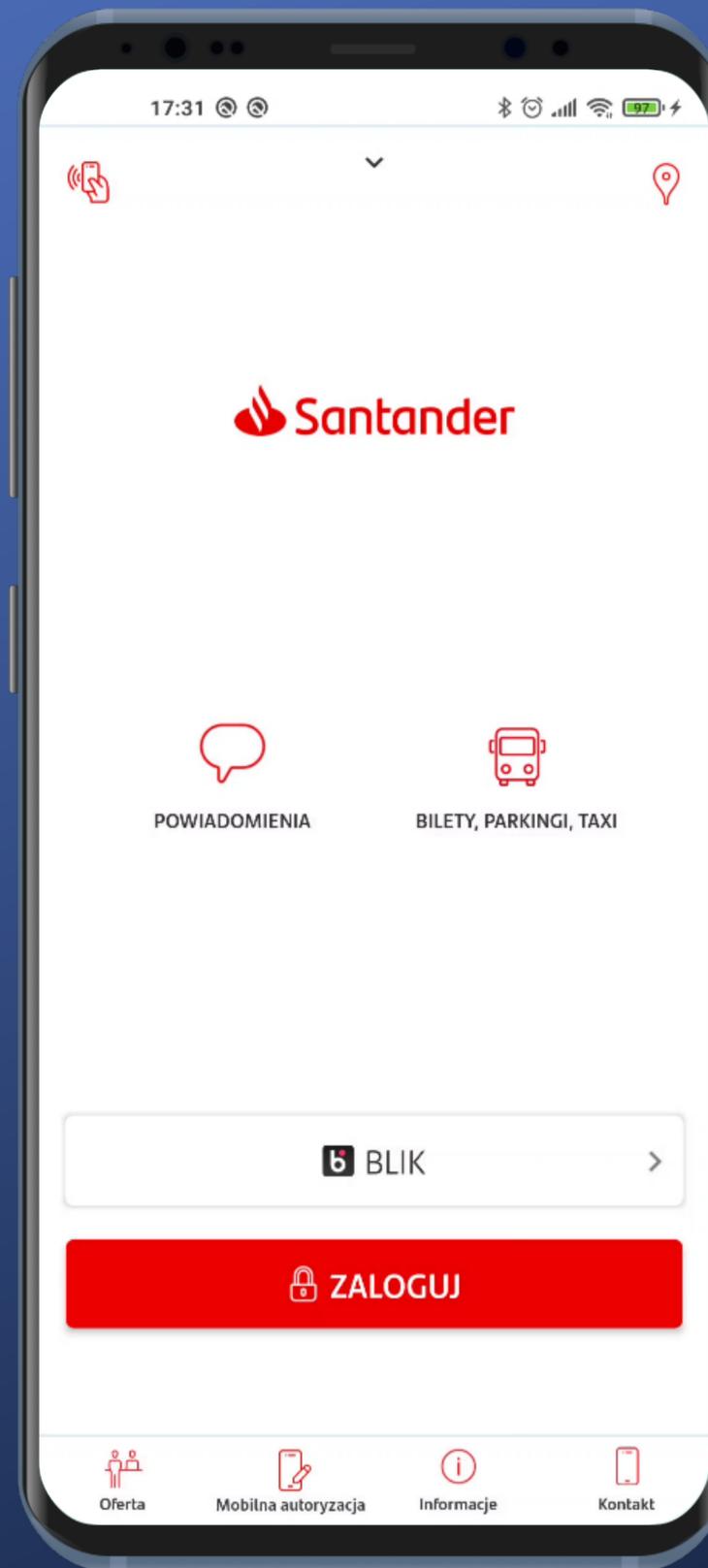


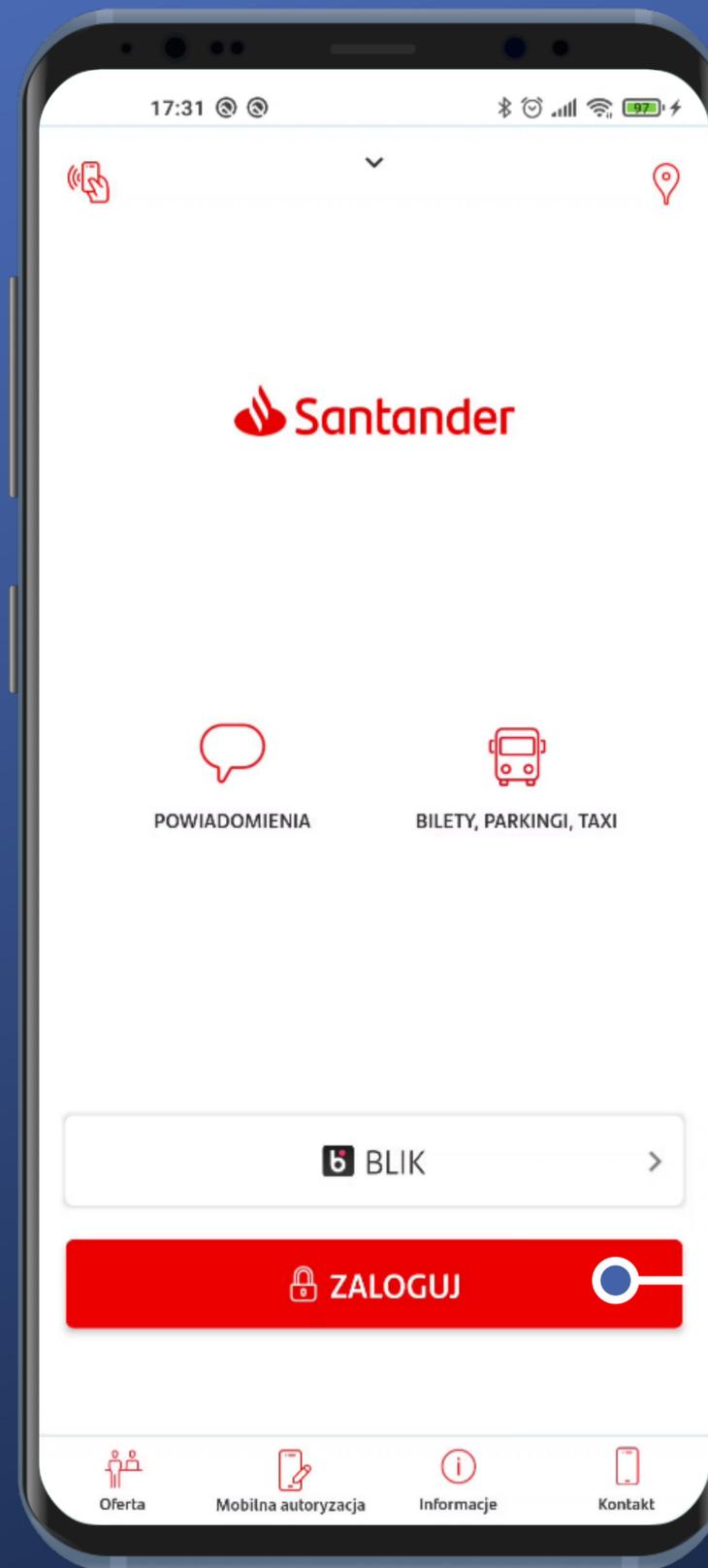
Santander – login area analysis

Log in





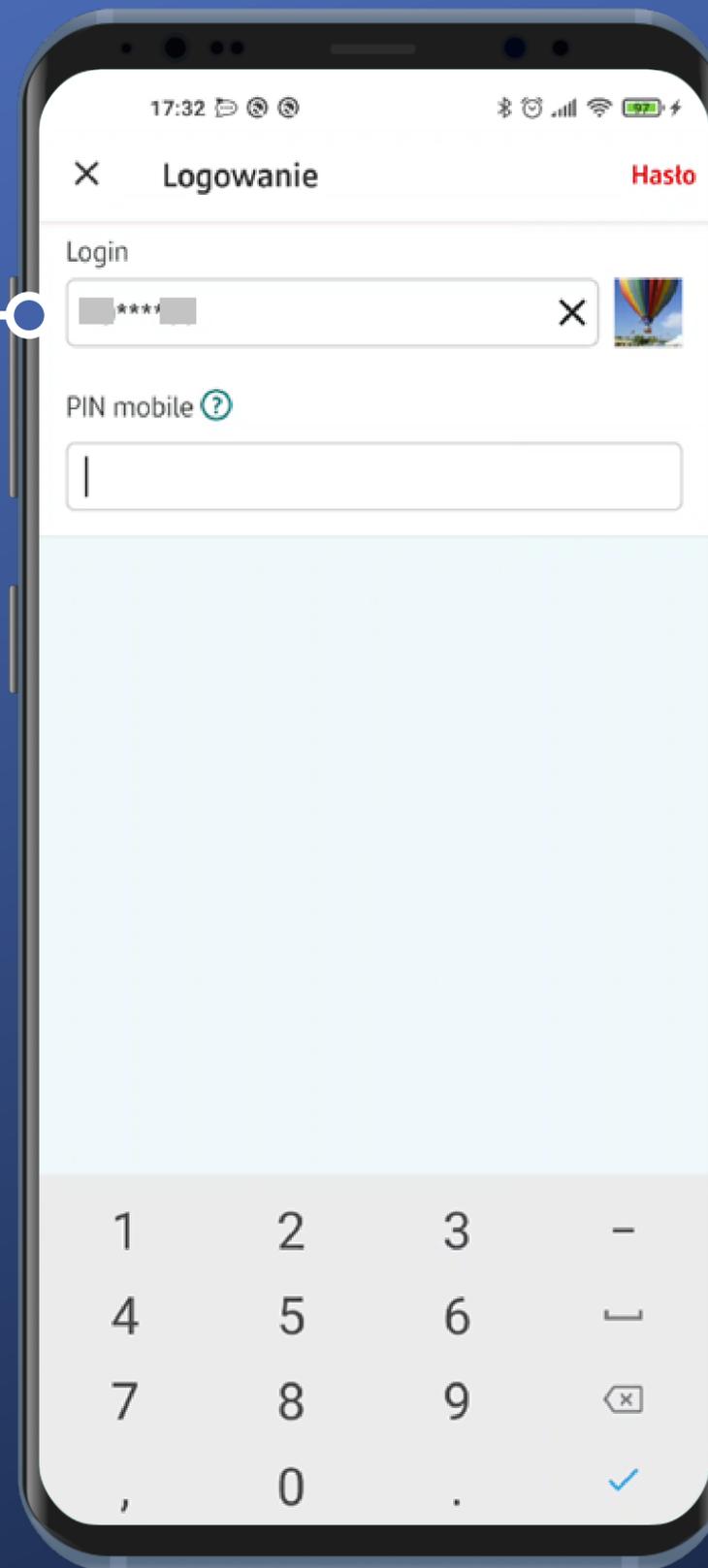
It is not possible to log in immediately. Pity.



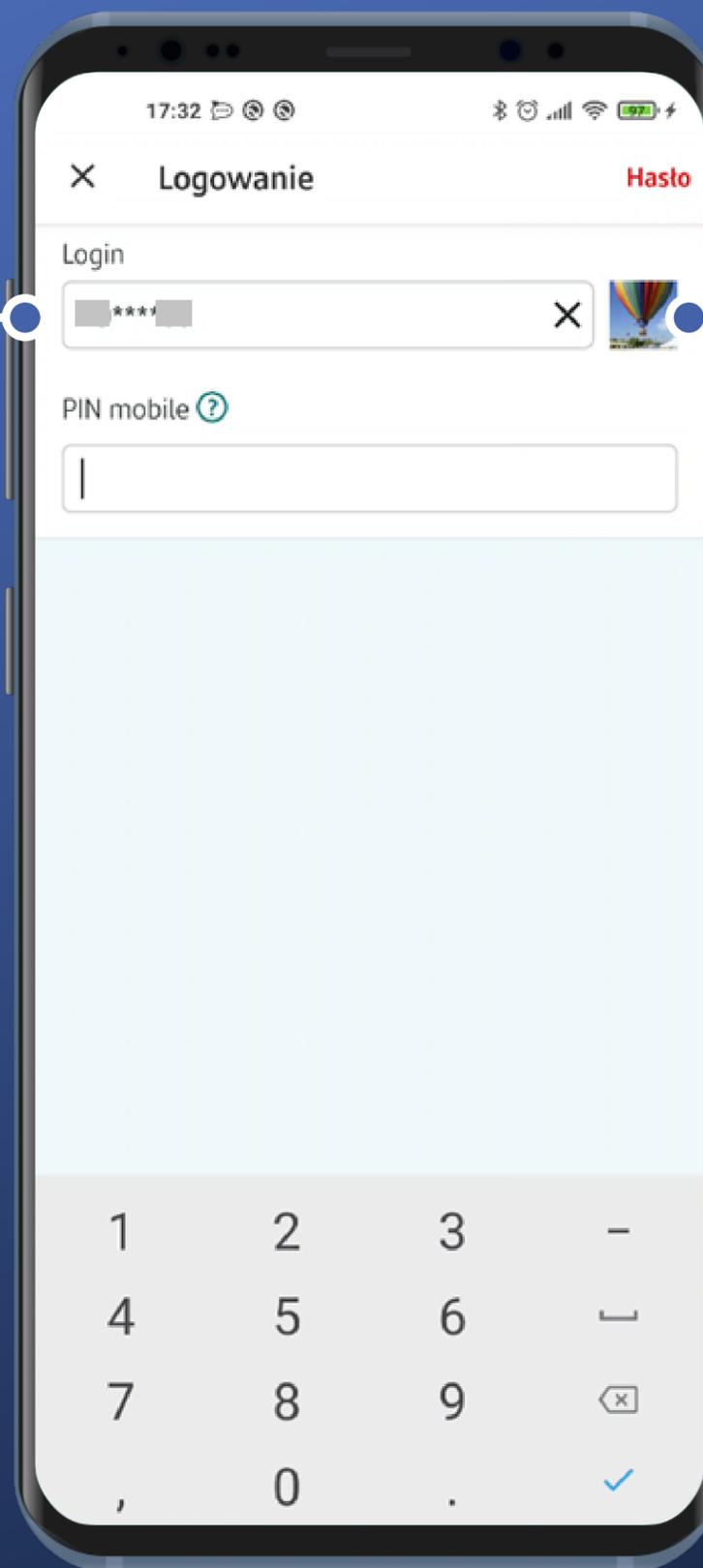
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There is a well visible Login button though. Let's tap it!

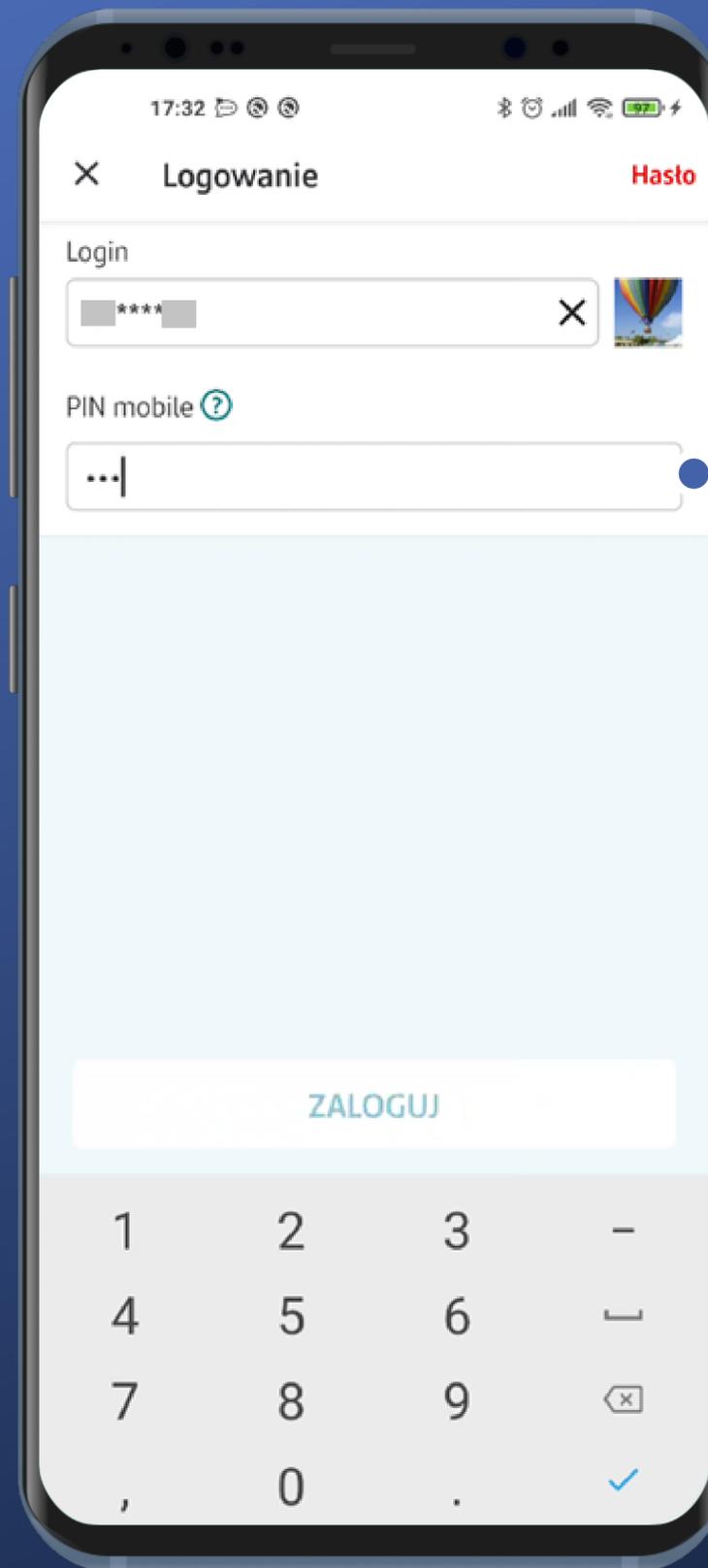
In the beginning we can see our masked login identifier. Probably not necessary as part of a personalized application.



