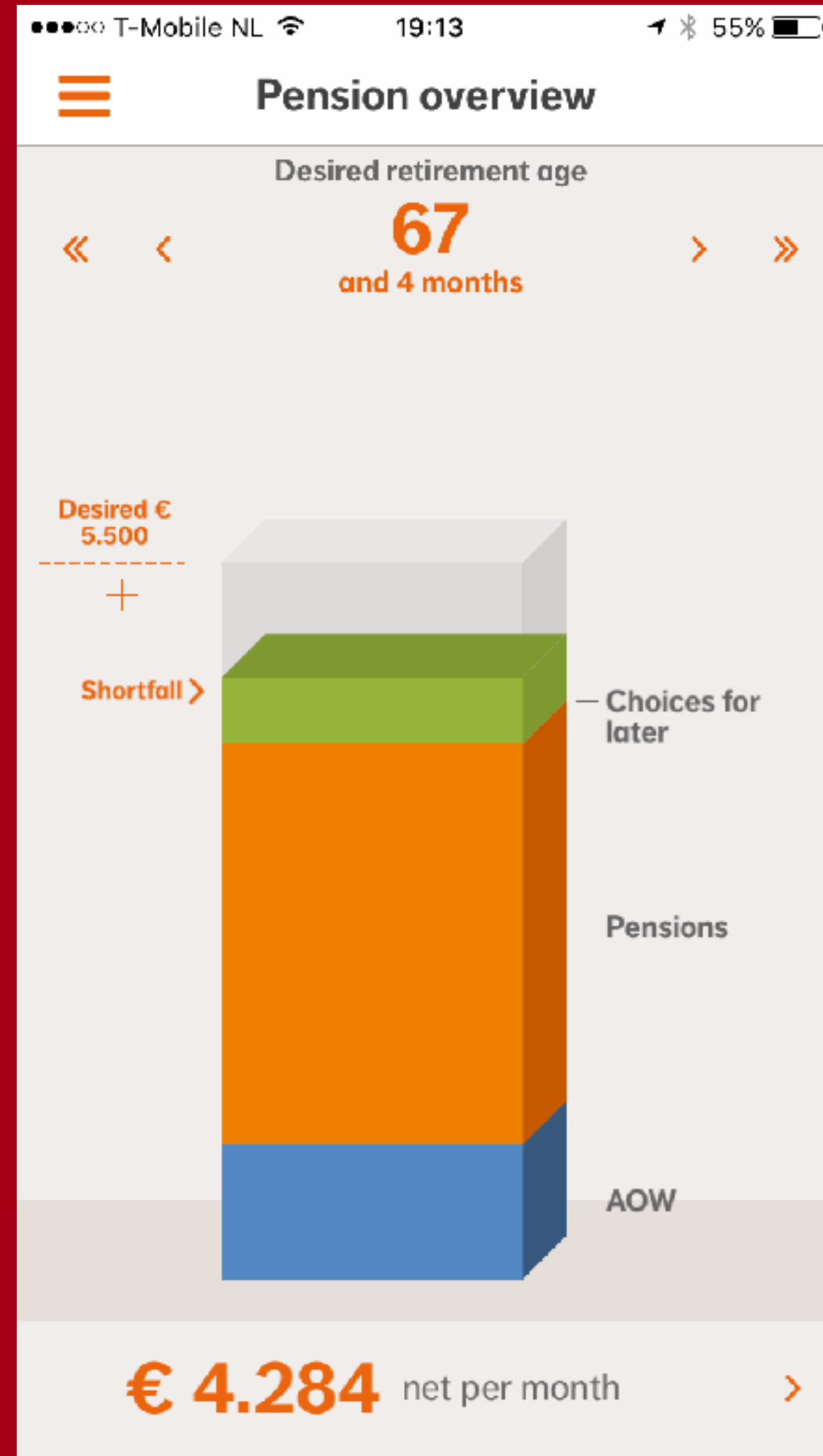
MONDRIAN



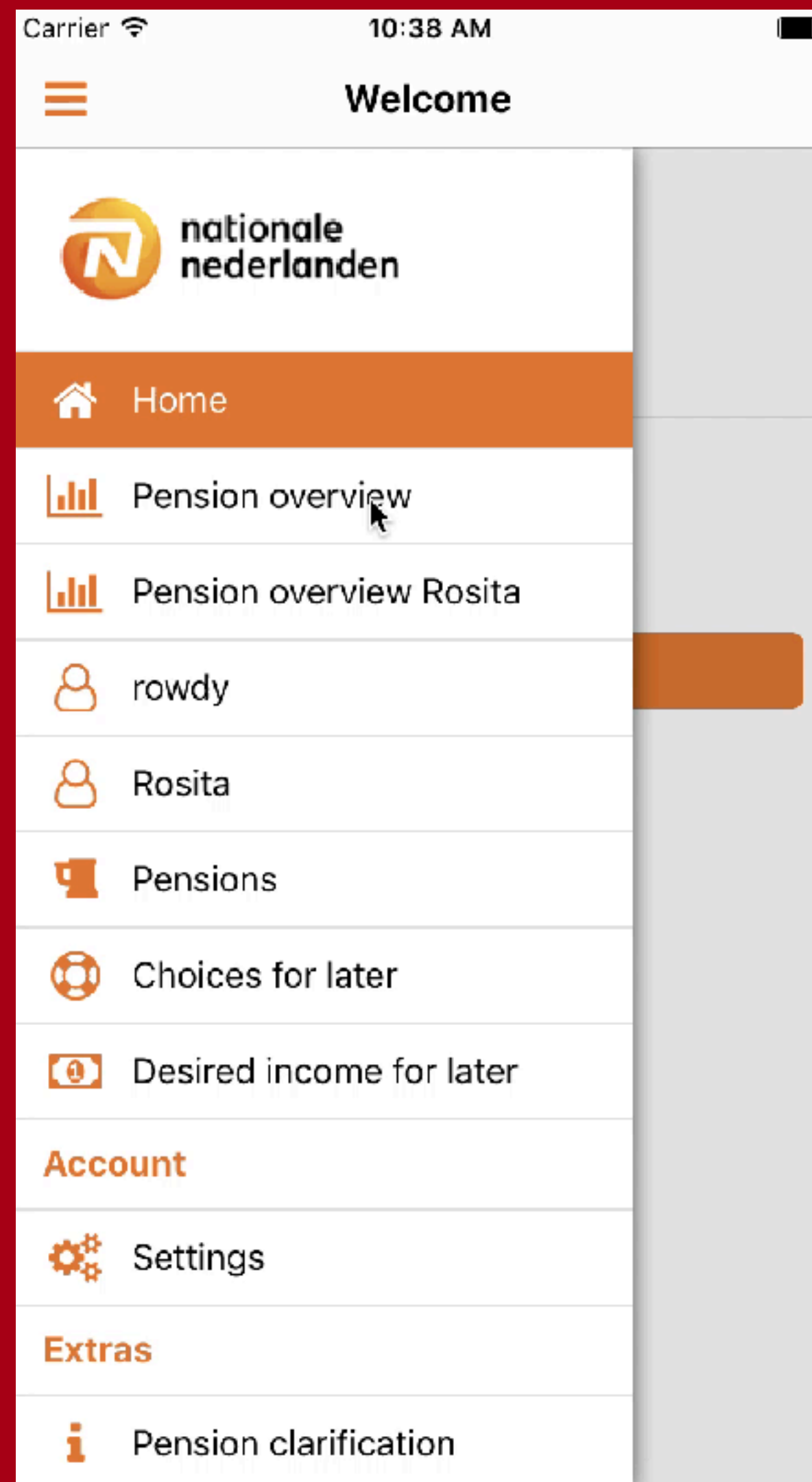
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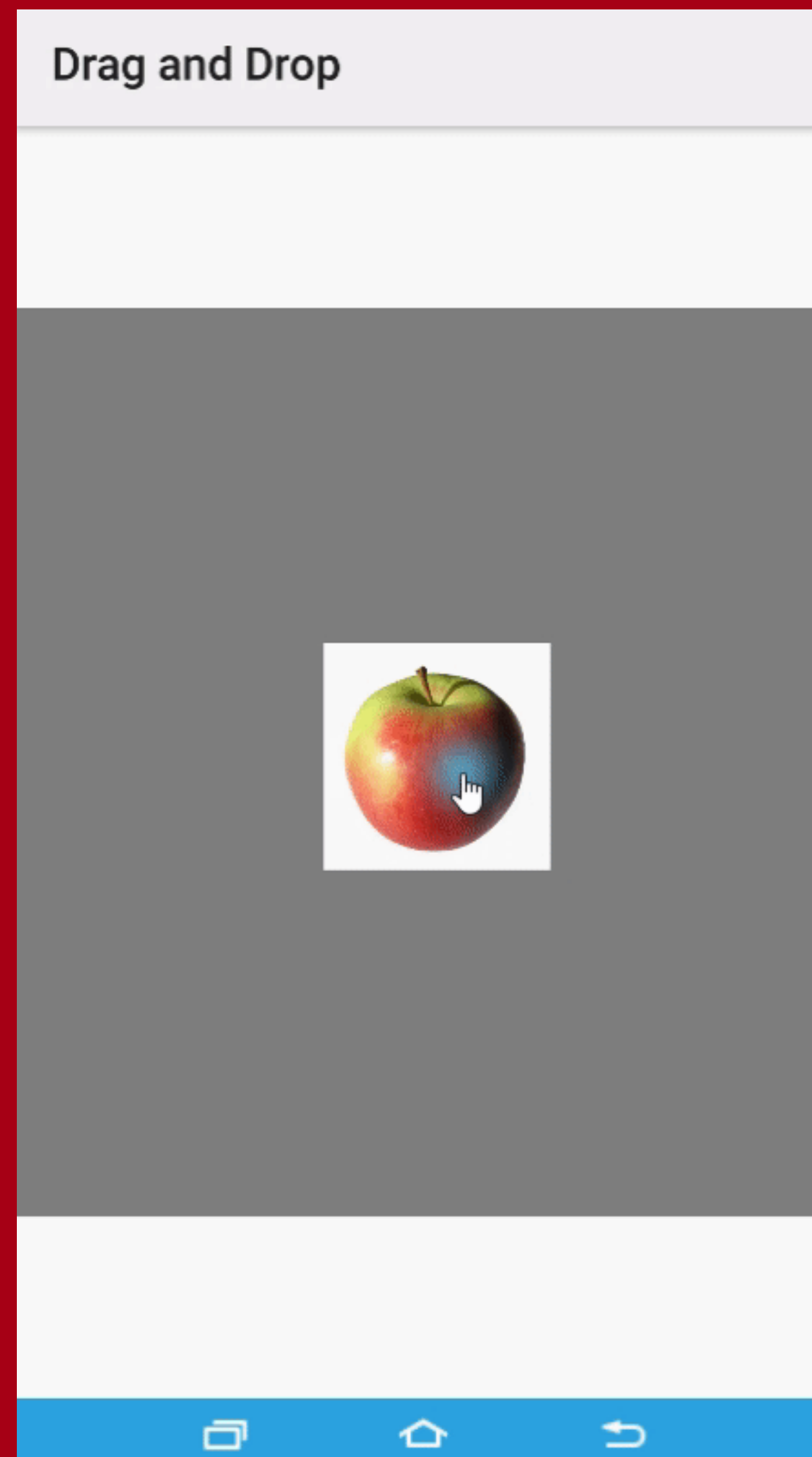
MONDRIAAN



MONDRIAAN



MONDRIAAN



MONDRIAAN

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

