



# Data-driven banking



ACCIS Annual Conference 2018



13:45

100%

WELCOME TO THE

## You are almost set up! Select your main bank

If you have more banks and services, you can add them later.



Danske Bank



Handelsbanken



ICA Banken



Länsförsäkringar



Nordea



SEB

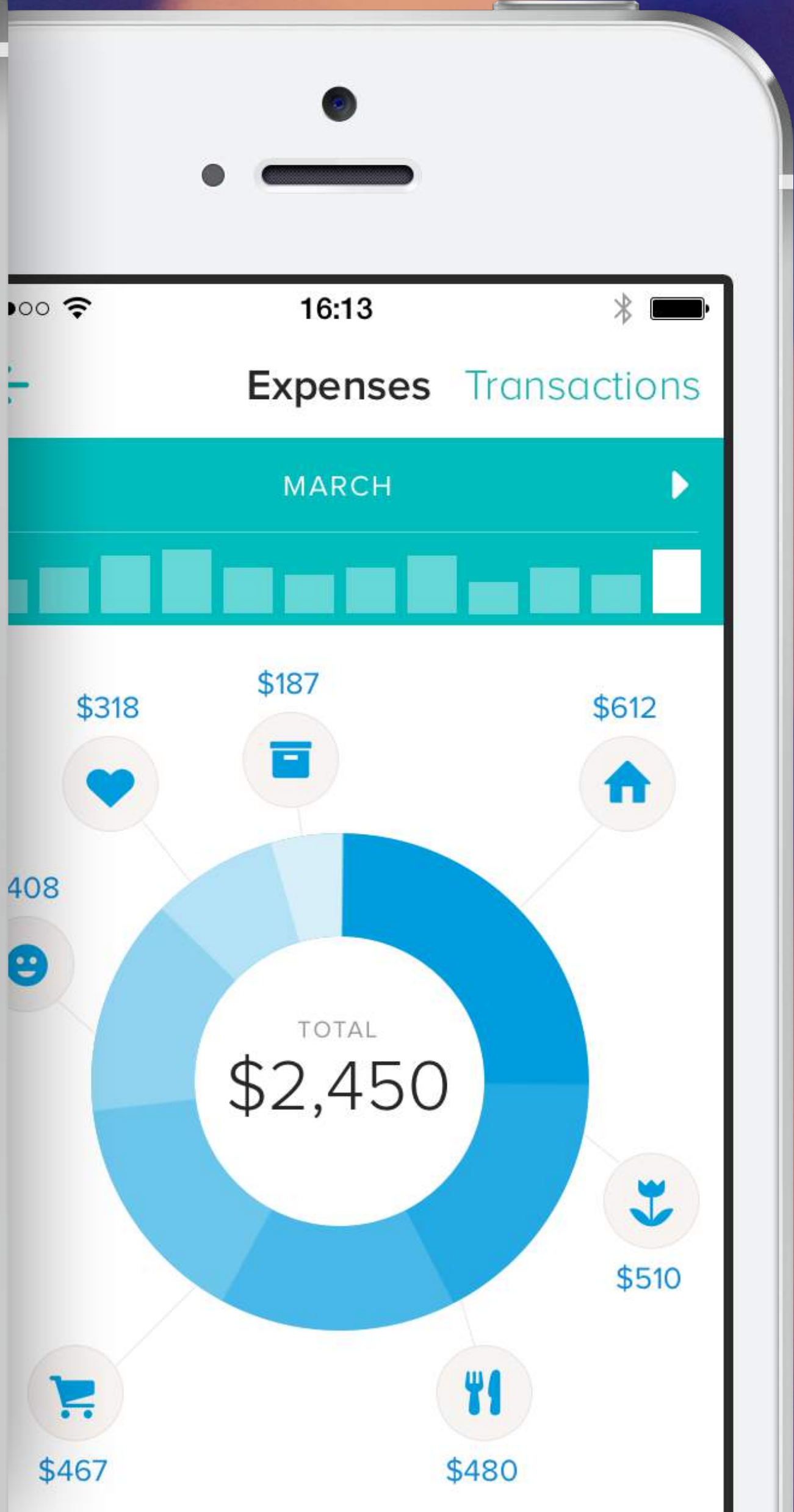
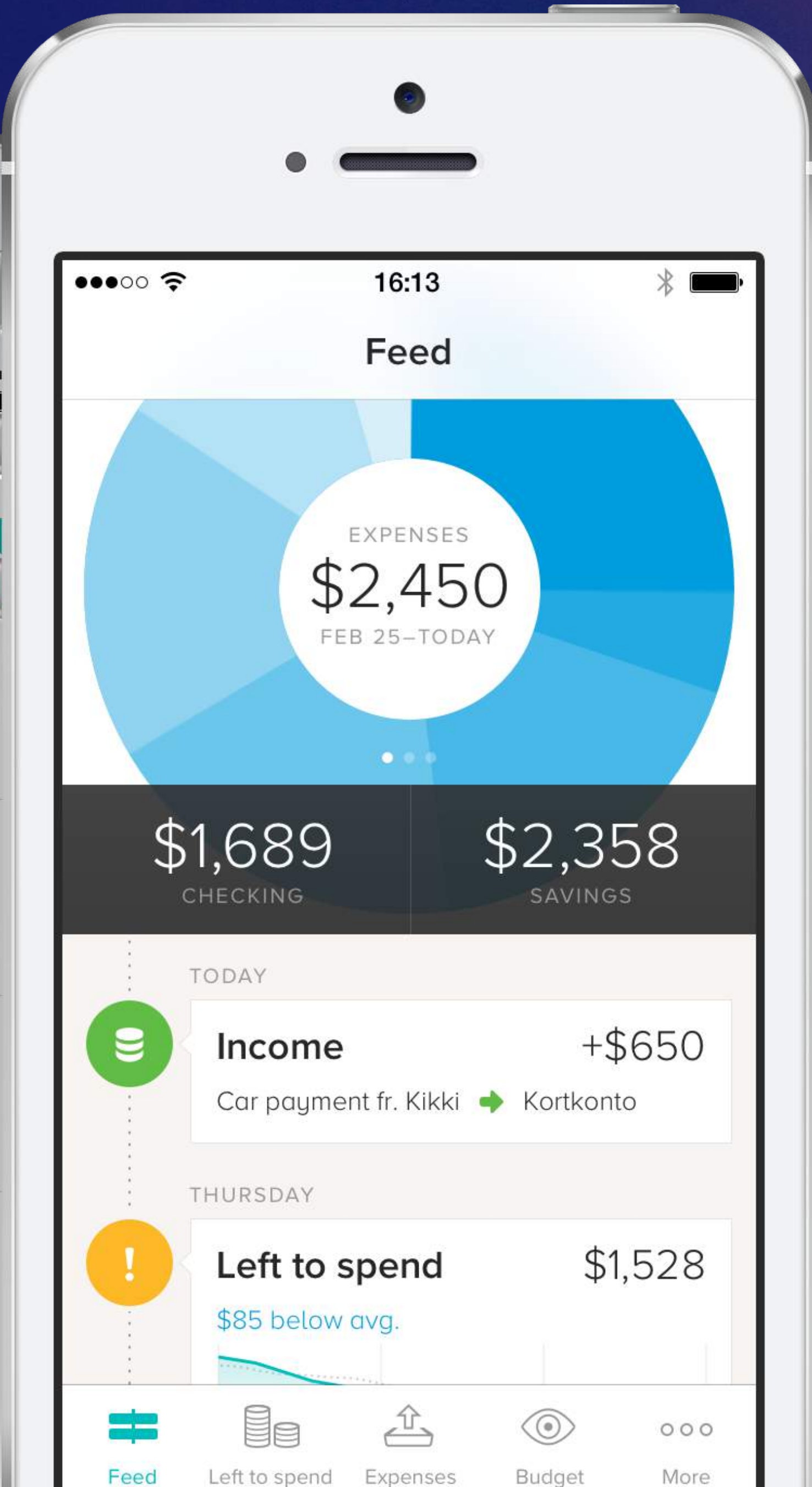
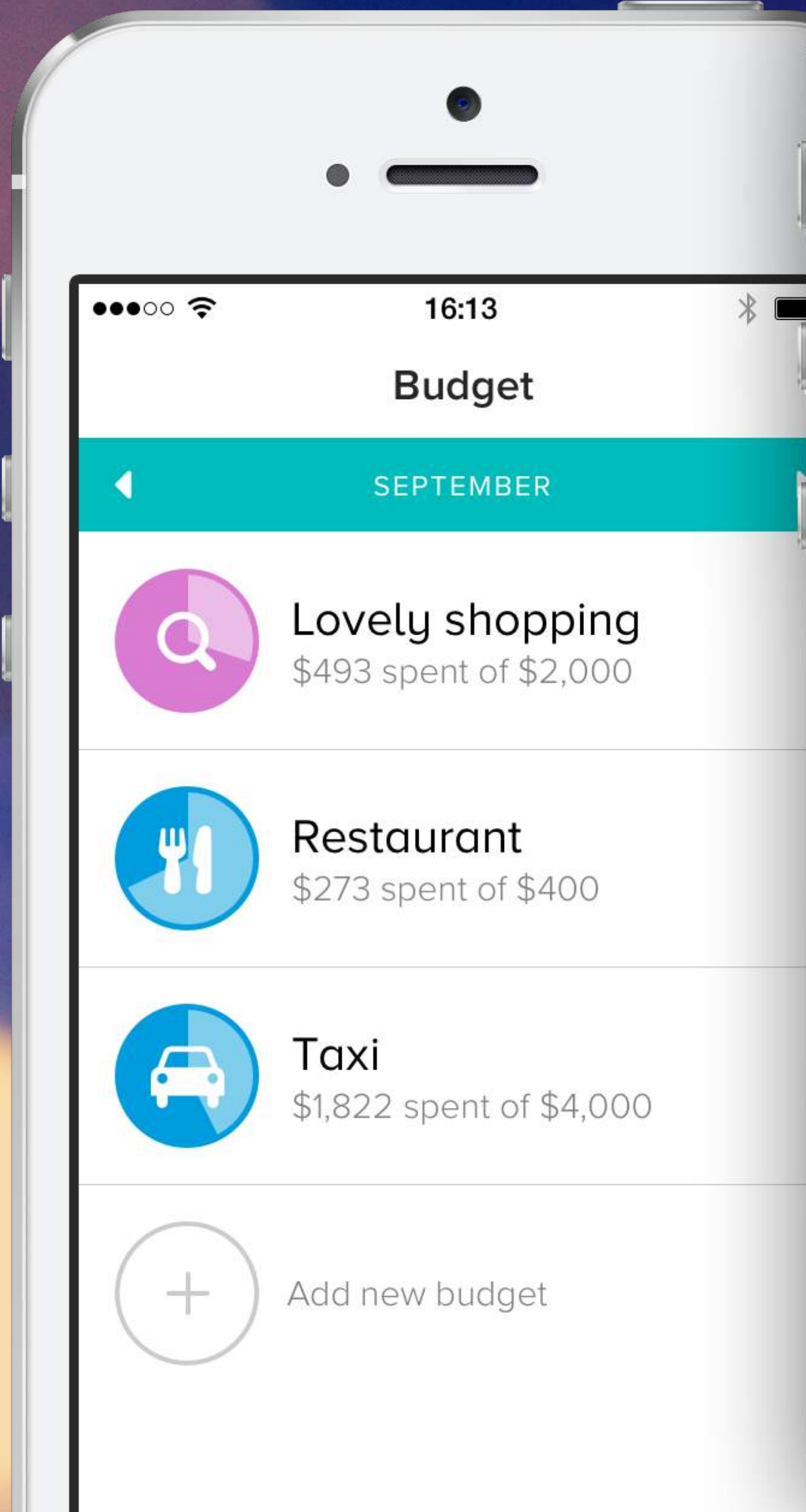