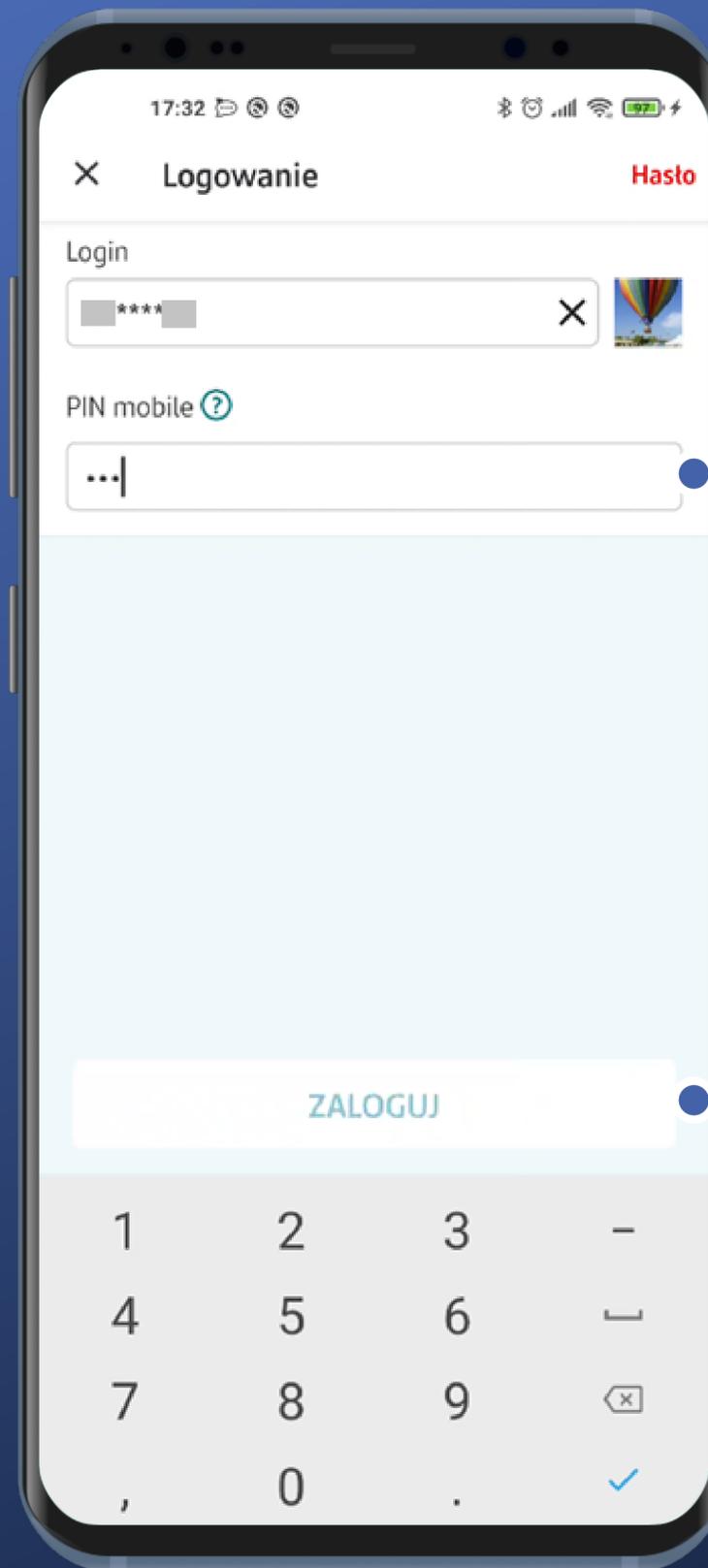
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It's quite the same for the anti-phishing picture. Its usage within mobile applications is limited, but in some attack scenarios it can provide some sort of protection.

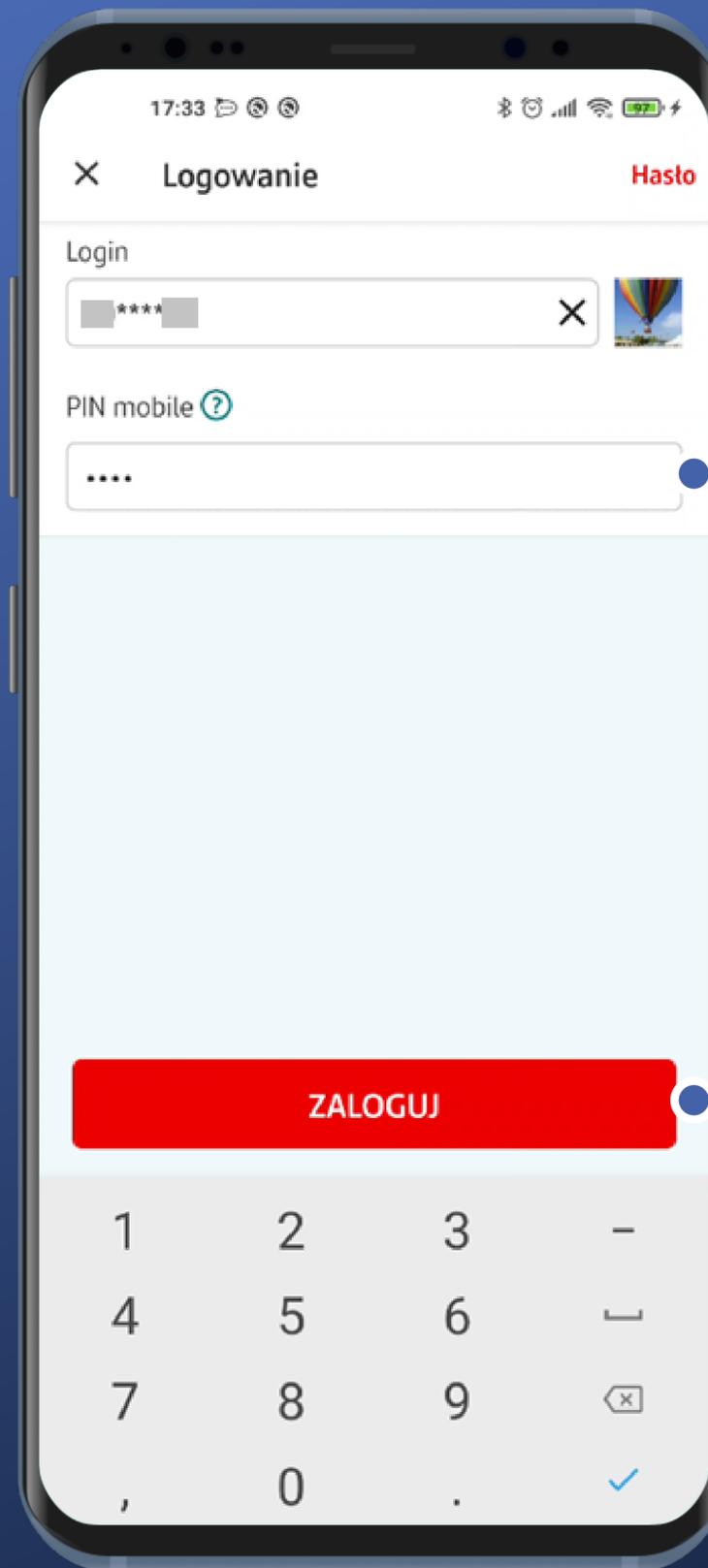


PIN field is nothing unusual. In Santander, PIN consists of 4 up to 8 characters, and that's how many you can enter.



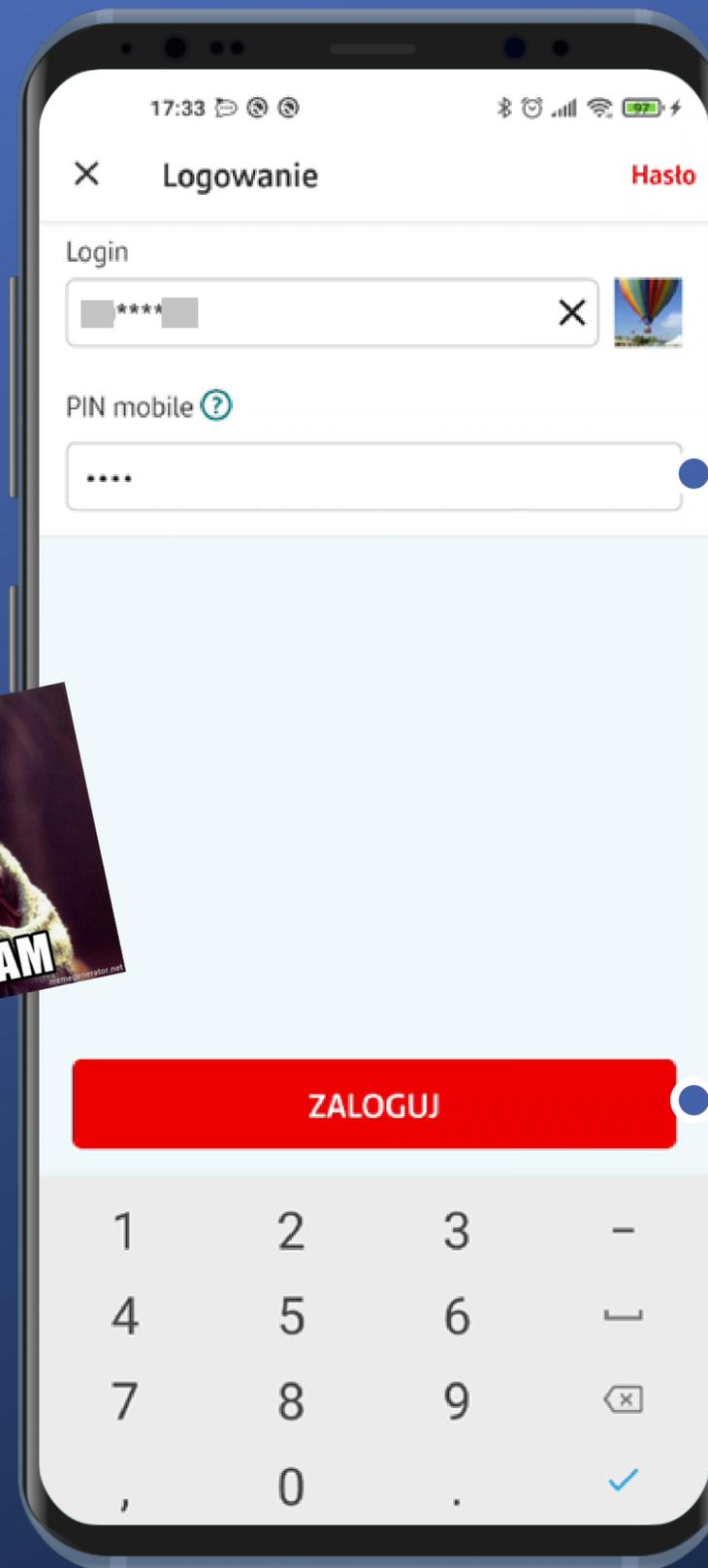
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Login button is inactive until the minimal number of characters (which is 4) is entered.