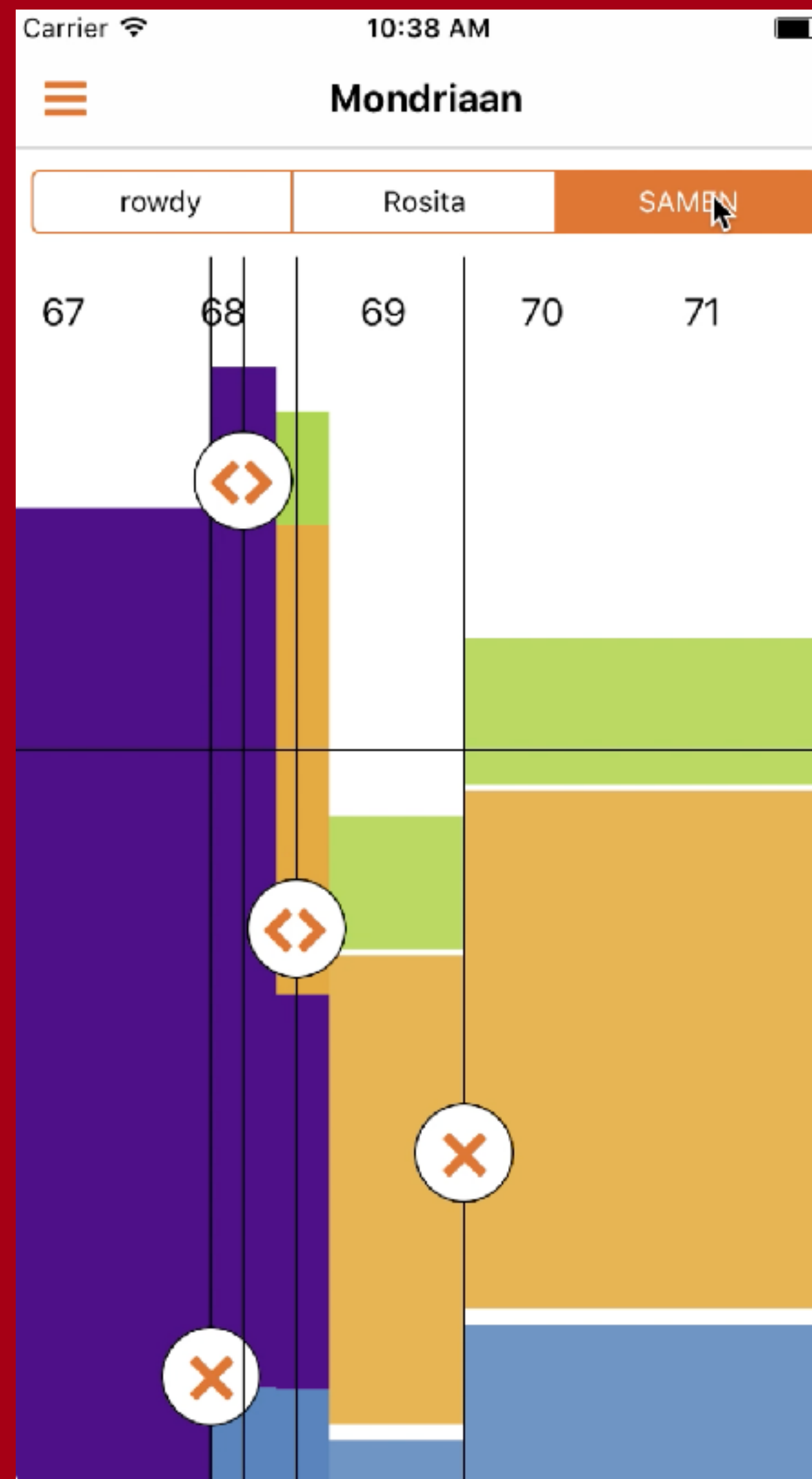
```
onTap() {  
  // do something  
}
```

```
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



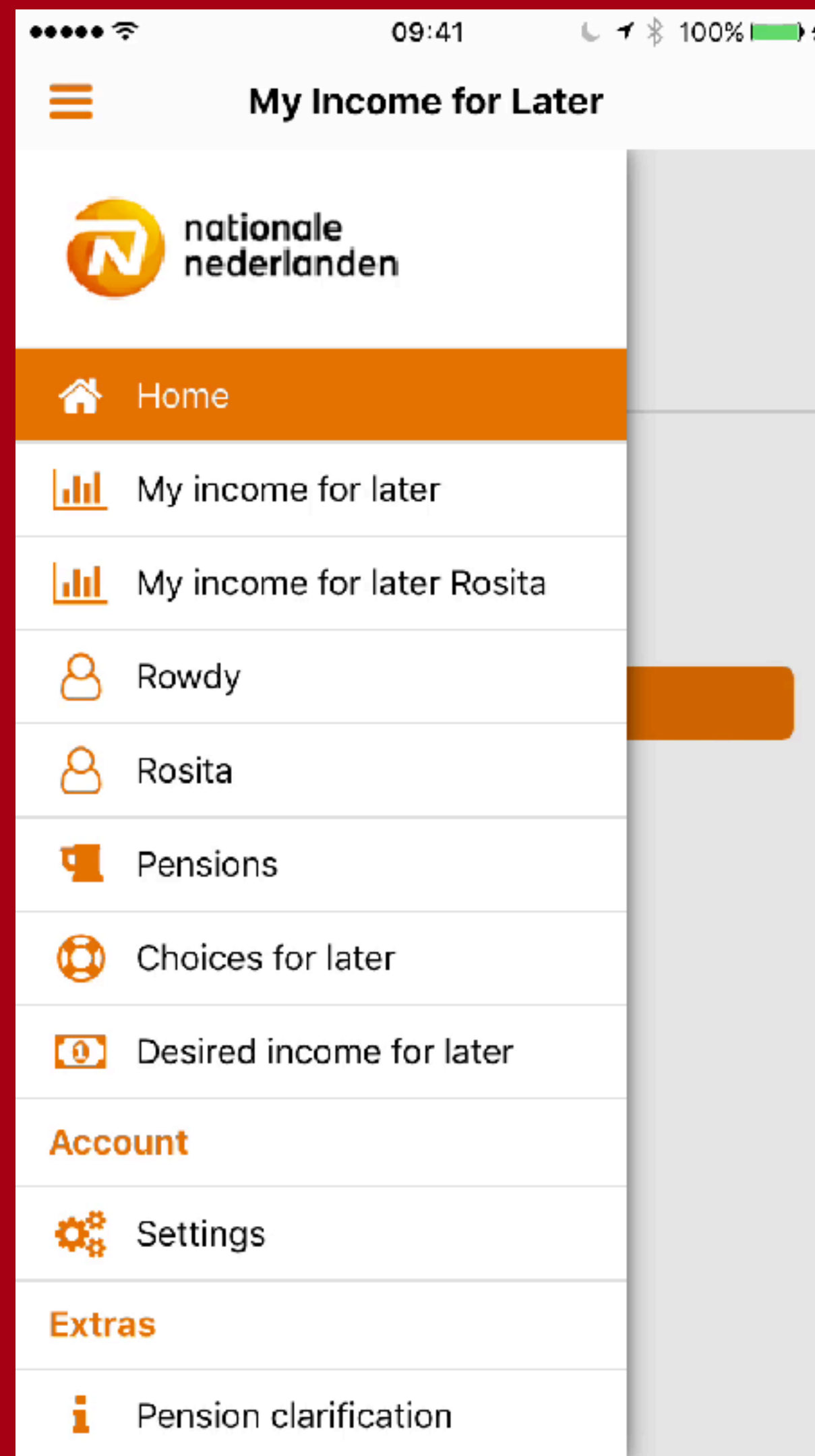
MONDRIAAN



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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