Skandia



Swedbank

[Show more banks](#)





Functions window

- Function name
- \_sqlite3\_column\_bytes
- \_sqlite3\_column\_count
- \_sqlite3\_column\_double
- \_sqlite3\_column\_int
- \_sqlite3\_column\_int64
- \_sqlite3\_column\_name
- \_sqlite3\_column\_text
- \_sqlite3\_column\_type
- \_sqlite3\_errcode
- \_sqlite3\_errmsg
- \_sqlite3\_exec
- \_sqlite3\_finalize
- \_sqlite3\_open\_v2
- \_sqlite3\_prepare\_v2
- \_sqlite3\_reset
- \_sqlite3\_step
- \_strchr
- \_strcmp
- \_strcspn
- \_strerror
- \_strlen
- \_strncmp
- \_sysctl
- \_sysctlbyname
- \_uname
- \_write

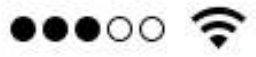
IDA View-A Hex View-1 Structures Enums Imports Exports

```

_objc_data:000000010063F5A0 ; DATA XREF: __objc_classlist:000000010053AA10fo
_objc_data:000000010063F5A0 ; __objc_classrefs:classRef_JBTextViewInCellfo
_objc_data:000000010063F5A0 _OBJC_CLASS_$_UITextView, __objc_empty_cache, 0, \
_objc_data:000000010063F5A0 JBTextViewInCell_$classData>
_objc_data:000000010063F5C8 _OBJC_CLASS_$_NemIdCrypto __objc2_class < _OBJC_METACLASS_$_NemIdCrypto, _OBJC_CLASS_$_NSObject, \
_objc_data:000000010063F5C8 ; DATA XREF: __objc_classlist:000000010053AA18fo
_objc_data:000000010063F5C8 ; __objc_classrefs:classRef_NemIdCryptofo
_objc_data:000000010063F5C8 __objc_empty_cache, 0, NemIdCrypto_$classData>
_objc_data:000000010063F5F0 _OBJC_METACLASS_$_NemIdCrypto __objc2_class < _OBJC_METACLASS_$_NSObject, _OBJC_METACLASS_$_NSObject, \
_objc_data:000000010063F5F0 ; DATA XREF: __objc_data:_OBJC_CLASS_$_NemIdCryptofo
_objc_data:000000010063F5F0 __objc_empty_cache, 0, NemIdCrypto_$metaData>
_objc_data:000000010063F618 _OBJC_CLASS_$_JBLogoutViewController __objc2_class < _OBJC_METACLASS_$_JBLogoutViewController, \
_objc_data:000000010063F618 ; DATA XREF: __objc_classlist:000000010053AA20fo
_objc_data:000000010063F618 ; __objc_classrefs:classRef_JBLogoutViewControllerfo ...
_objc_data:000000010063F618 _OBJC_CLASS_$_UIViewController, __objc_empty_cache, 0, \
_objc_data:000000010063F618 JBLogoutViewController_$classData>
_objc_data:000000010063F640 _OBJC_METACLASS_$_JBLogoutViewController __objc2_class < _OBJC_METACLASS_$_NSObject, \
_objc_data:000000010063F640 ; DATA XREF: __objc_data:_OBJC_CLASS_$_JBLogoutViewControllerfo
_objc_data:000000010063F640 _OBJC_METACLASS_$_UIViewController, __objc_empty_cache, \
_objc_data:000000010063F640 0, JBLogoutViewController_$metaData>
_objc_data:000000010063F668 _OBJC_CLASS_$_JBAccountDetailFlowViewModel __objc2_class < _OBJC_METACLASS_$_JBAccountDetailFlowViewModel, \
_objc_data:000000010063F668 ; DATA XREF: __objc_classlist:000000010053AA28fo
_objc_data:000000010063F668 ; __objc_classrefs:classRef_JBAccountDetailFlowViewModelfo ...
_objc_data:000000010063F668 _OBJC_CLASS_$_JBServiceController, __objc_empty_cache, \
_objc_data:000000010063F668 0, JBAccountDetailFlowViewModel_$classData>
_objc_data:000000010063F690 _OBJC_METACLASS_$_JBAccountDetailFlowViewModel __objc2_class < _OBJC_METACLASS_$_NSObject, \
_objc_data:000000010063F690 ; DATA XREF: __objc_data:_OBJC_CLASS_$_JBAccountDetailFlowViewMode
_objc_data:000000010063F690 _OBJC_METACLASS_$_JBServiceController, \
_objc_data:000000010063F690 __objc_empty_cache, 0, \
_objc_data:000000010063F690 JBAccountDetailFlowViewModel_$metaData>
_objc_data:000000010063F6B8 _OBJC_CLASS_$_JBInfoViewController __objc2_class < _OBJC_METACLASS_$_JBInfoViewController, \
_objc_data:000000010063F6B8 ; DATA XREF: __objc_classlist:000000010053AA30fo

```

0063F5C8 000000010063F5C8: objc data: OBJC CLASS \$ NemIdCrypto (Synchronized with Hex View-1)



16:13



# Feed



**\$689**  
CHECKING

**\$2,358**  
SAVINGS

## TODAY



**Income** +**\$650**

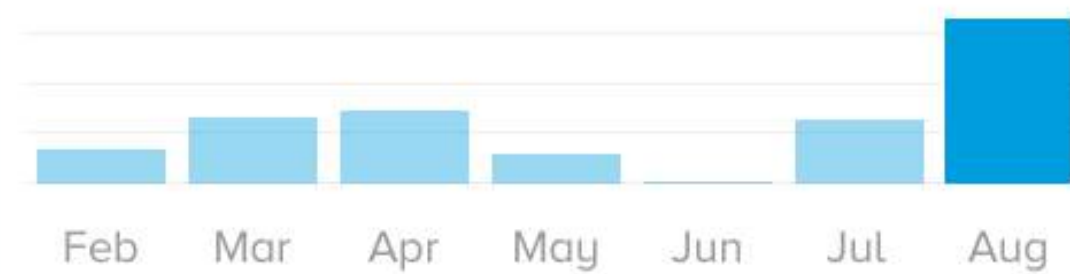
Car payment fr. Kikki → Checking

## YESTERDAY



**More than usual** **\$215**

Coffee & Snacks




Car payment fr. Kikki → Checking

YESTERDAY



### More than usual

\$215

 Coffee & Snacks



JUNE 26-29



### 4 expenses



Starbucks

-\$121

Coffee & Snacks 

June 29



Apple Store

-\$255

Electronics

June 27



McDonalds

-\$2.99

Restaurant

June 26



### June

LEFT TO SPEND

\$645





### June

LEFT TO SPEND

# \$645



JUNE 13

### Left to spend

# \$1,528

\$85 below avg.



JUNE 12

### 6 expenses

# -\$854

Taverna Brillo, Apple Store, Coop Dagl...





### Week 26

“

You're in good shape with your budgets. Well done!