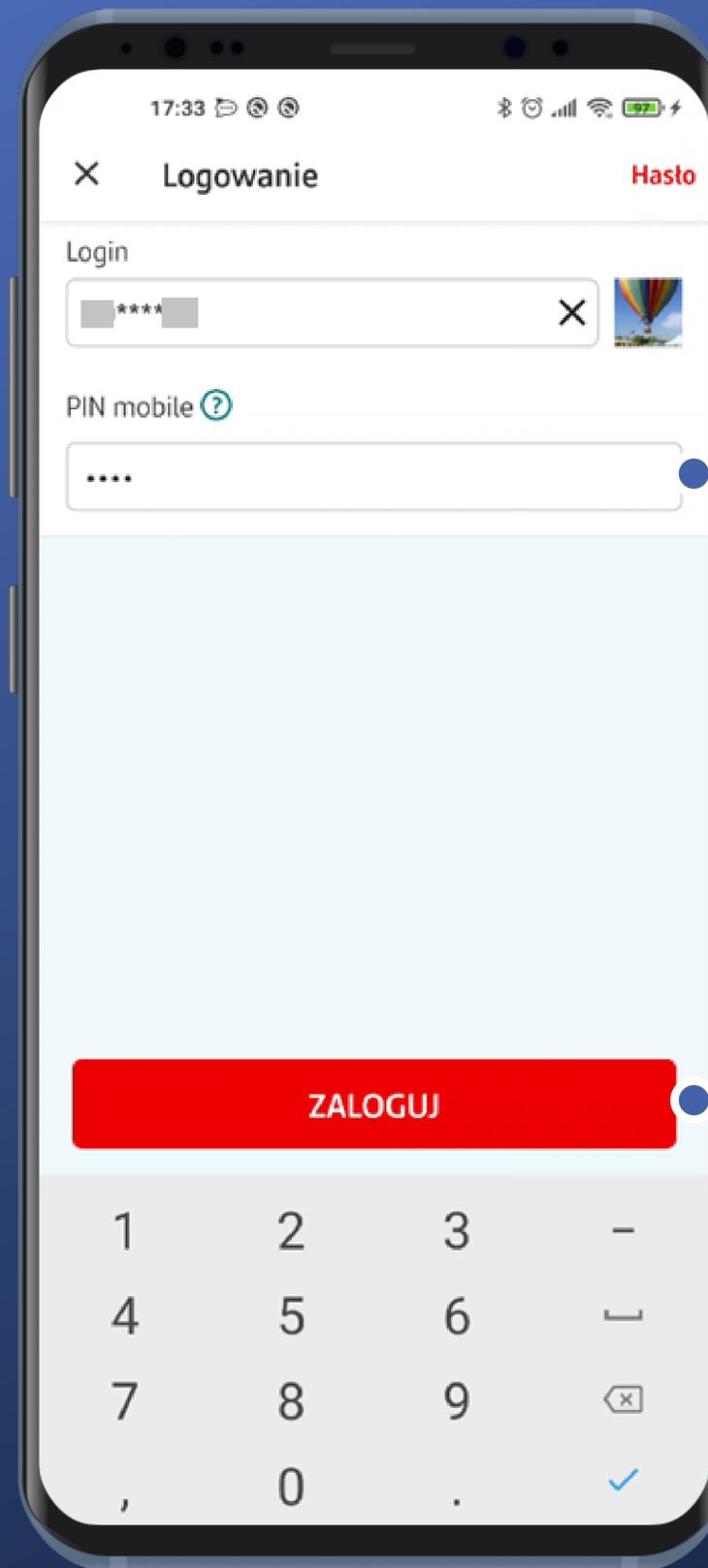
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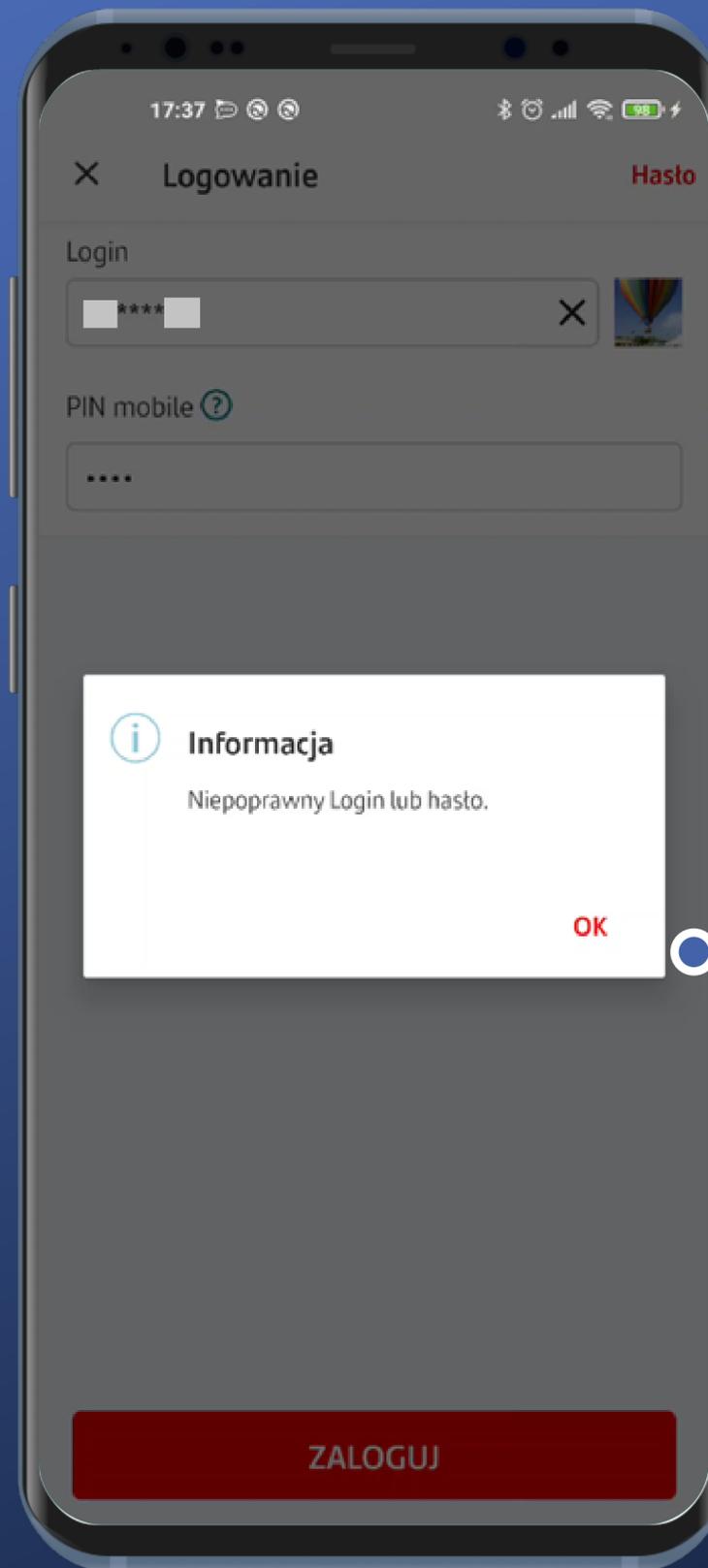
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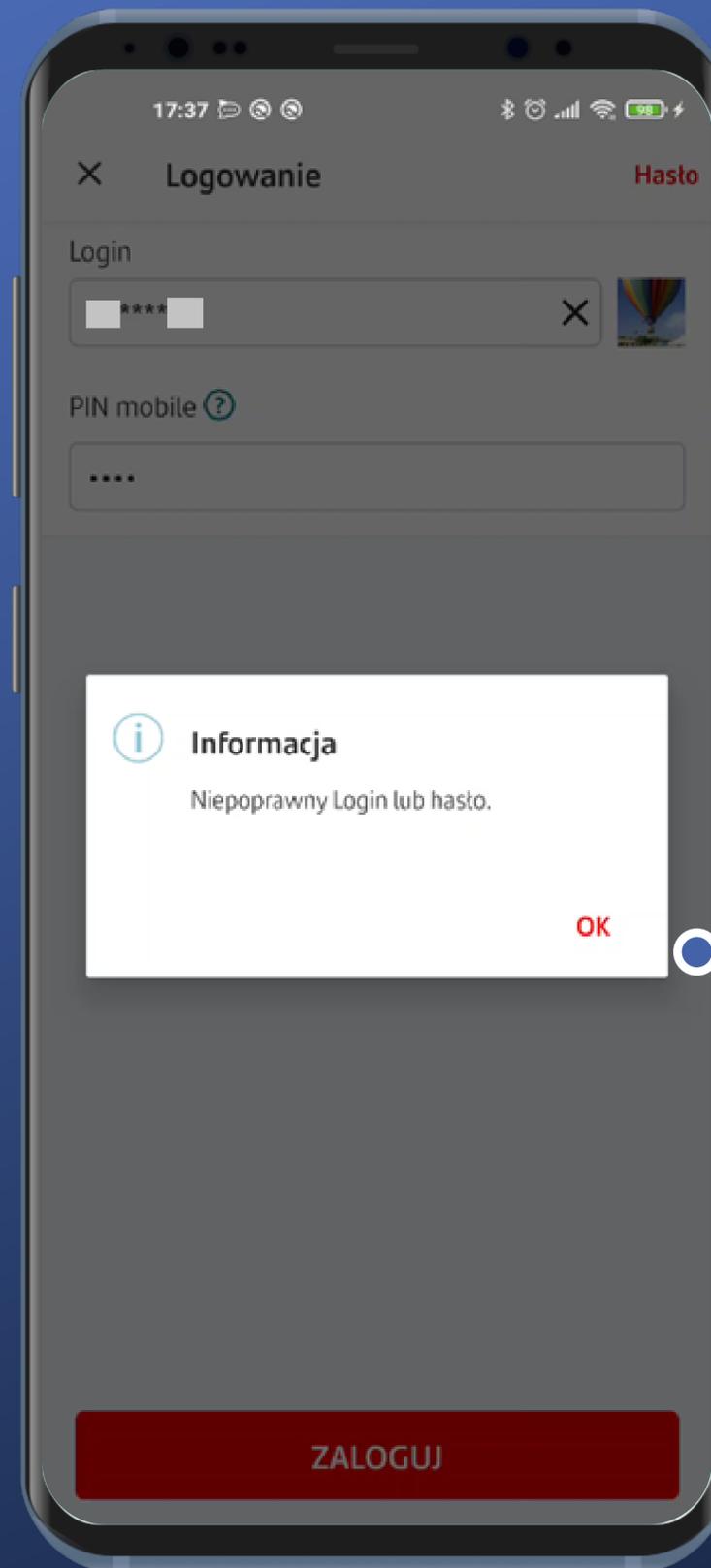
Unfortunately there is the system keyboard. It's a less safe solution, because of the possibility of capturing entered data. It contains redundant characters like comma, period or underline. They don't work anyway.

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Login button is inactive until the minimal number of characters (which is 4) is entered.



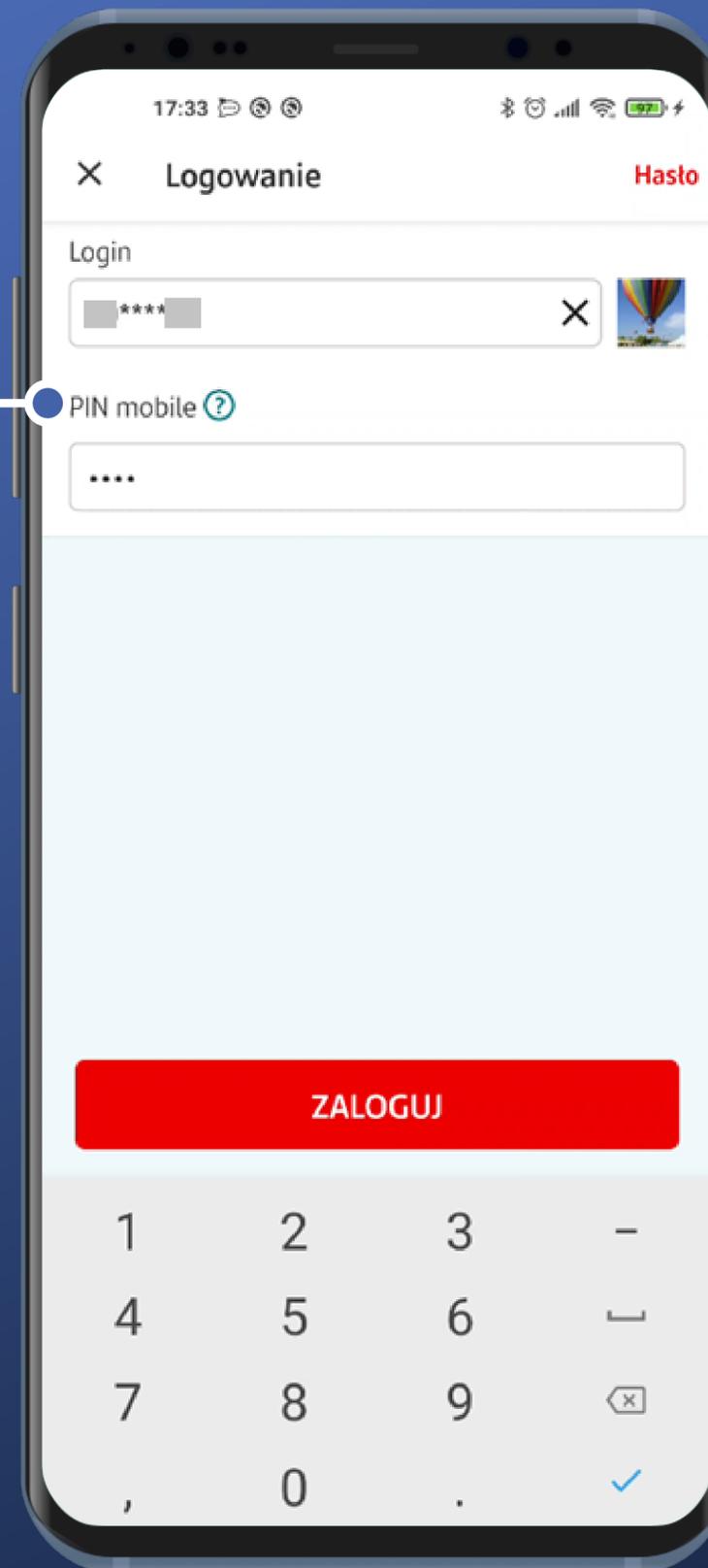
Entering wrong PIN causes showing informational popup. There is no counter of how many trials are left until the access is blocked, though. That's just too bad...



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There is also no information of what to do if one cannot recall their PIN.

But there is an infotip, which can be helpful in case of problems with logging in. It's not a perfect solution, though.



The image shows a smartphone screen with the login interface. At the top, the status bar shows the time 17:33 and various icons. The app header is 'Logowanie' with a close button 'X' on the left and the name 'Hasto' on the right. Below the header, there is a 'Login' section with a text input field containing masked characters '****' and a clear button 'X'. To the right of this field is a small image of a hot air balloon. Below the login field is a 'PIN mobile' label with a help icon (a question mark in a circle). Underneath is another text input field containing masked characters '****'. At the bottom of the screen is a large red button labeled 'ZALOGUJ'. Below the button is a numeric keypad with digits 1-9, 0, and a decimal point, along with navigation and confirmation icons.

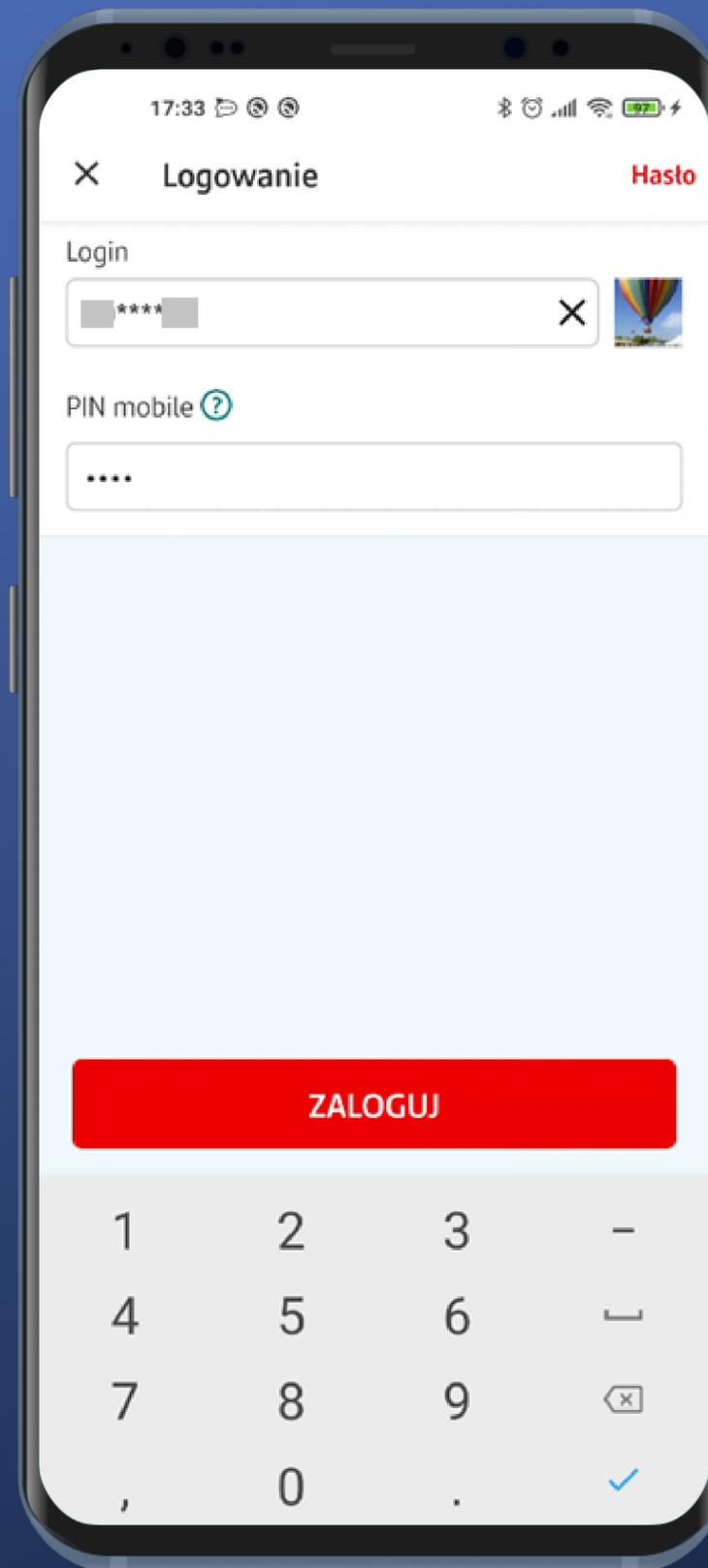
Pomoc

PIN mobile:

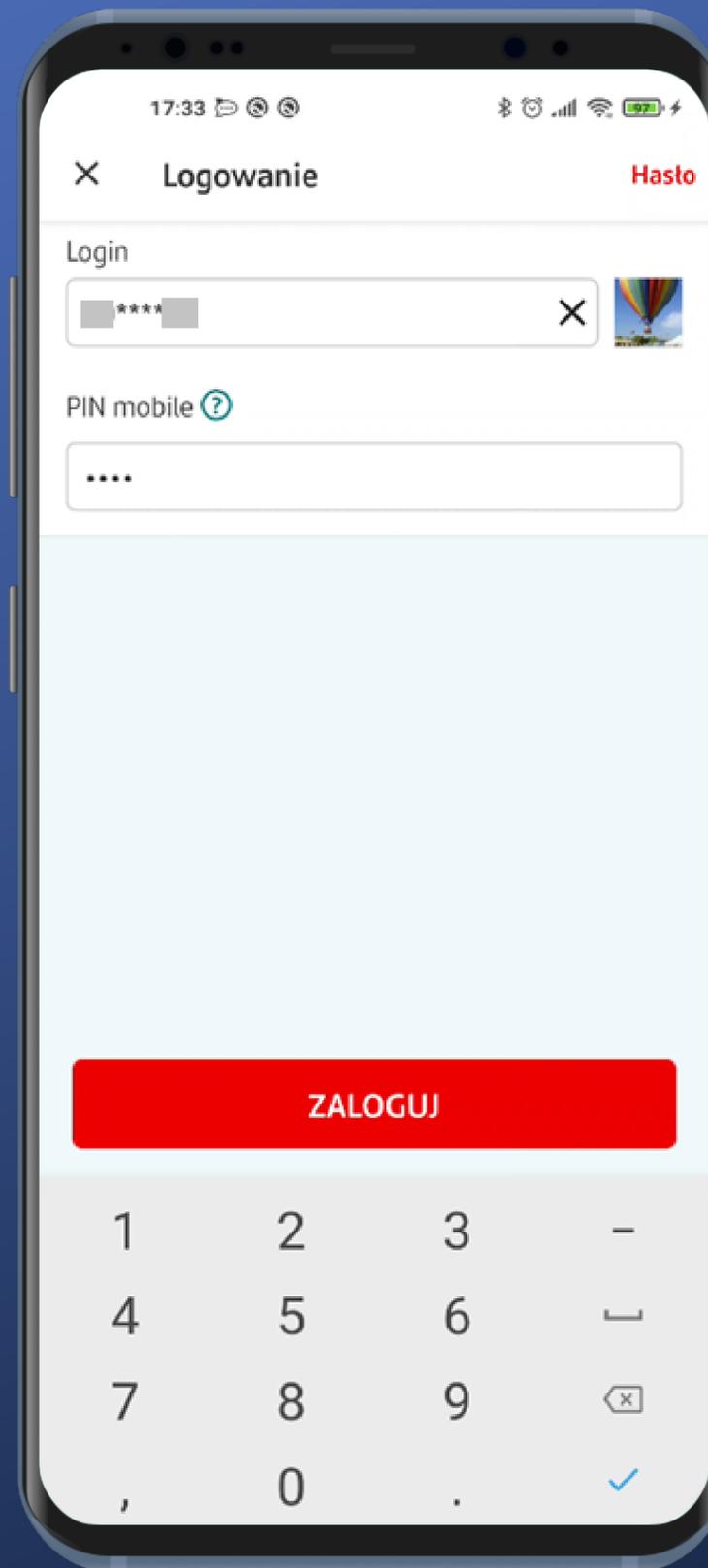
PIN mobile to krótkie hasło (od 4 do 8 znaków), za pomocą którego logujesz się do aplikacji.