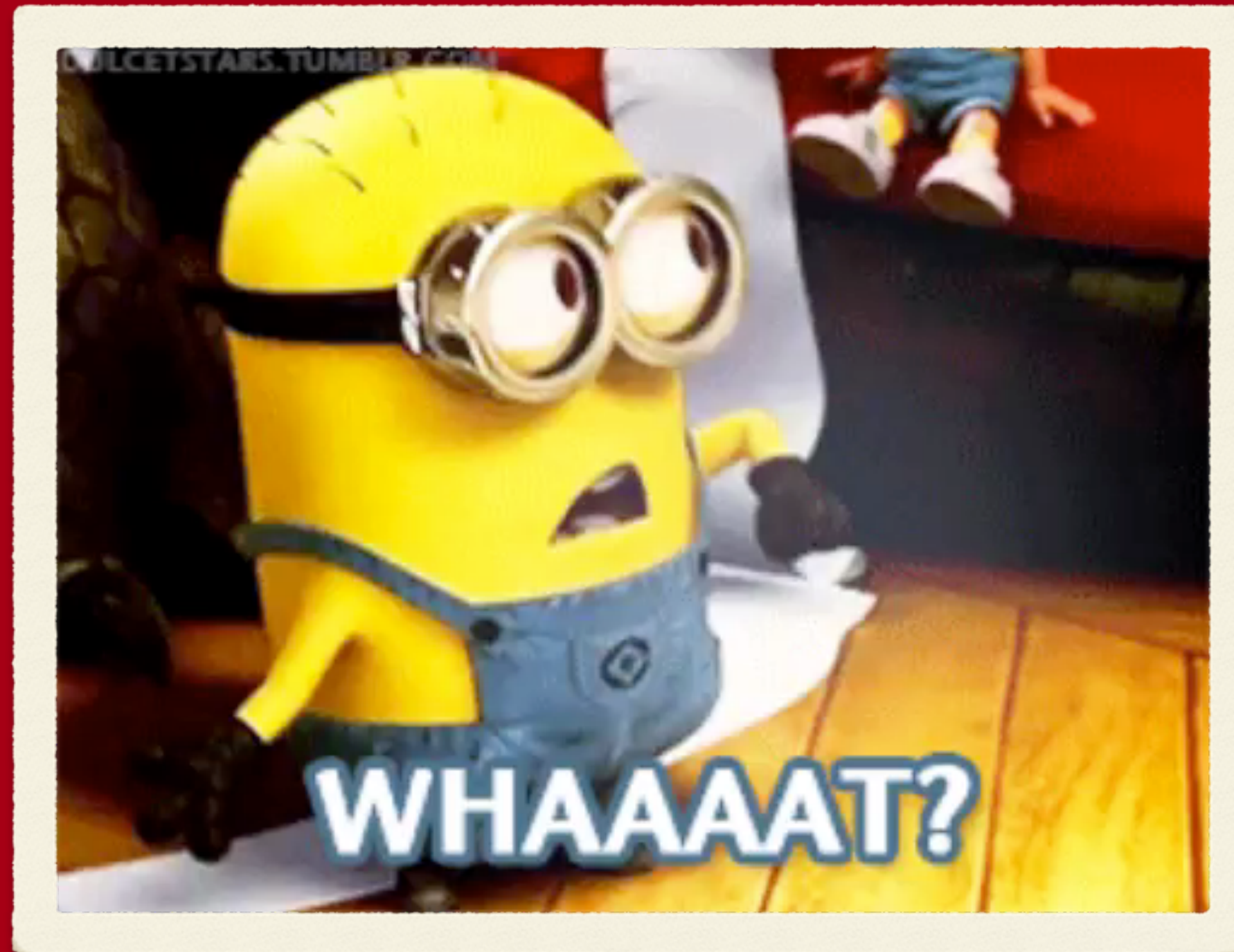
```
> ns-bundle

Running tns prepare...
Executing before-prepare hook from /Users/rowdyrabouw/Code/MijnInkomenVoorLater/hooks/before-prepare/nativescript-dev-typescript.js
Executing before-prepare hook from /Users/rowdyrabouw/Code/MijnInkomenVoorLater/hooks/before-prepare/nativescript-plugin-firebase.js
Preparing project...
Project successfully prepared (ios)
Executing after-prepare hook from /Users/rowdyrabouw/Code/MijnInkomenVoorLater/hooks/after-prepare/firebase-build-gradle.js
Configure firebase
Executing after-prepare hook from /Users/rowdyrabouw/Code/MijnInkomenVoorLater/hooks/after-prepare/firebase-copy-google-services.js
Executing after-prepare hook from /Users/rowdyrabouw/Code/MijnInkomenVoorLater/hooks/after-prepare/nativescript-plugin-firebase.js
Running webpack for ios...
10% building modules 0/2 modules 2 active ...de/MijnInkomenVoorLater/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/MijnInkomenVoorLater prodbuild 45

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
APPCCELERATOR 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	