Sun



JUNE 11



### Savings reached

Vacation in New York  
\$2,545 saved



JUNE 9



### 3 expenses

-\$349

Starbucks, Target Stockholm, McInlays Inn

JUNE 8



### Low balance

\$42

Checking, Bank of America



FAVORITE ACCOUNTS

12 891 kr

25 500 kr

[Read more](#)

Transfer



From  
Checking

23,567 kr



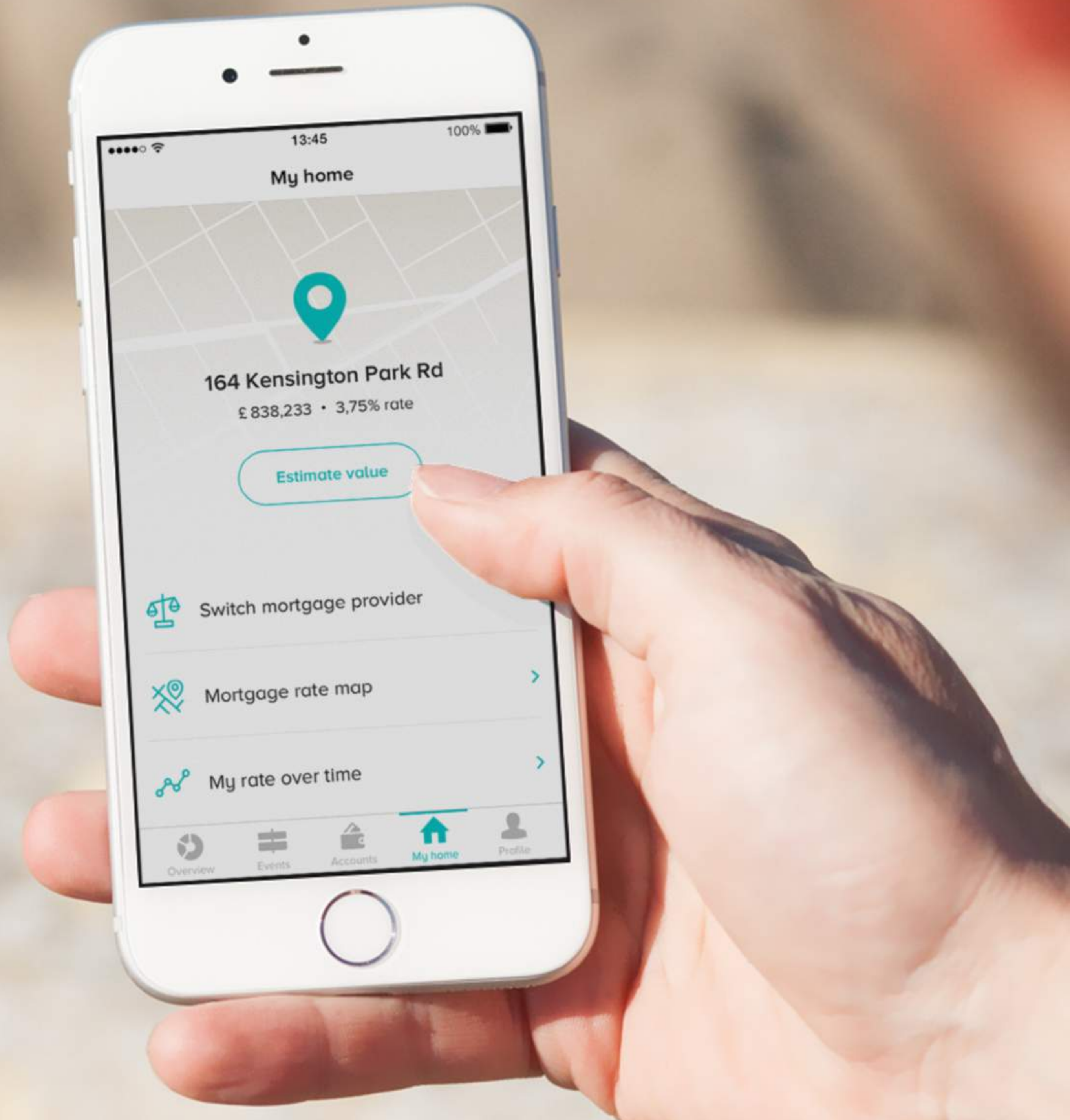
To  
Savings account

6,891 kr

Belopp  
650 kr

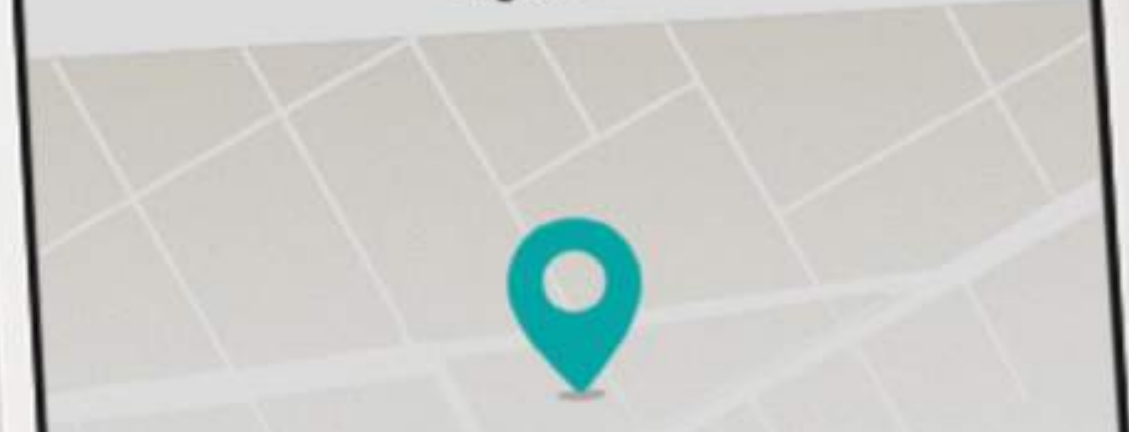
Confirm





13:45 100%

### My home



164 Kensington Park Rd

£ 838,233 • 3,75% rate

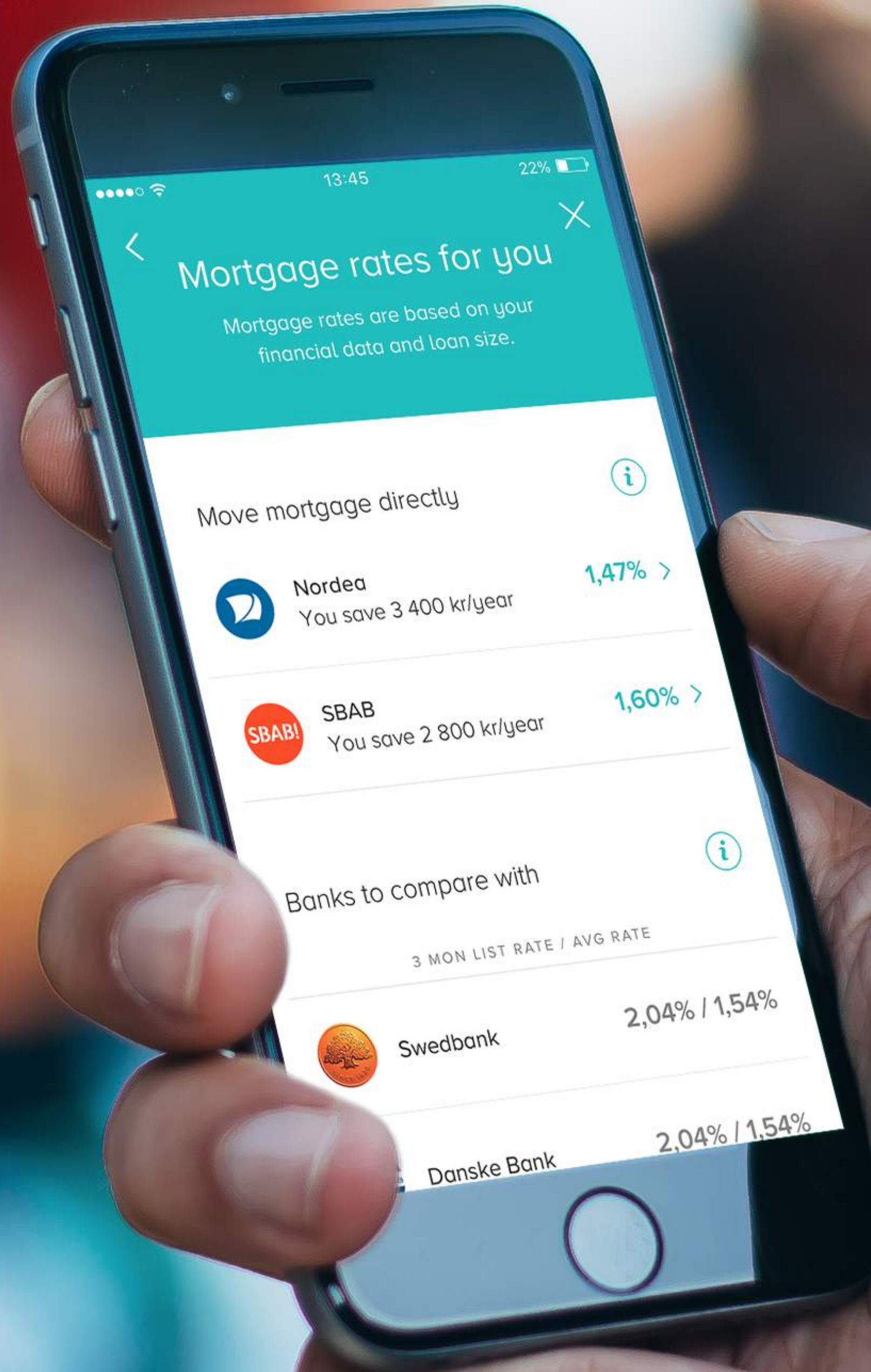
Estimate value

Switch mortgage provider

Mortgage rate map >

My rate over time >

- Overview
- Events
- Accounts
- My home**
- Profile



**We see you have a loan at Freedom Finance**  
 Fill in some details about your loan and we will look for cheaper options.

No, not now Sure!

**You have got your tax refund today!**  
 You got 42,400 back. Do you want to transfer it to a savings account?

No, not now Sure!

**Your income is better than 80% of all Tink users!**  
 A good recommendation is to save 10% of your income each month.

No, not now Start a savings account

40 000 kr/mon

**You have three loans that cost you unnecessarily much**  
 We can help you collect these loans one that is cheaper in 5 minutes

Archive Let's go

**You usually make a payment at this time**  
 1456 kr to Stockholms stad. Do you want make the same payment?

No, not now Add payment

**It's a bit behind your savings goal " Holiday "**  
 That is not too bad. Make a transfer now or when you can, you're back!

No, not now Transfer now

**You have money on an account without savings interest**  
 Earn thousands to move your money to a better place.

Archive Let's go

0% savings rate → **SBAB!** 0,75% savings rate

**You spend more on restaurant than the average Tink user.**  
 Set up a budget if you want, and we'll help you spend less