Potrzebujesz pomocy przy logowaniu?

Skontaktuj się z nami telefonicznie: 1 9999 (opłata za połączenie zgodna z taryfą danego operatora) lub odwiedź dowolną placówkę Santander Bank Polska.

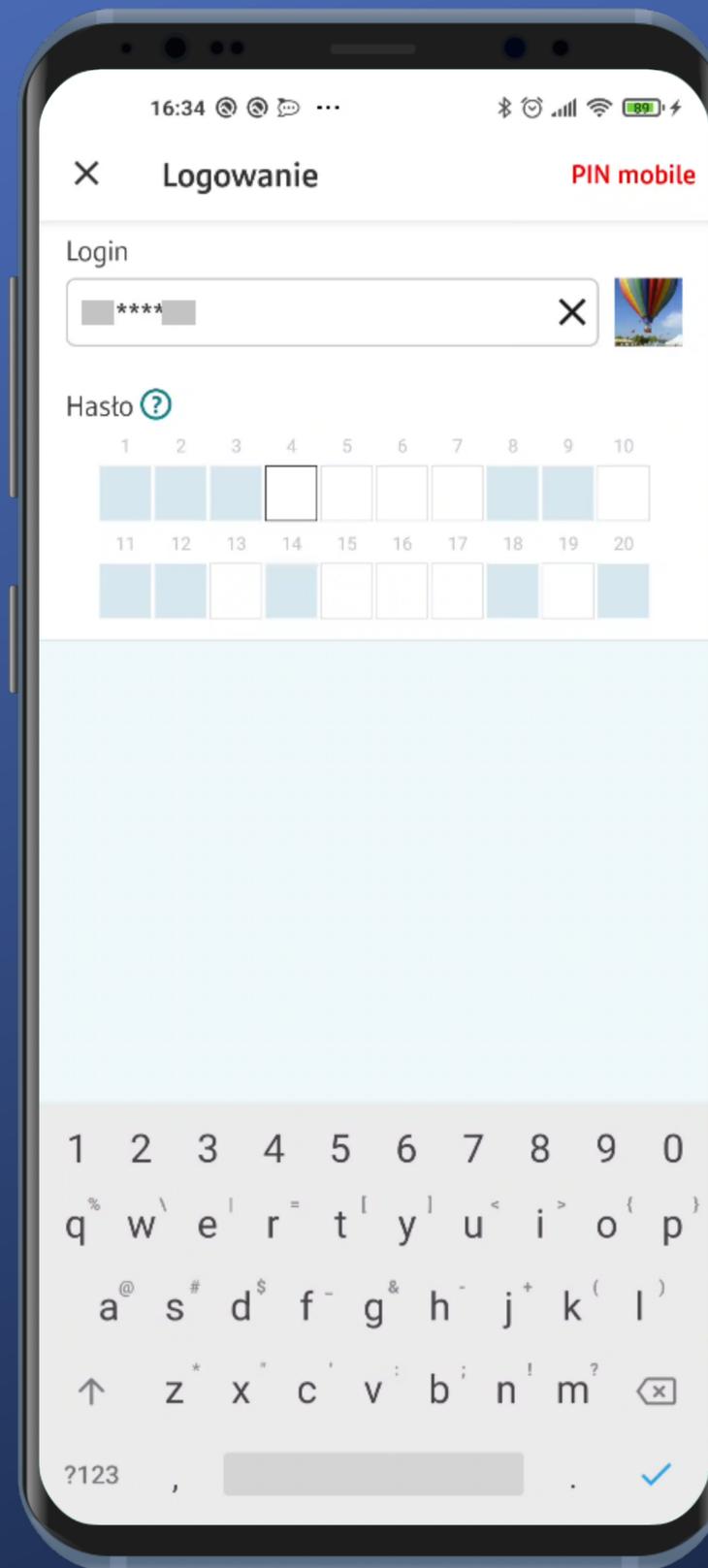


We can tap the Password option. It's not quite clear what's the purpose of it. Let's find out!



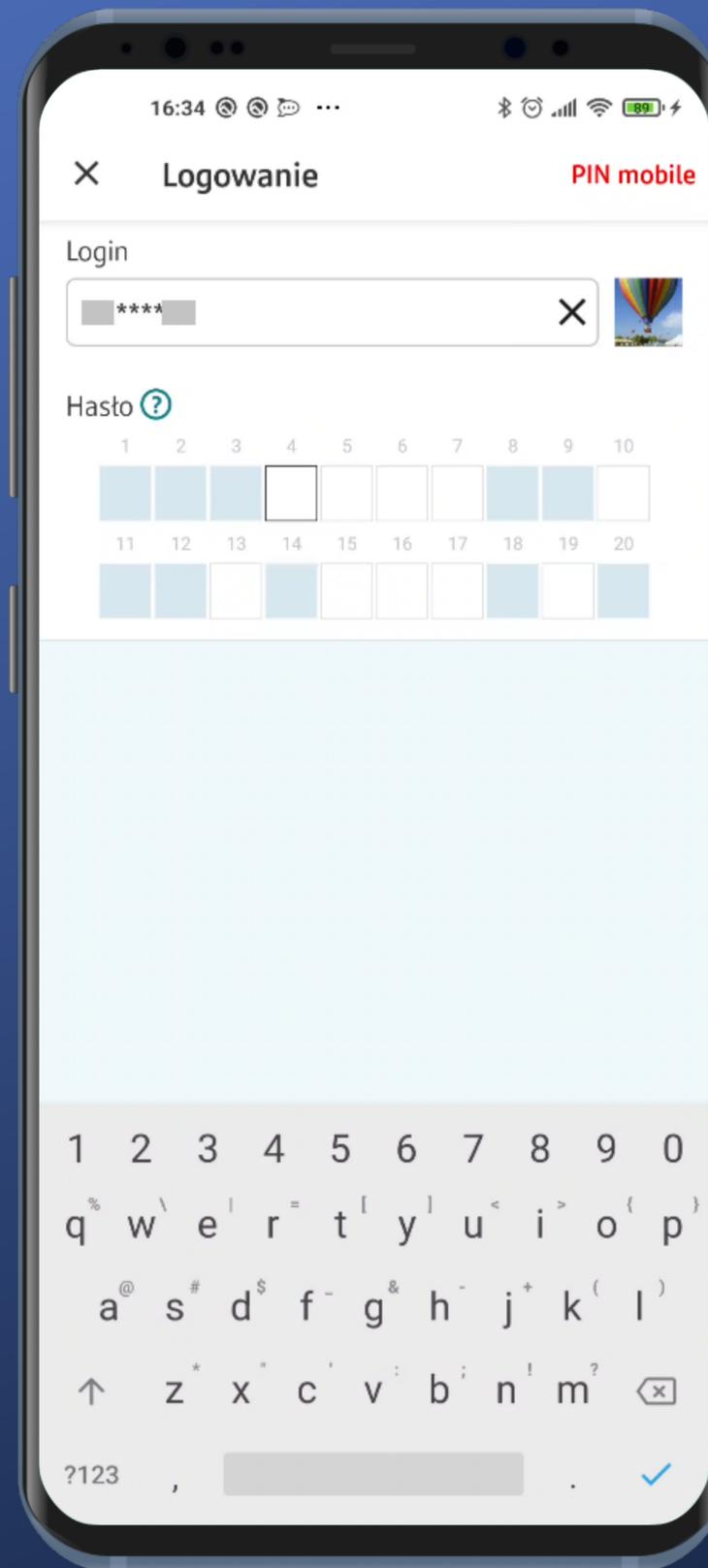
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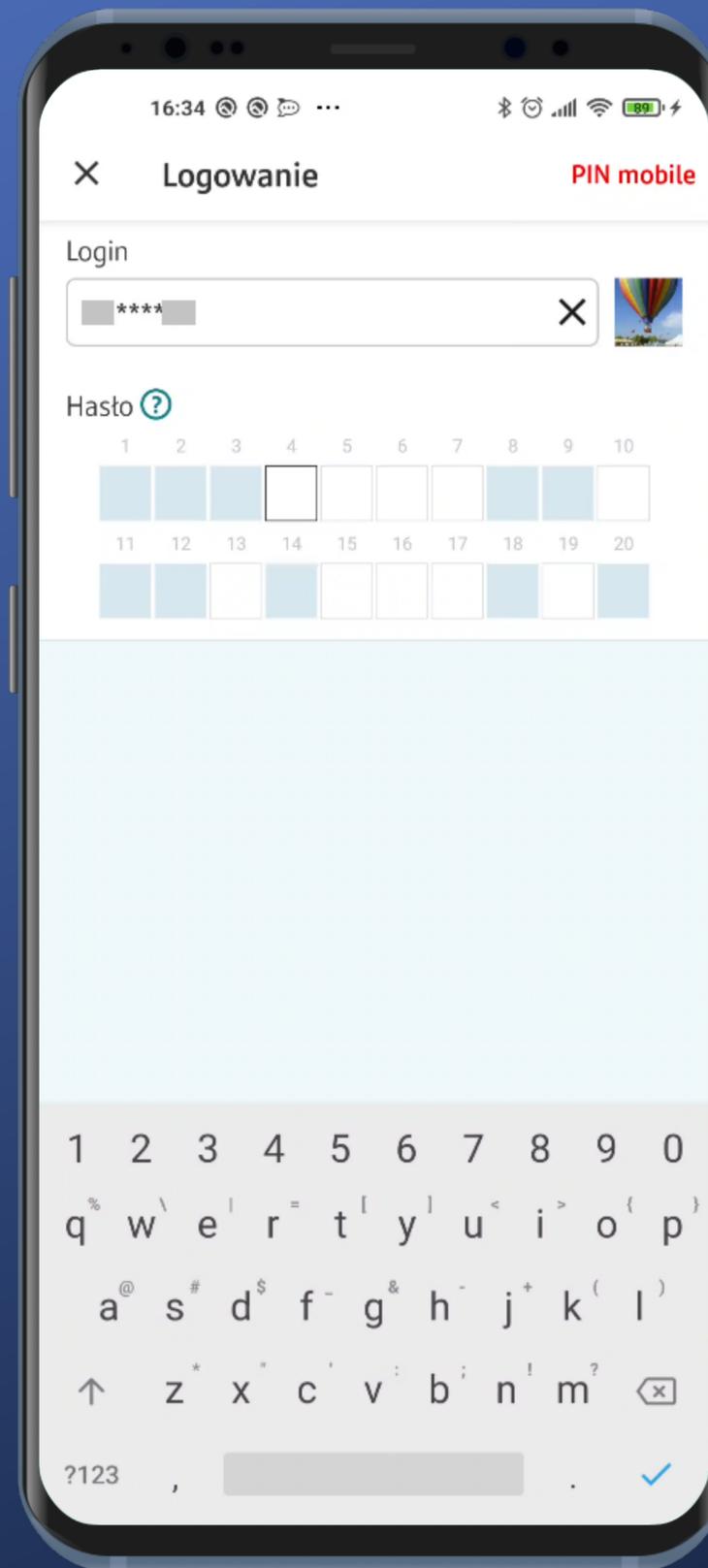
We end up on the masked password screen, which is also used in Bank's WWW transaction service. This kind of password is not the most comfortable one to enter on a mobile device.

What's interesting, probably due to security reasons, the number of character fields is too high – it exceeds the length of the password. It's not an intuitive solution.



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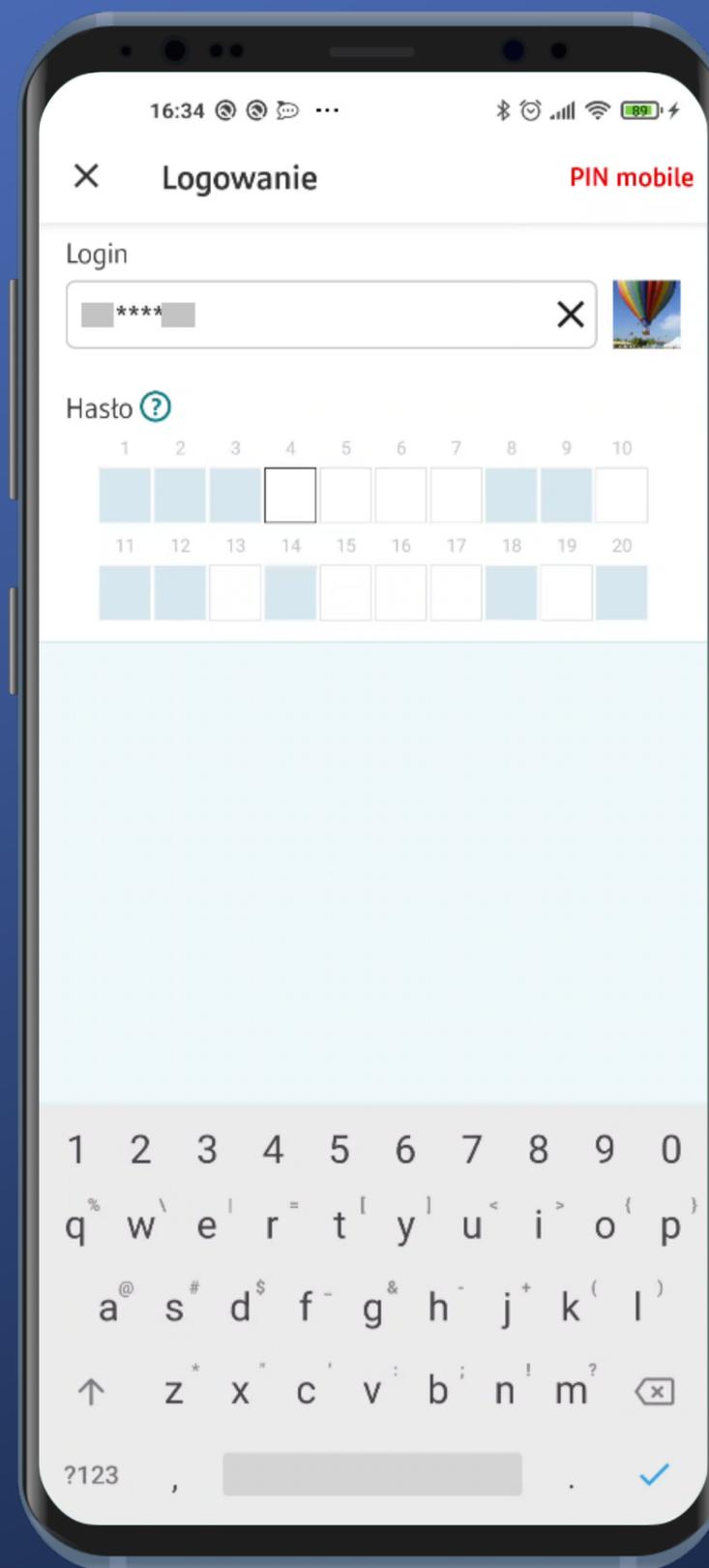
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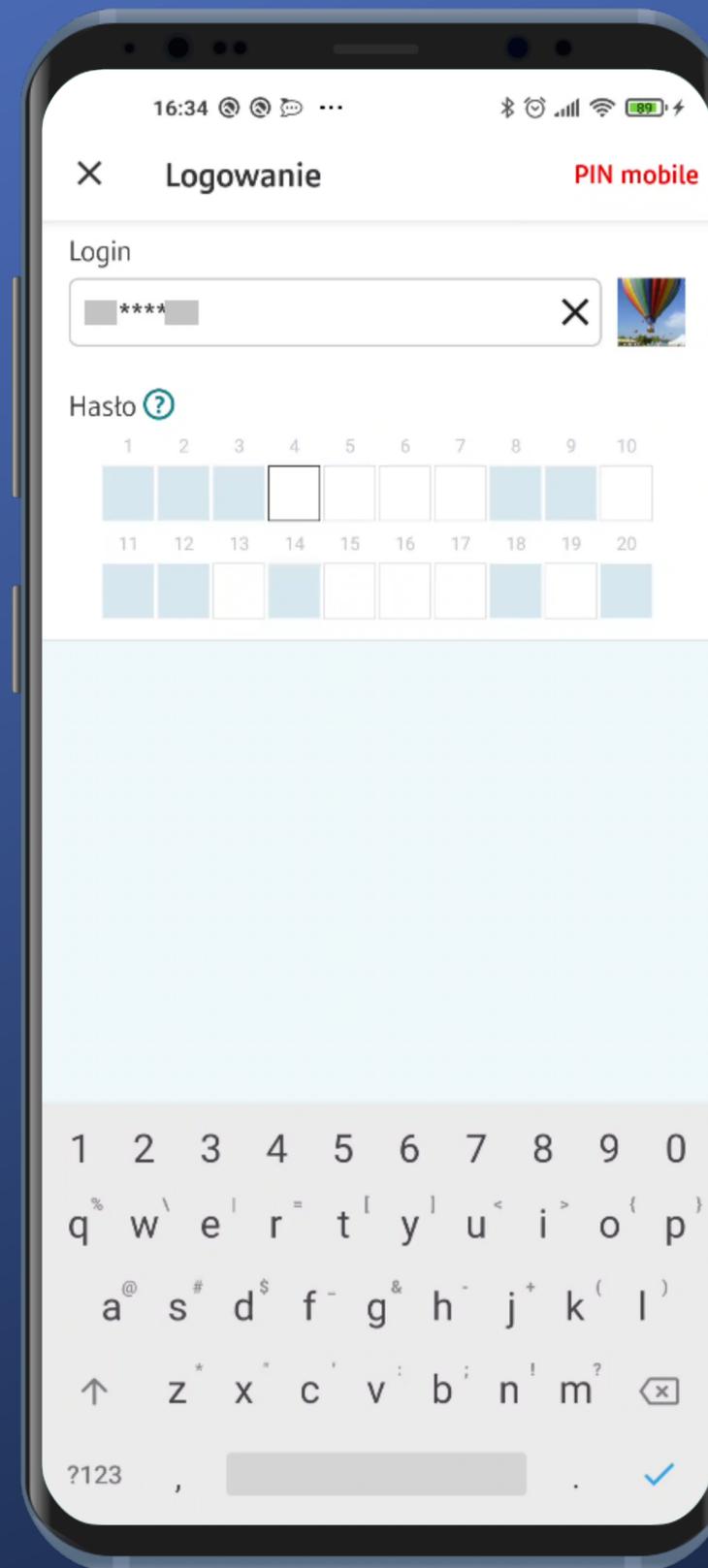
Unfortunately the system keyboard is also present here. This is not the best approach from a security perspective.

We can go back to PIN login.

Login button appears after entering at least one character.

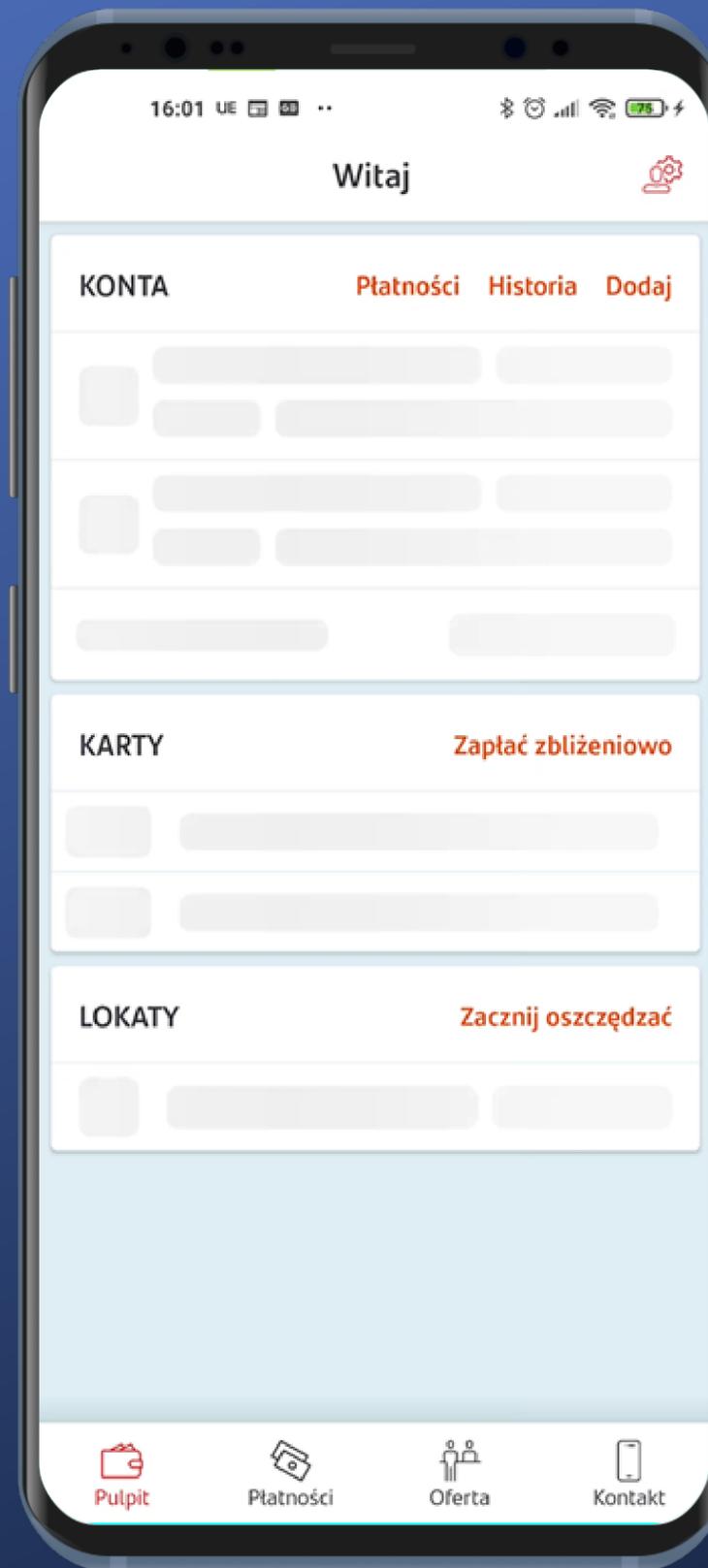


So why don't we log in?

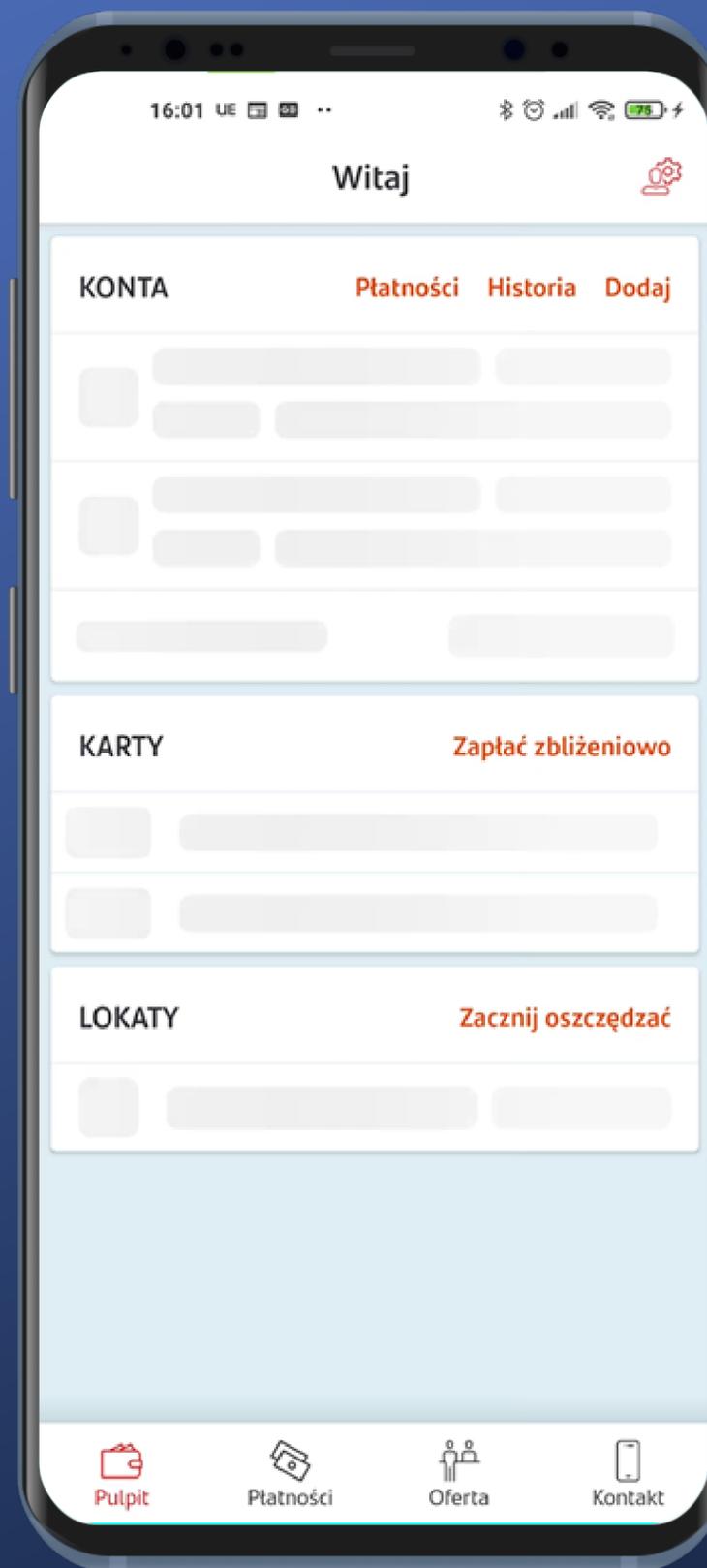


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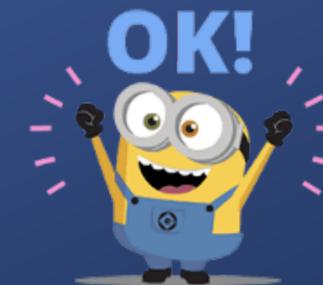
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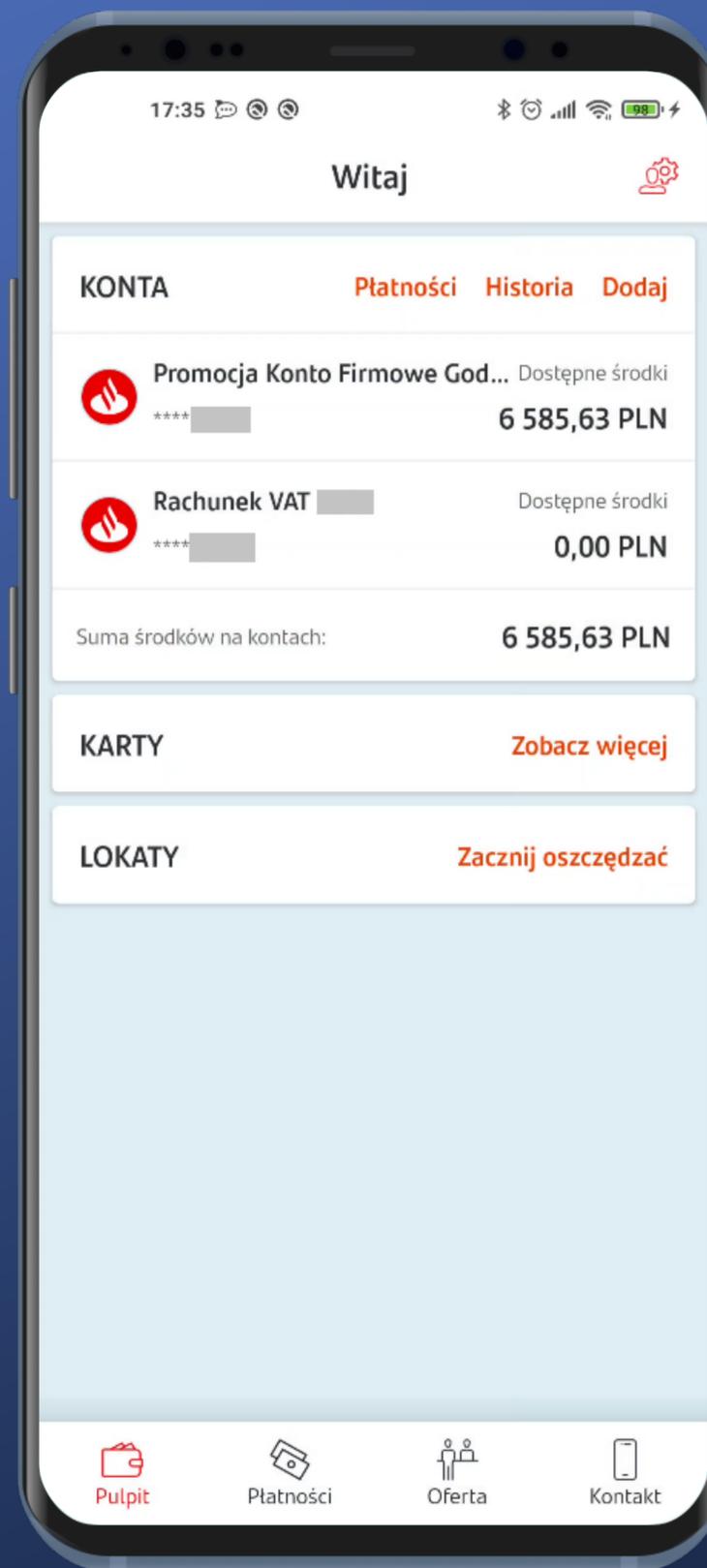


Right after logging in, the skeleton image style dashboard is displayed. This is a neat approach.