No, not now Add budget

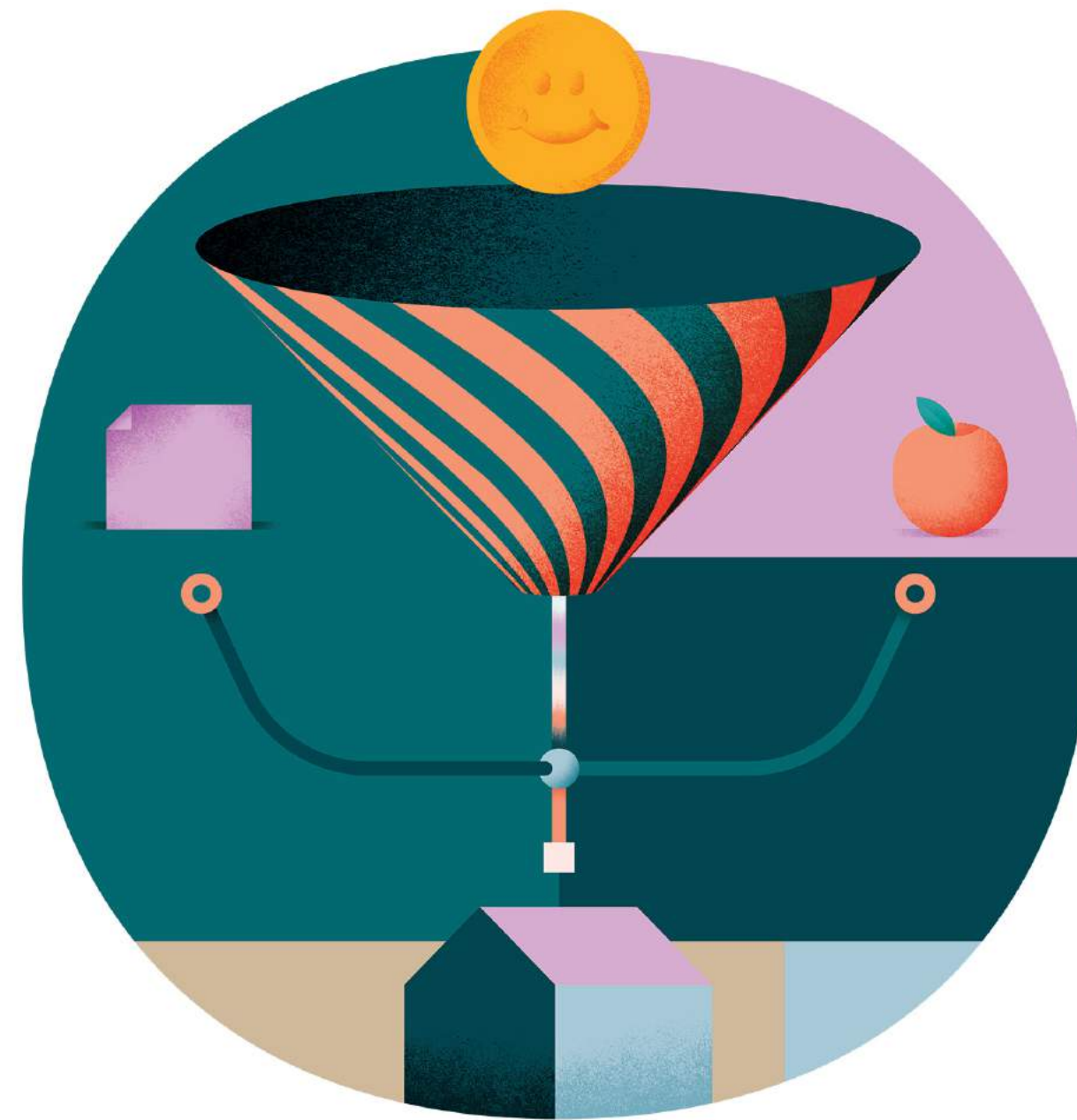
You 3 200 kr /mon Average 3 200 kr /mon

**You have 4 500 kr left of your October salary!**  
 Do you want to put it on one savings account where they can grow over time?

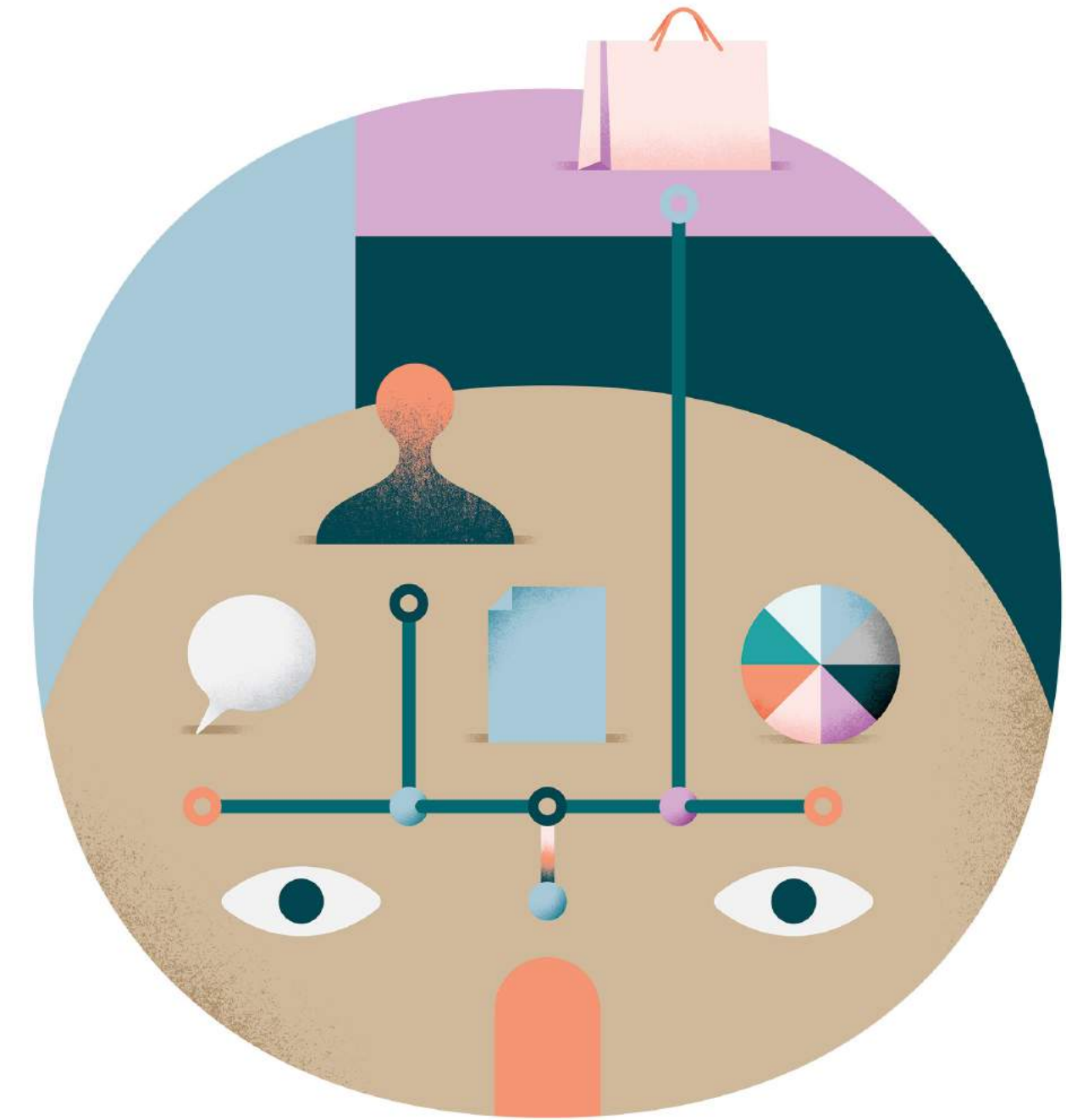
No, not now Sure!



**Account Aggregation**



**Payment Initiation**



**Data-driven Advisory**





Tink Main API Reference

Secure <https://developers.tink.se/#getting-access>

Fredrik

# tink

Search

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## Getting access

Before starting, a set of OAuth2 client credentials must be generated and distributed to the 3rd-party API consumer. They contain the `scope` privileged and the client `secret` that should be submitted to receive the API `access_token`.

### Keep the secret a secret!

The client `secret` should be treated confidentially, and should *never* be distributed in untrusted channels. However, the `client_id` is not secret, and can be bundled in publicly available apps.

### OAuth permission levels

The OAuth2 credentials provide different levels of permissions, which determines what type of information that can be shared with the 3rd-party API consumer. Requests for access to the API can be directed to `hello@tink.se`, with a short description of what you would like to build on top of it. Please also provide an email address so we can create a Tink user for your company account. A non-personal email is preferred. This user will get elevated access to be able to read and update the OAuth2 client credentials.

### OAuth client configuration

We have not yet built a web interface where you can see and configure your OAuth2 client credentials. However, we've made it possible to `GET` and `PUT` the `OAuth2Client` object on the API. Once your Tink user has got elevated access, it will be able to make requests towards: `GET /api/v1/oauth/manager/client` and `PUT /api/v1/oauth/manager/client/{clientId}`. It is only possible to update the `redirectUri` and `iconUrl` fields through the `PUT` request.

In addition to the `PUT` request above, you can configure the following things (send us an email and we'll fix it):

- The set of possible providers which shall be shown to the user
- The type of information we shall refresh for a user (for example, skipping transactions will decrease the load time)

### Examples

#### GET /oauth/manager/client (get the OAuth2 client details)

```
$ curl -v https://www.tink.se/api/v1/oauth/manager/client \
-u "YOUR_EMAIL:YOUR_PASSWORD"

{
  "clients" : [ {
    "name" : "Account Checker",
    "id" : "...",
    "redirectUri" : [ "urn:ietf:wg:oauth:2.0:oob", "http://localhost:8881/", "https://link"
    "scope" : "accounts:read,user:read",
    "secret" : "...",
    "url" : "https://www.tink.se",
    "iconUrl" : "..."
  } ]
}
```

#### PUT /oauth/manager/client/{YOUR\_CLIENT\_ID} (update the OAuth2 client details)

```
$ curl -v -X PUT https://www.tink.se/api/v1/oauth/manager/client/YOUR_CLIENT_ID \
-d '{"name" : "Account Checker", "id" : "YOUR_CLIENT_ID", "redirectUri" : ["urn:ietf:wg:oa"
-u "YOUR_EMAIL:YOUR_PASSWORD" \
-H 'Content-Type: application/json'

{
  "name" : "Account Checker",
  "id" : "...",
  "redirectUri" : [ "urn:ietf:wg:oauth:2.0:oob", "http://localhost:8881/", "https://link-e"
  "scope" : "accounts:read,user:read",
  "secret" : "...",
  "url" : "https://www.tink.se"
```