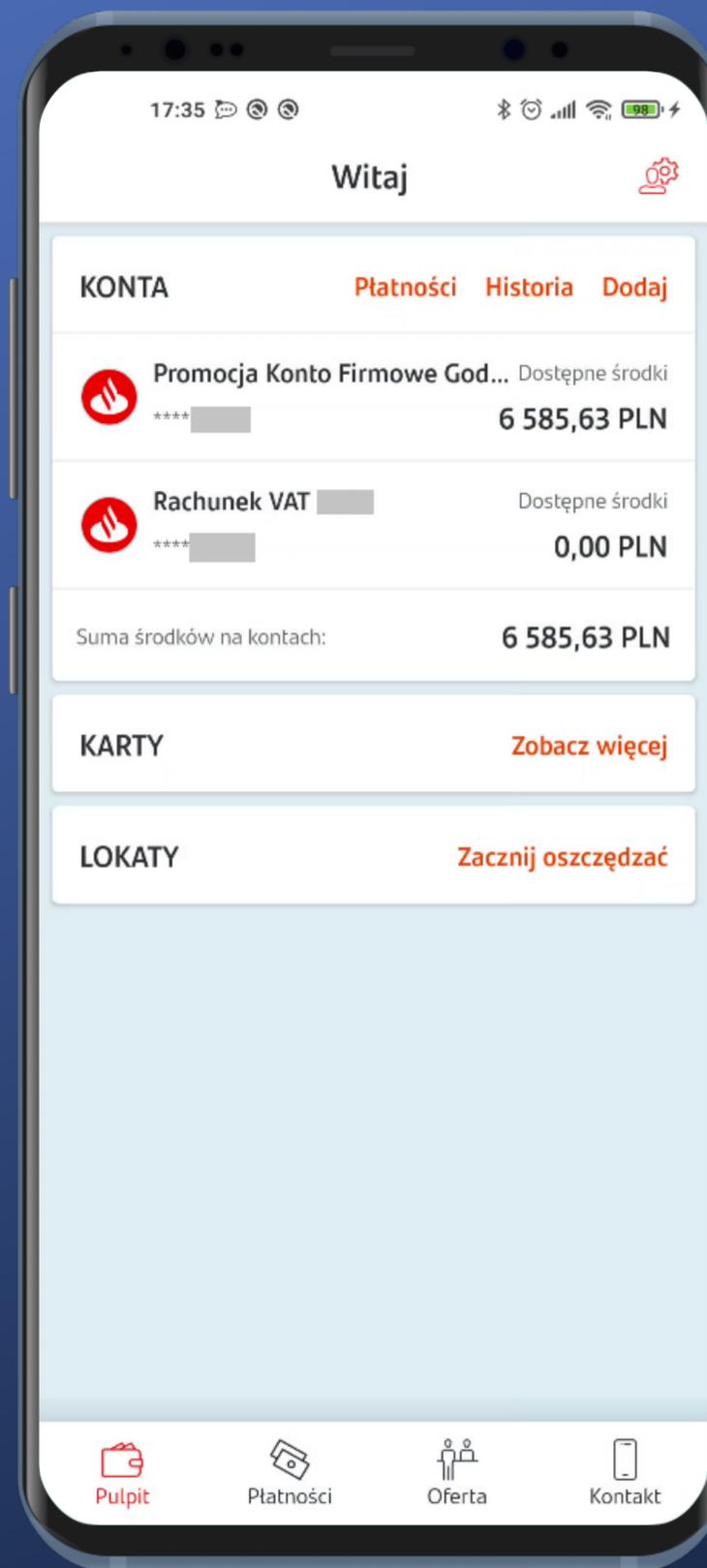


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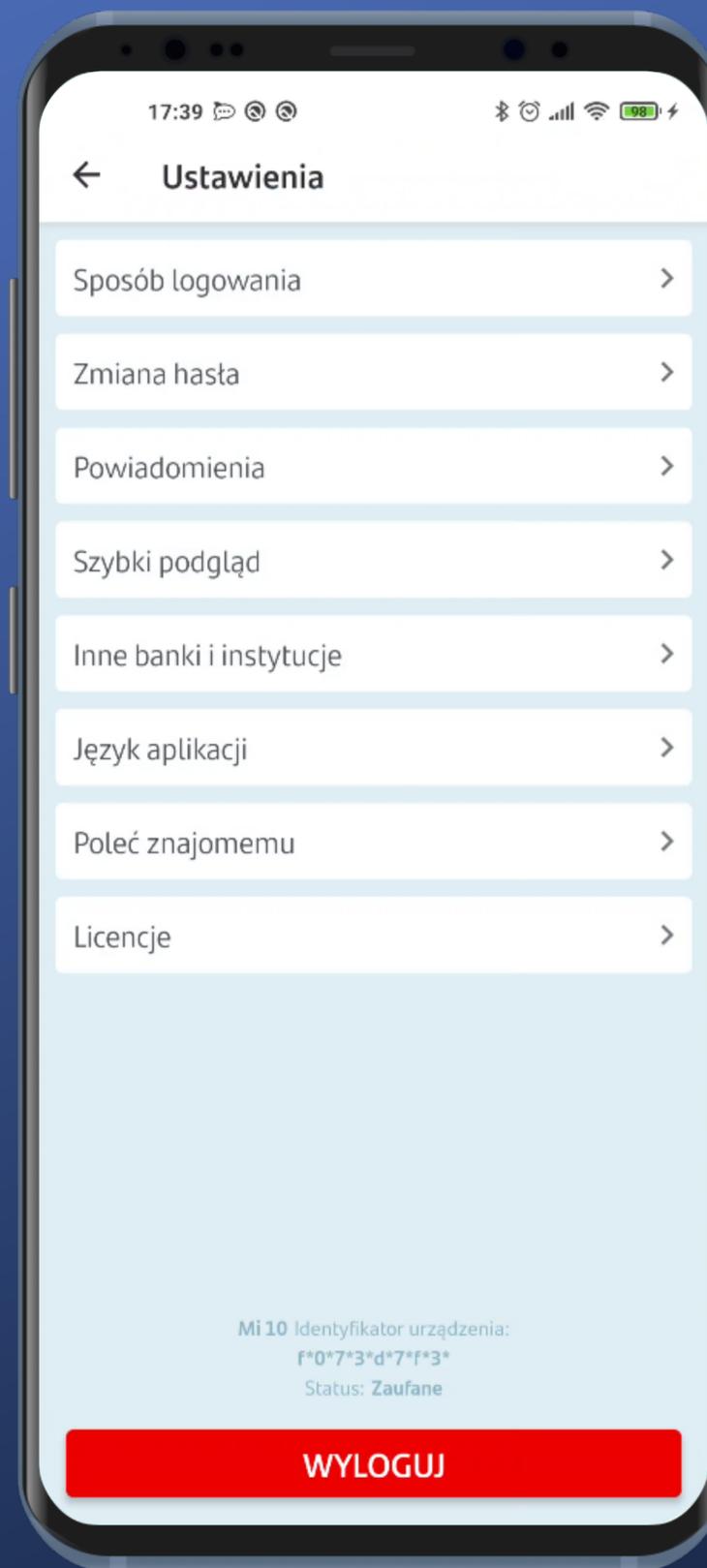


And here we go – we're logged in.

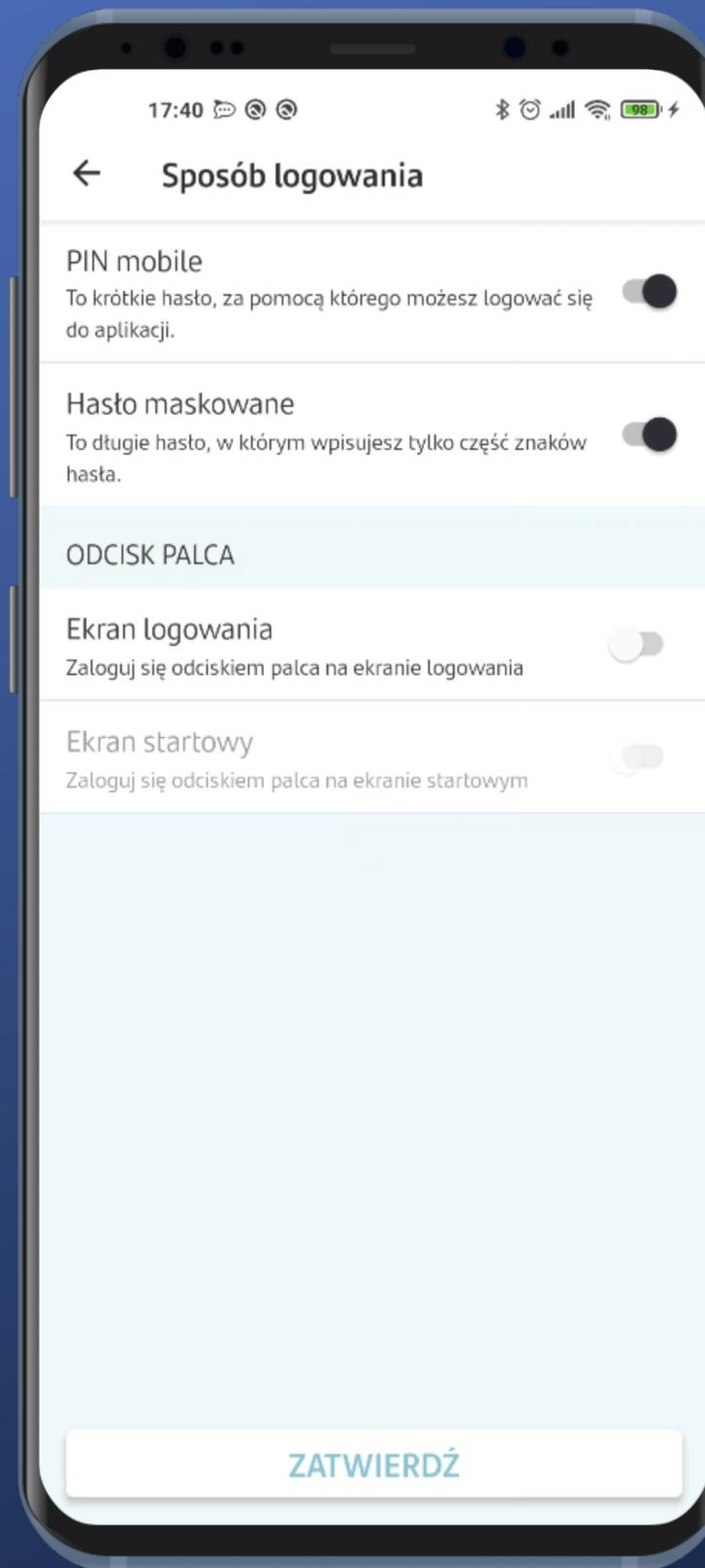


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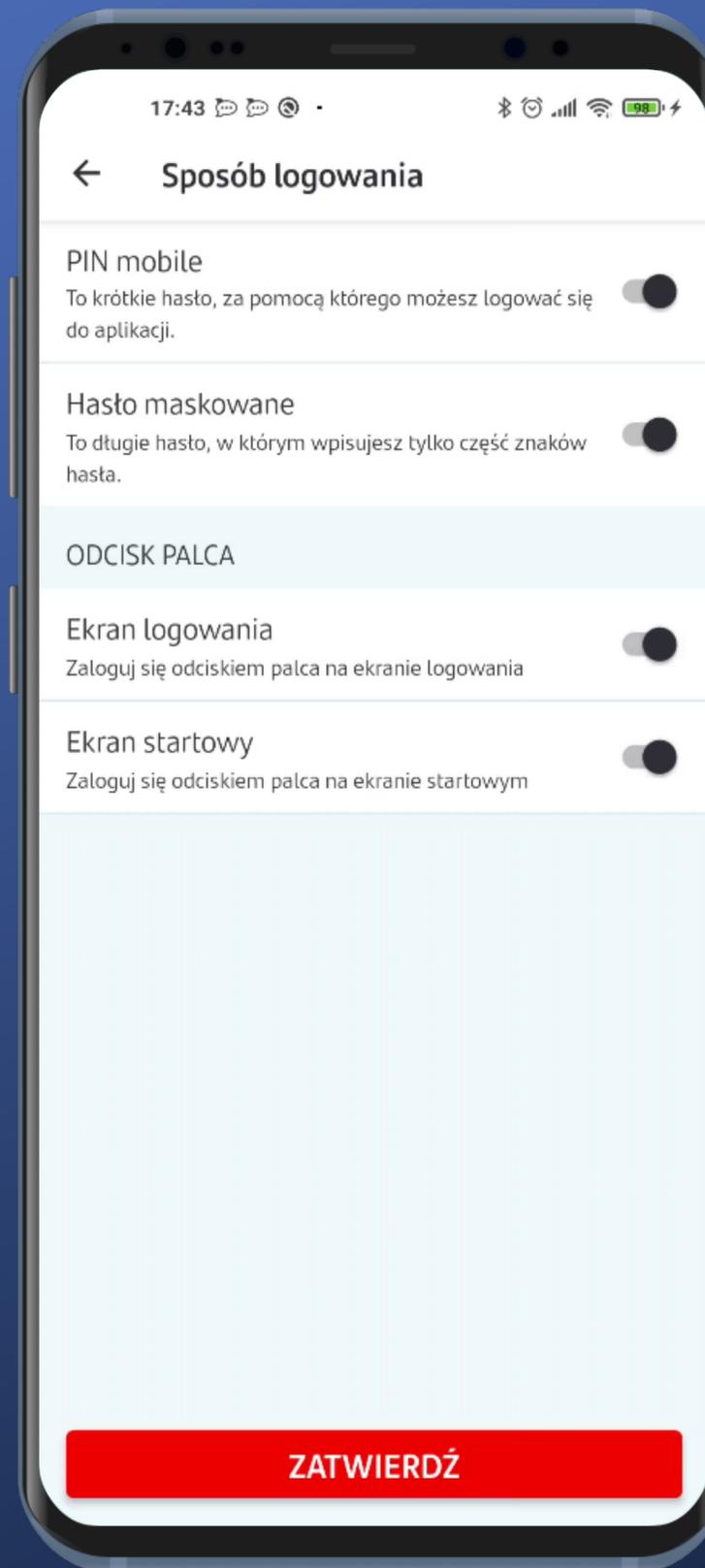
Now we’re going to change our login method to biometric in Settings.



Login method is located at the top. Great! Let's tap it.

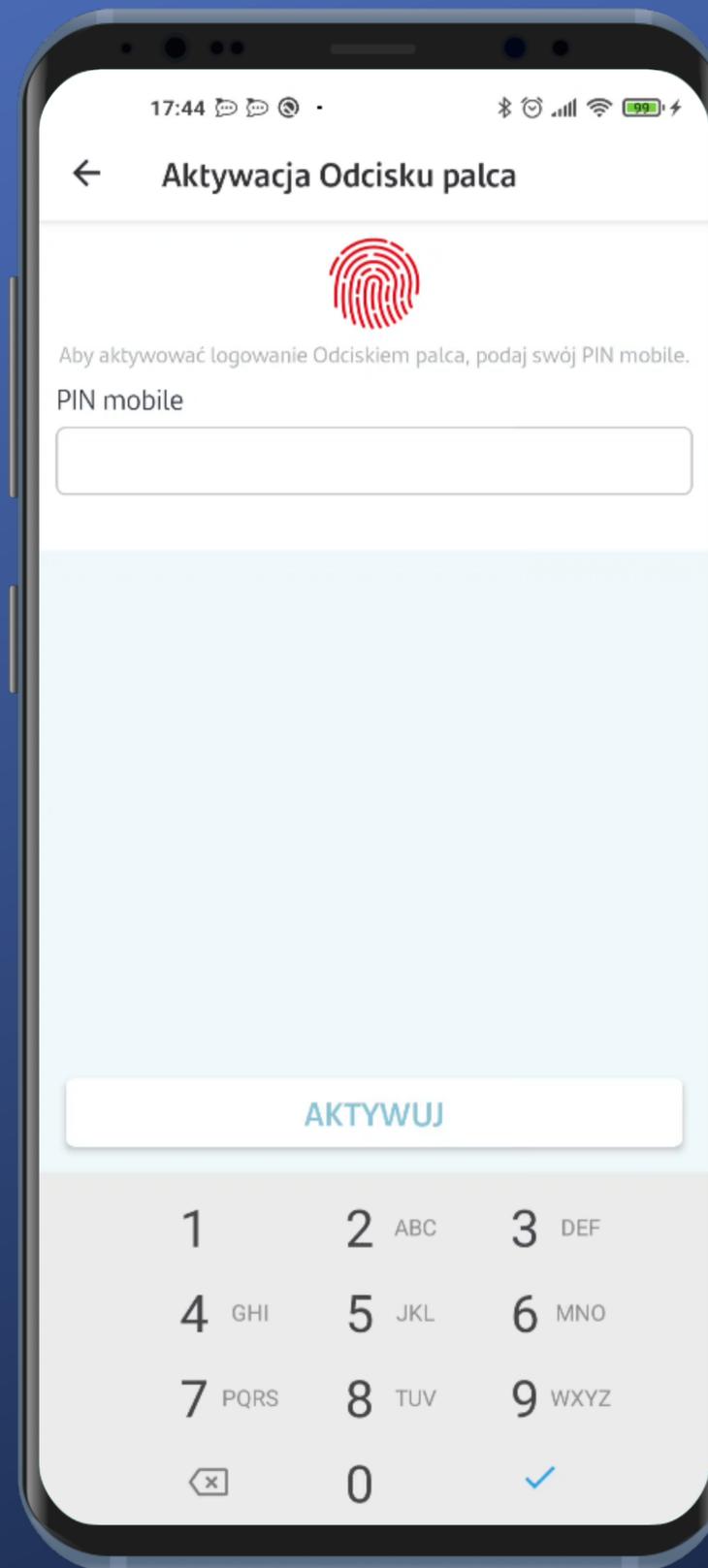


Clearly described. Let's turn it on.