4

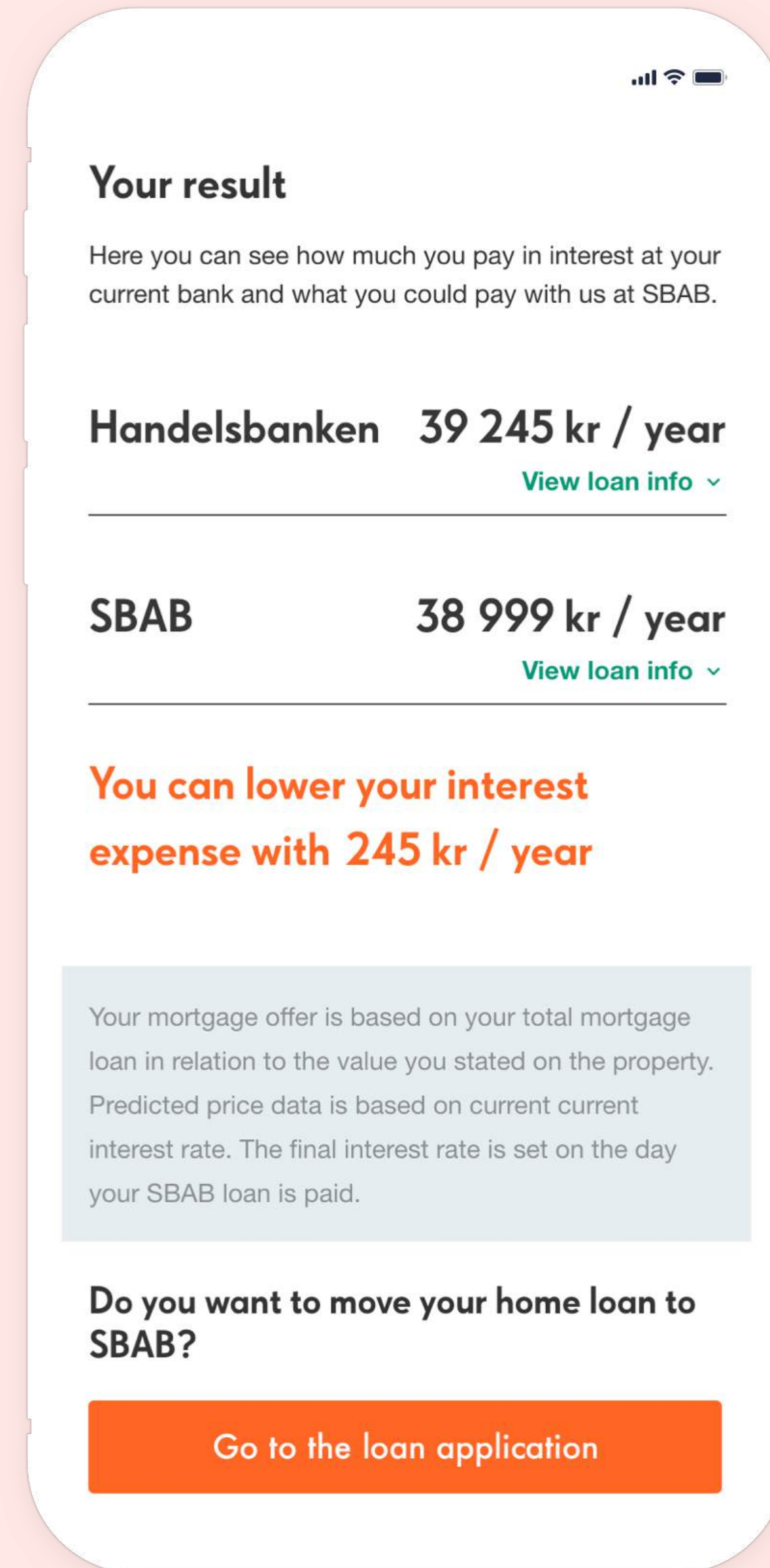
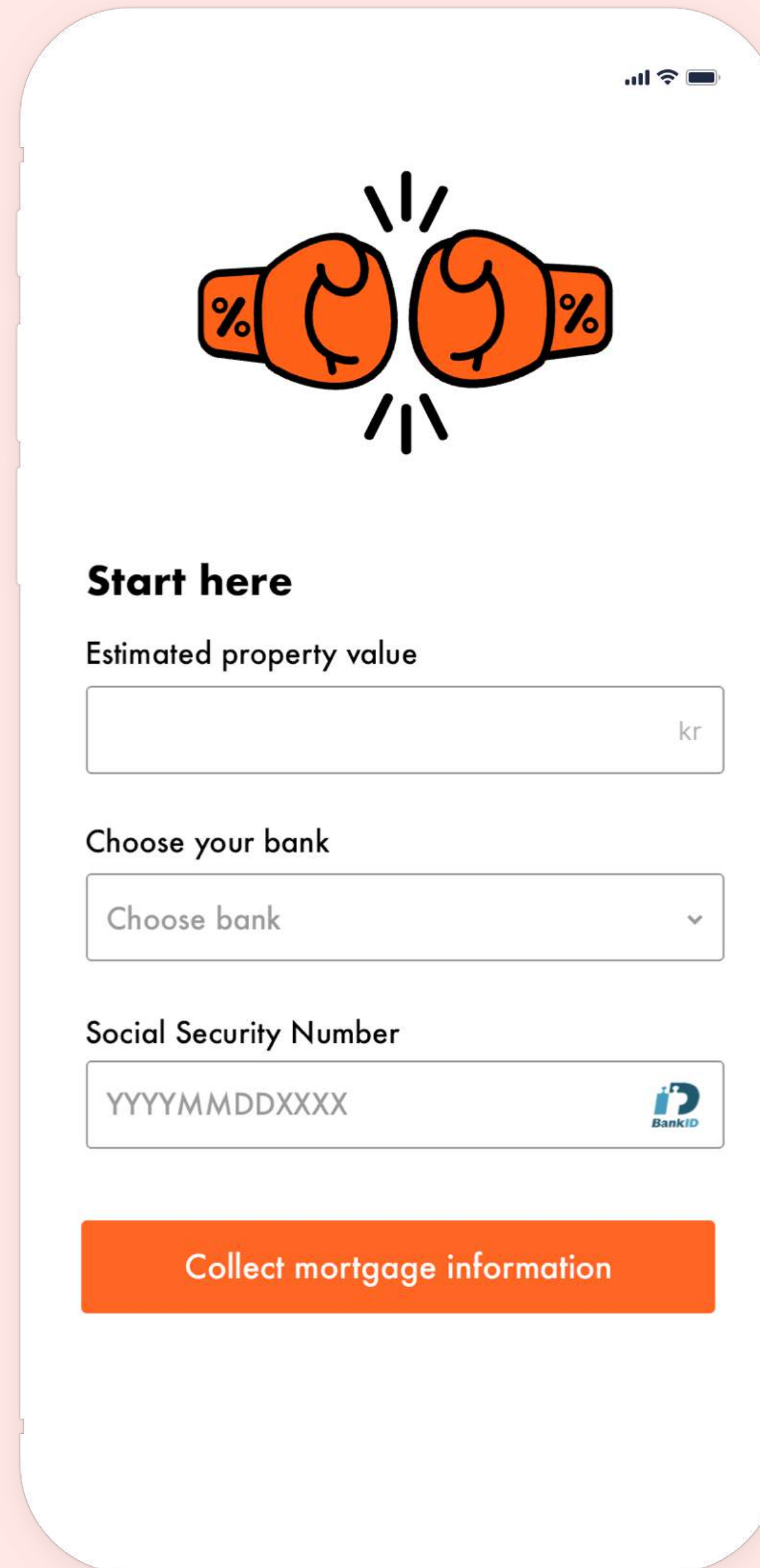