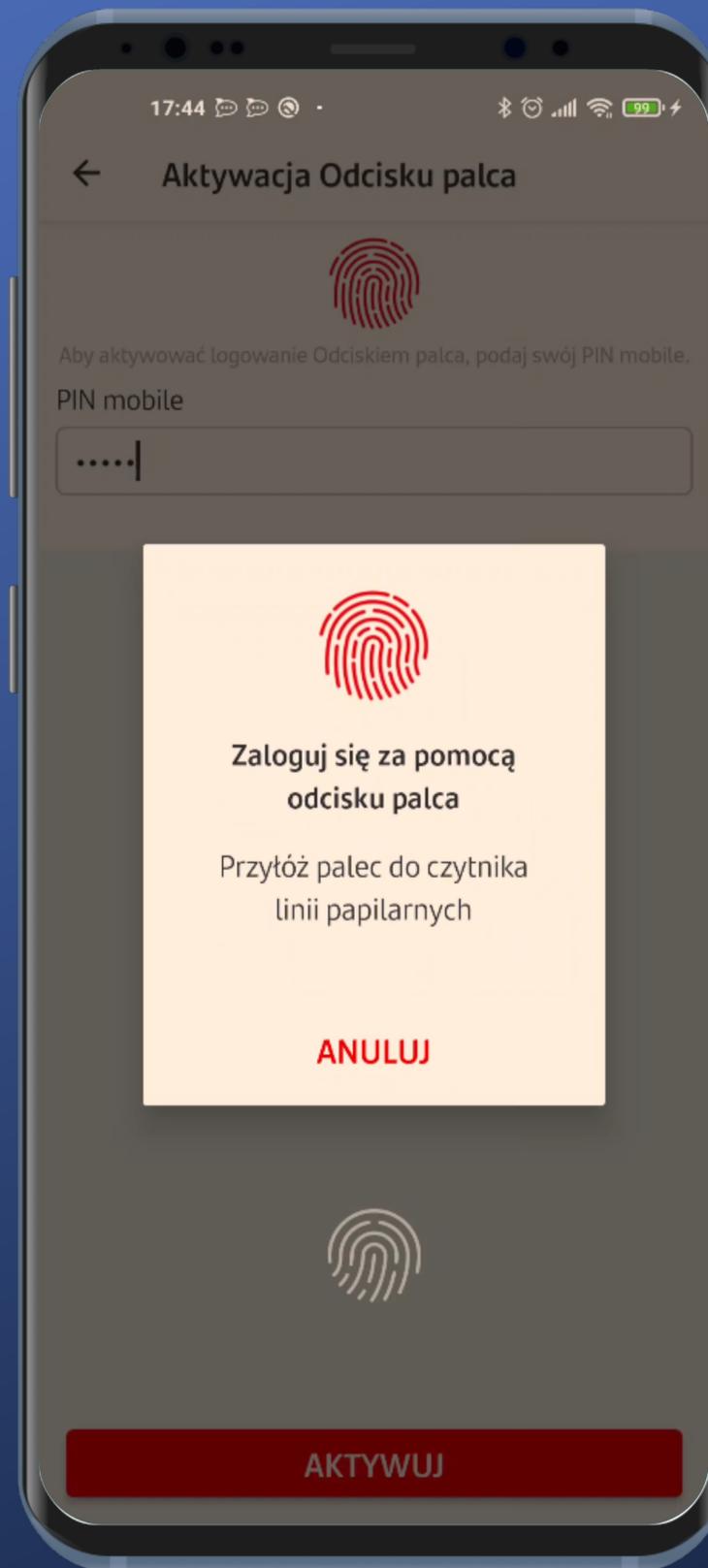


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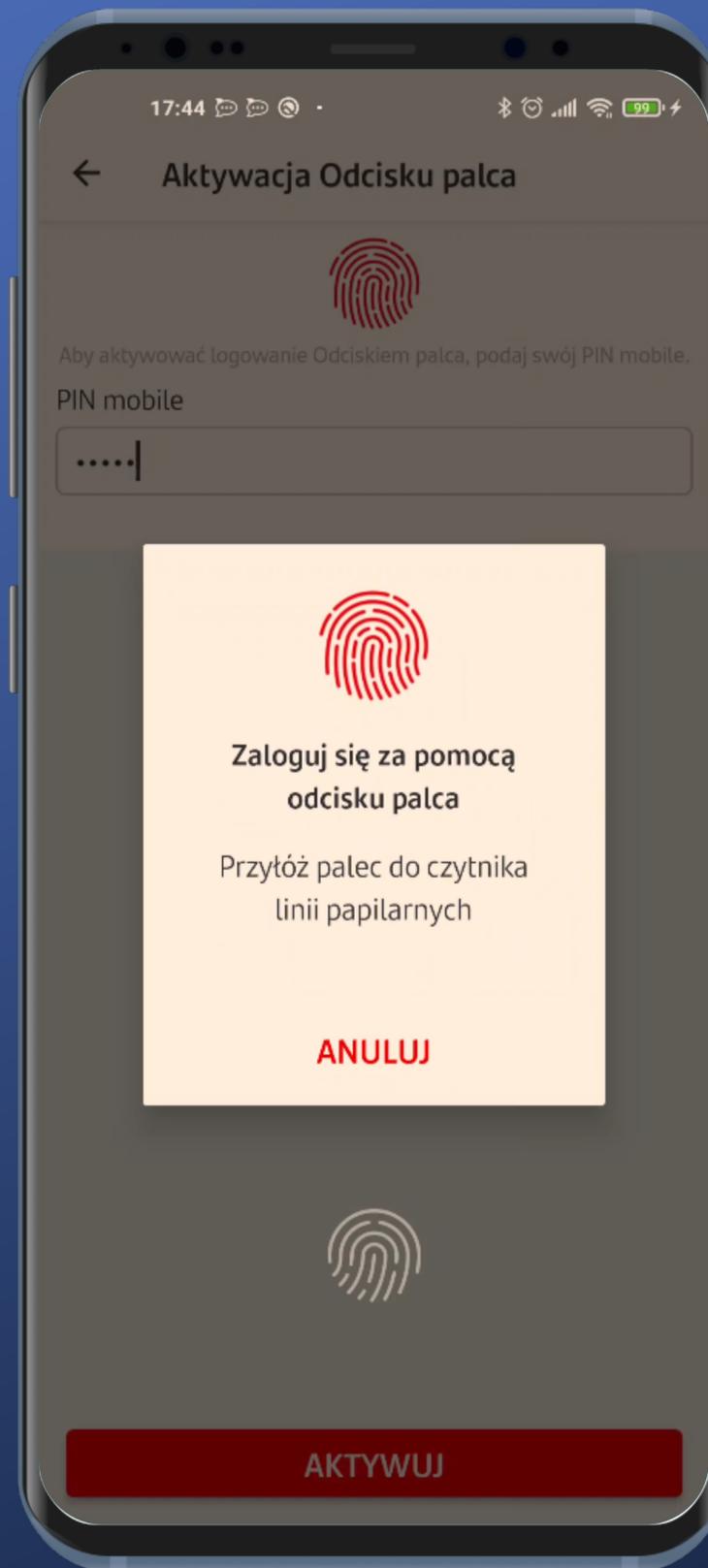
Fingerprint login at startup screen also switched on. Cool.



PIN authentication is required. Fine.

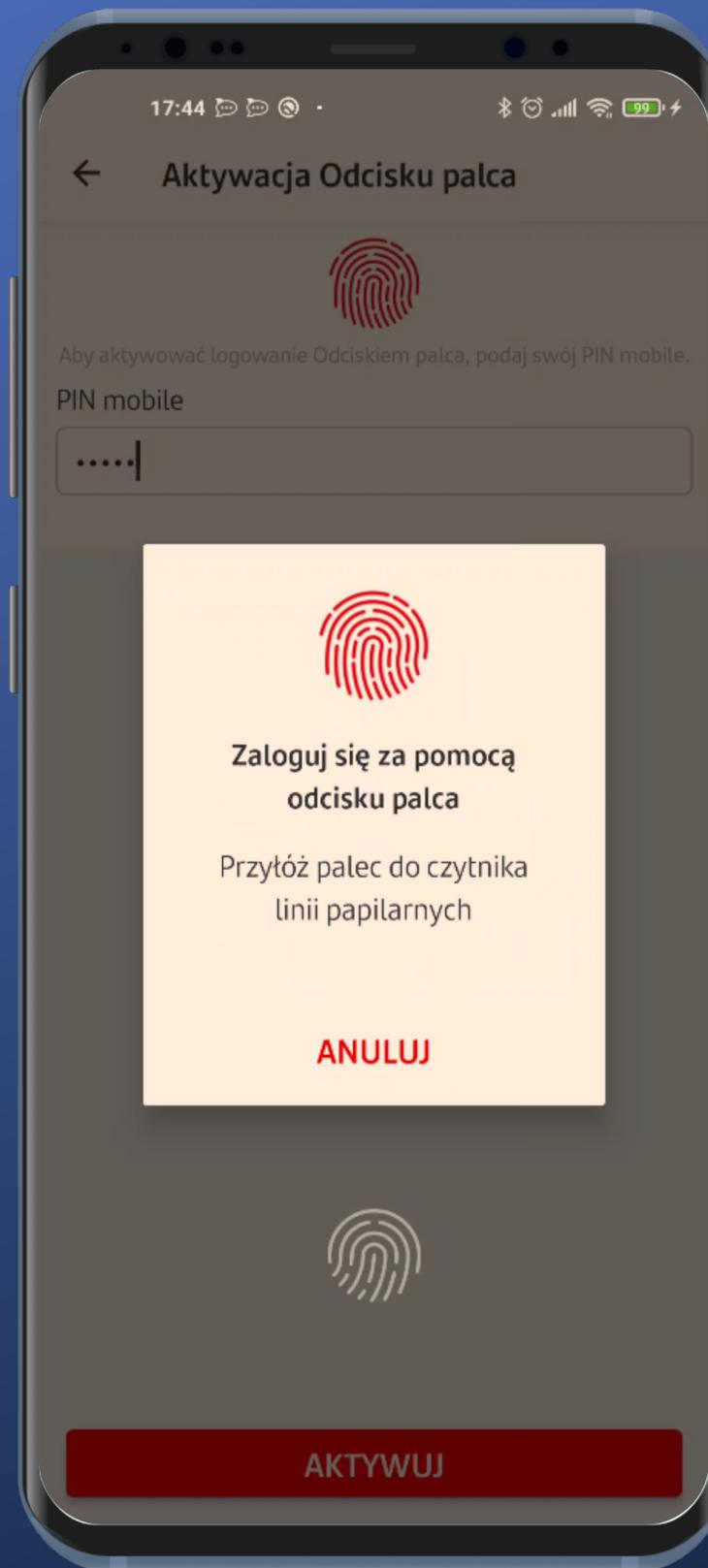


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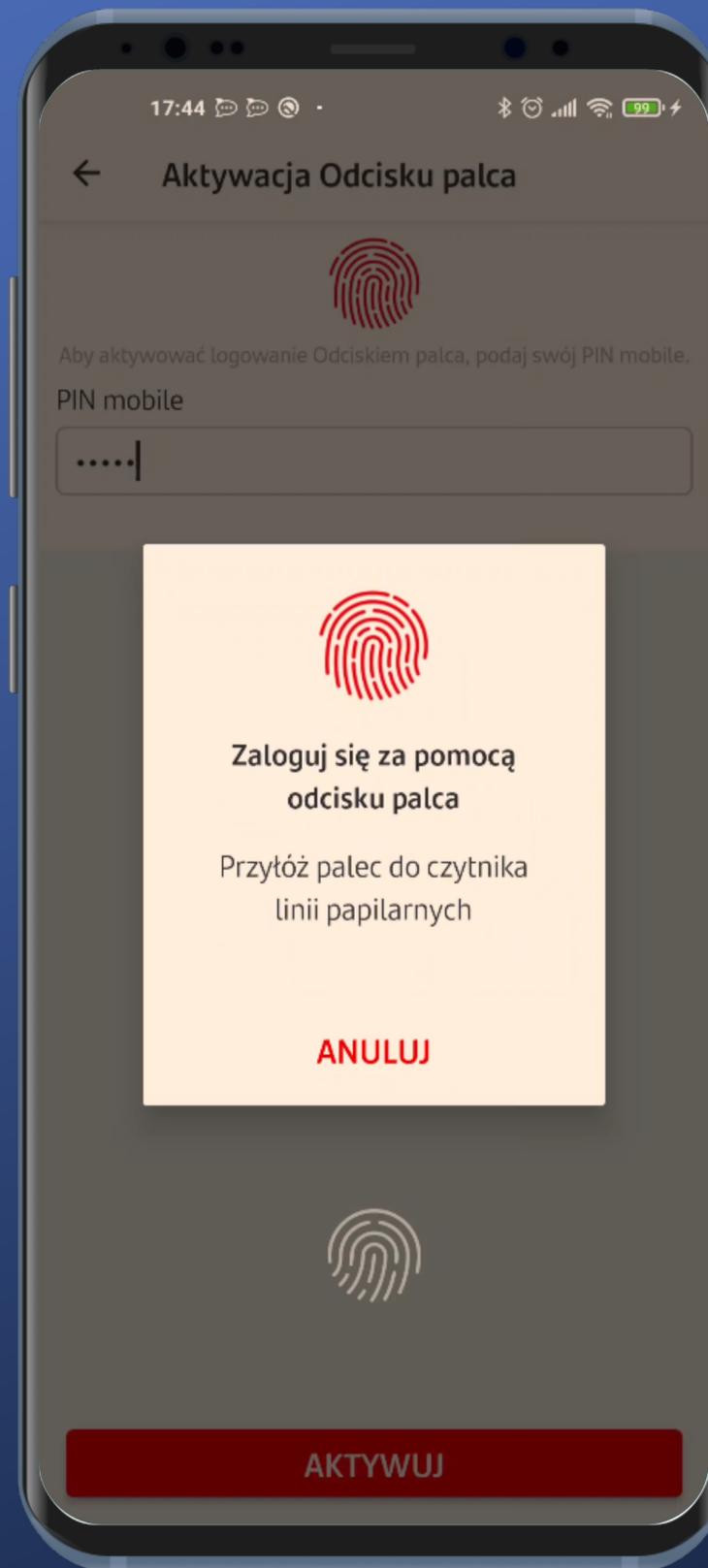
But wait...