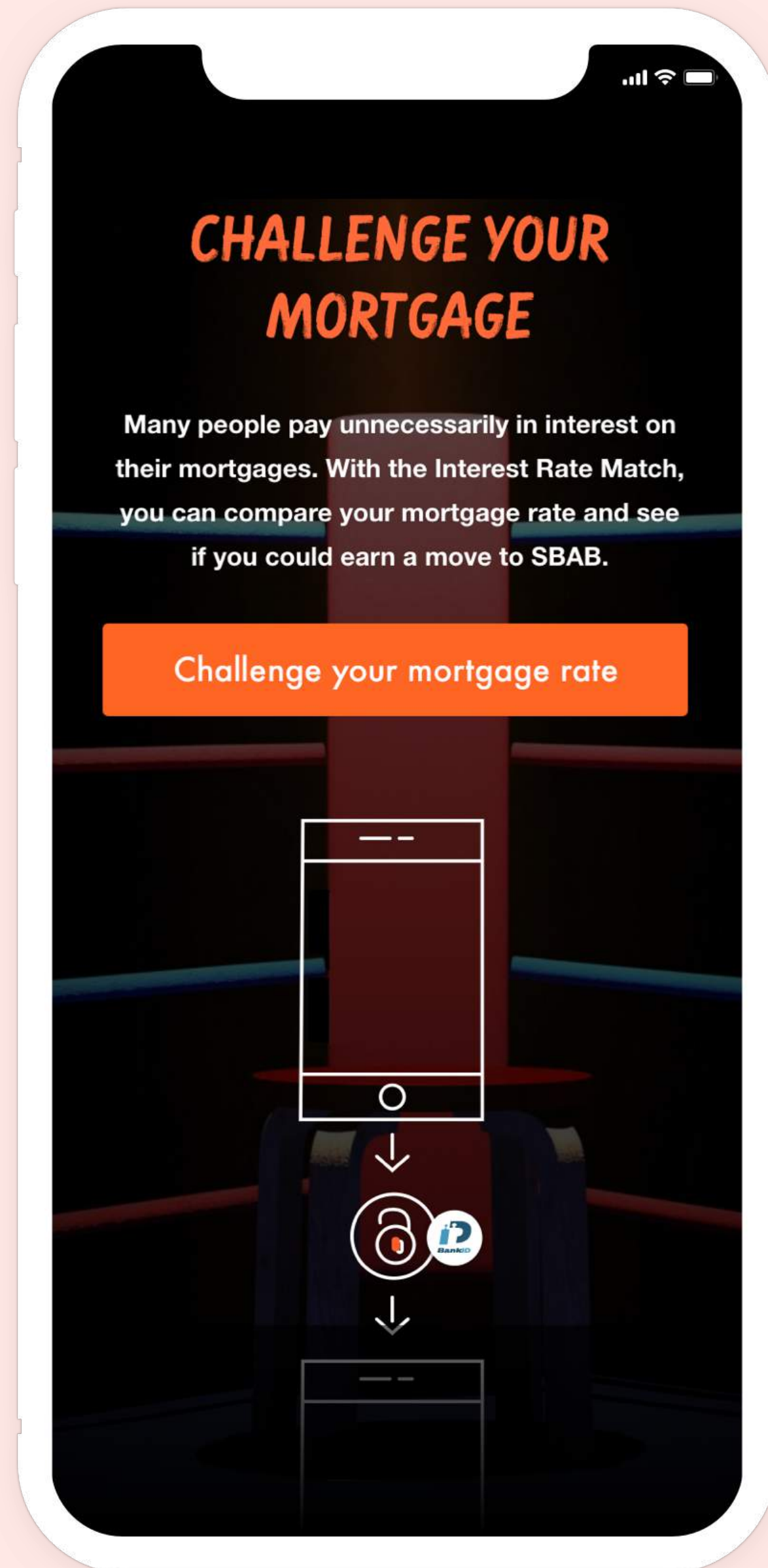
**countries**

3000

**banks**

1

**API**



# Thank you!