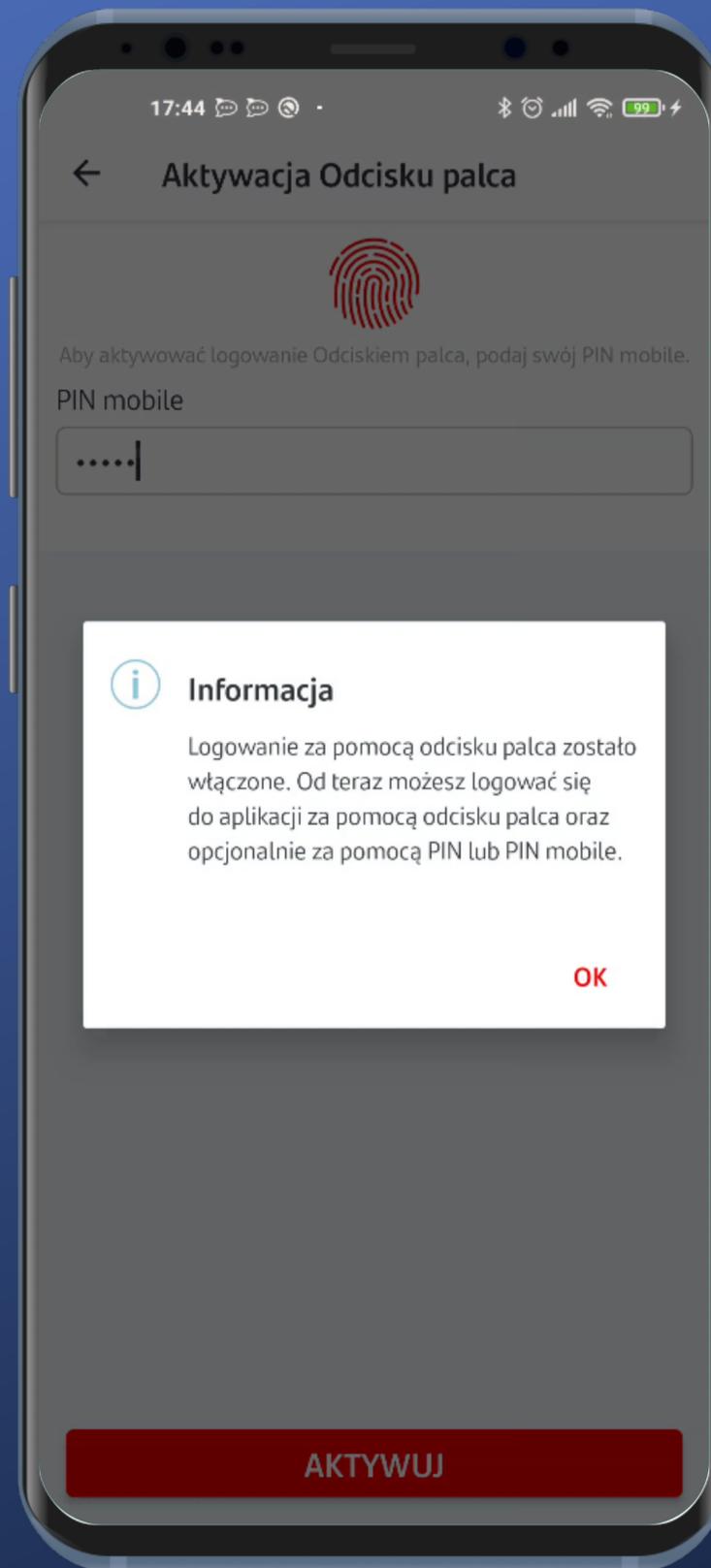
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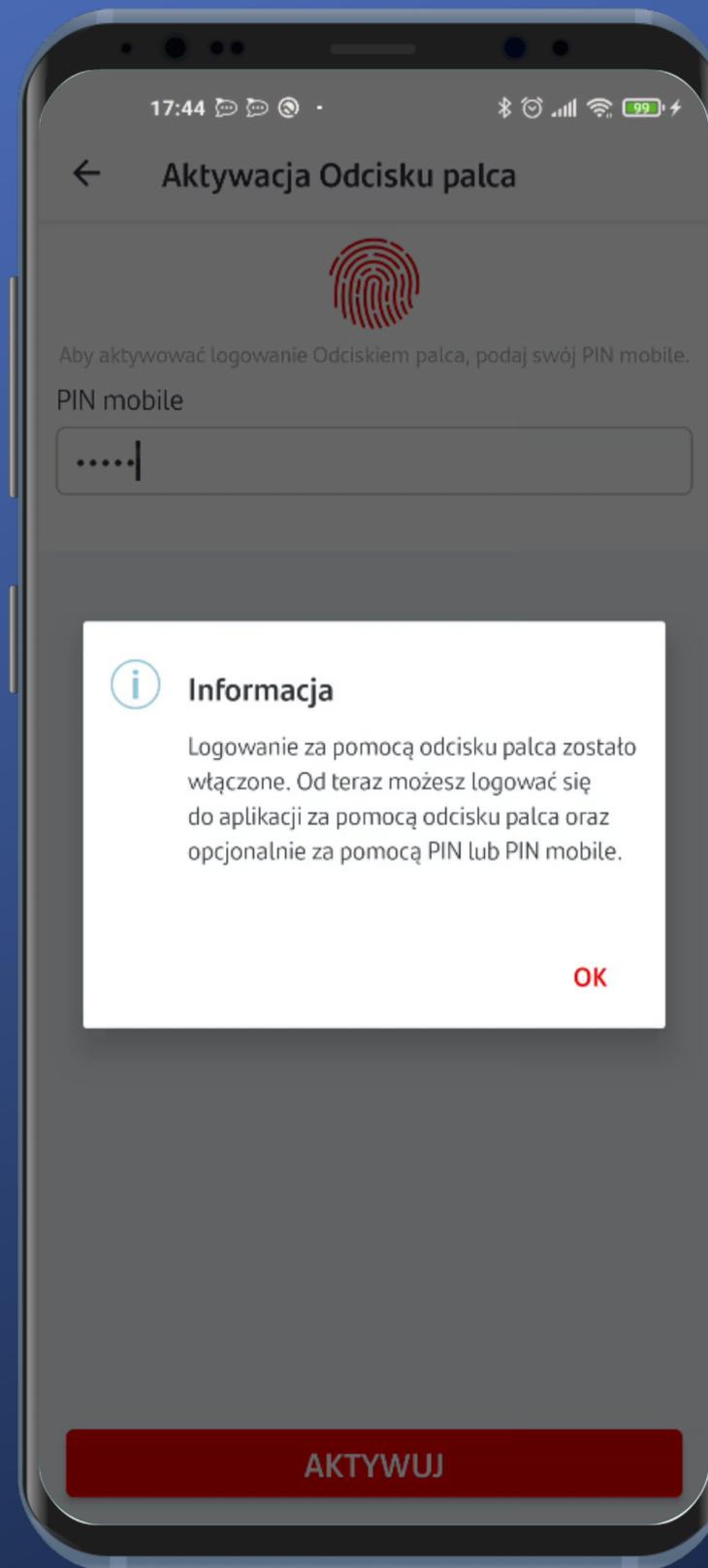




There are two similar icons on devices with the on-screen fingerprint reader, which is a bit confusing. It looks like one needs to press their finger against the lower one after all.

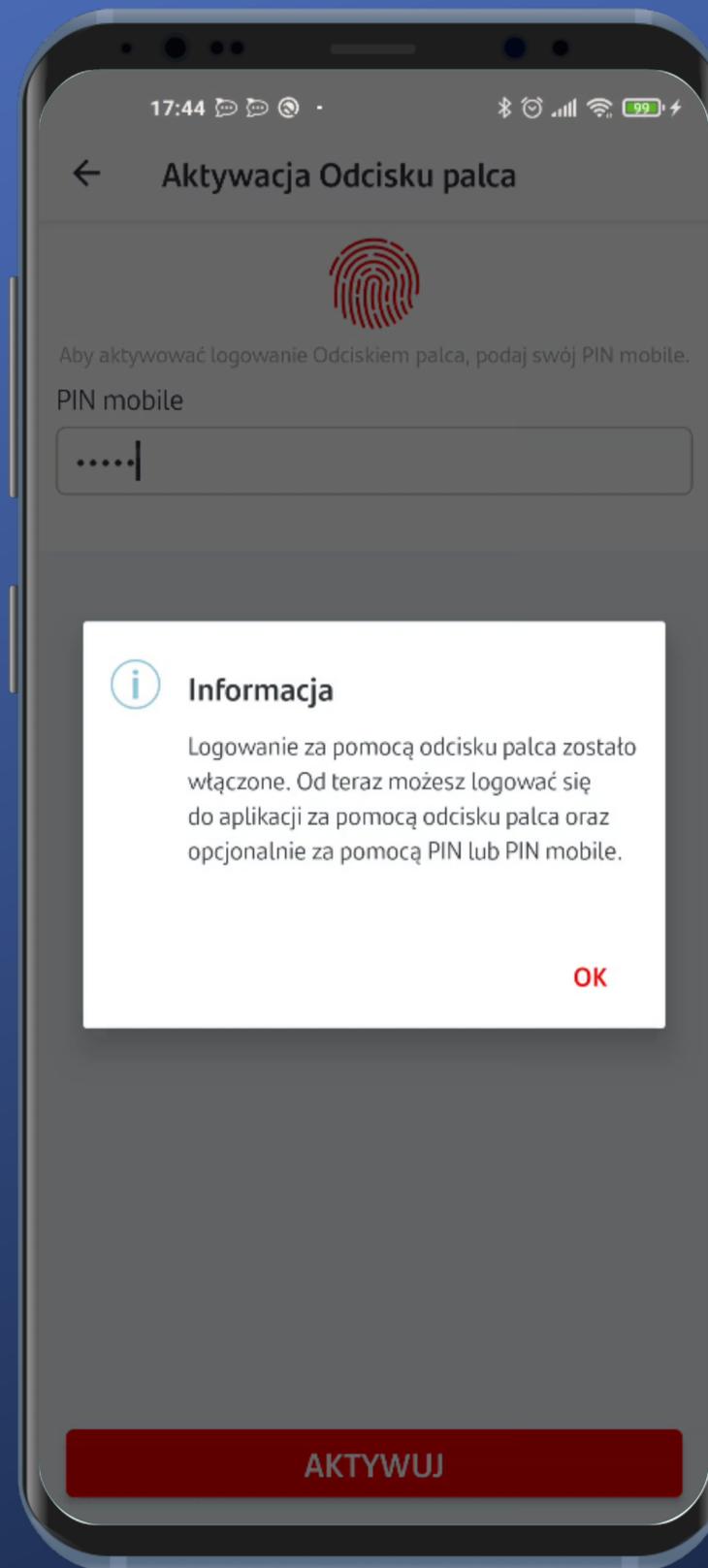


It worked.



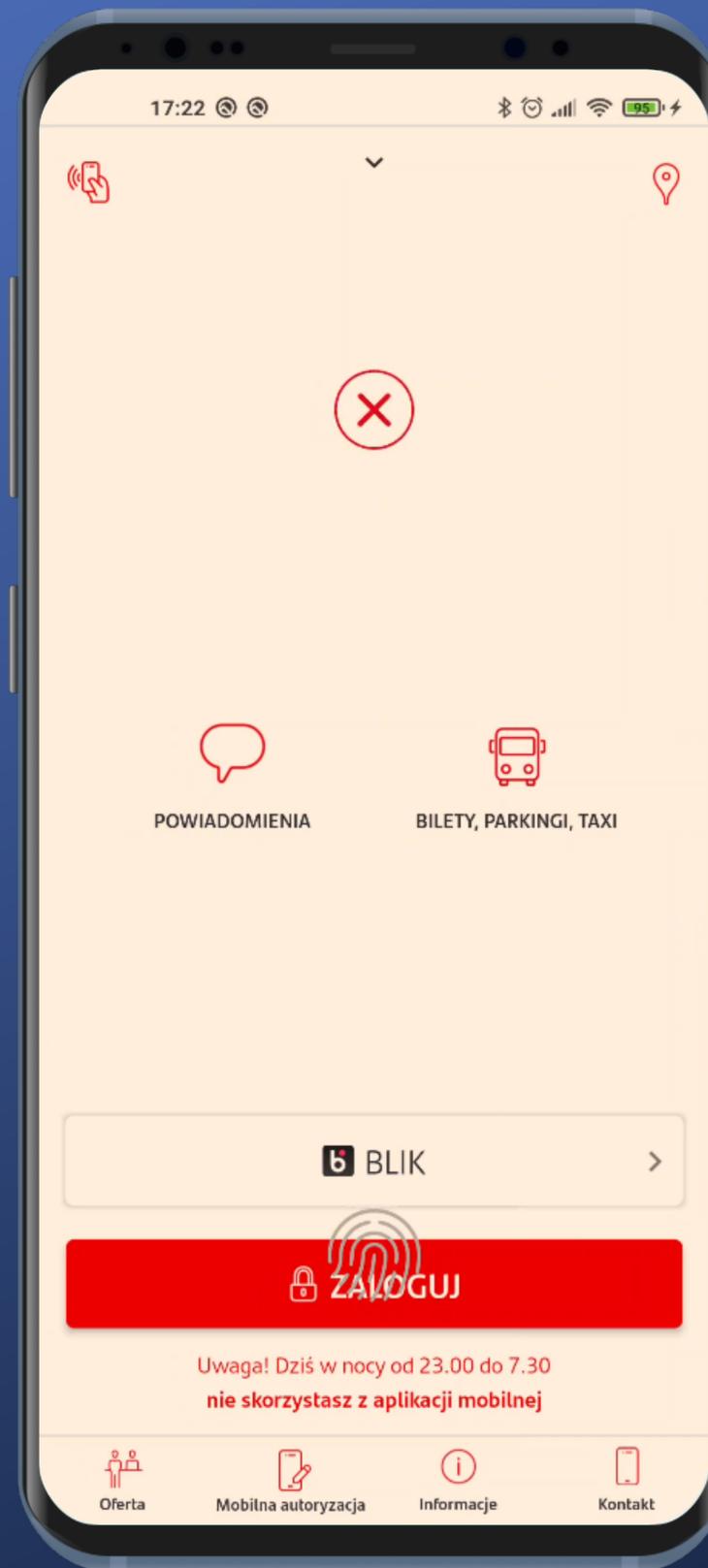
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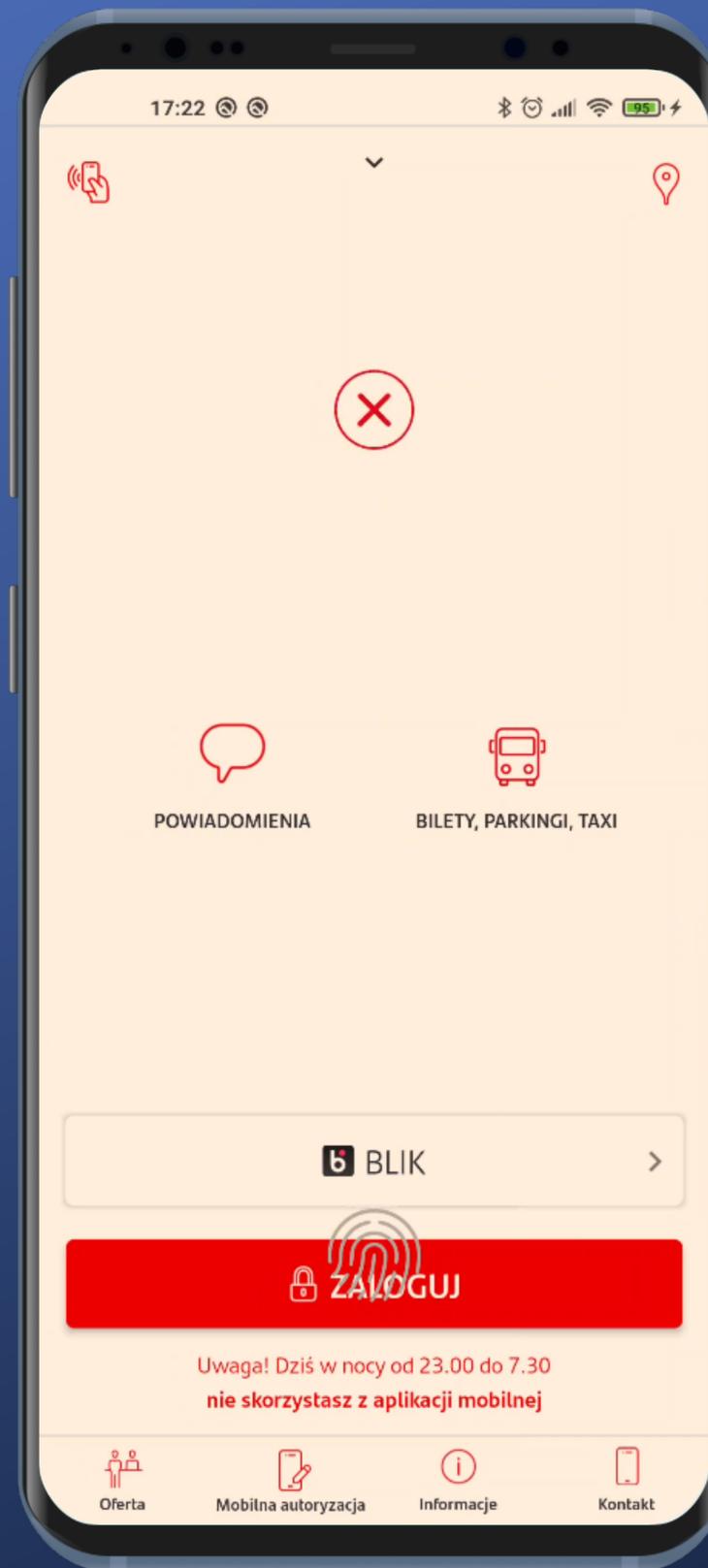


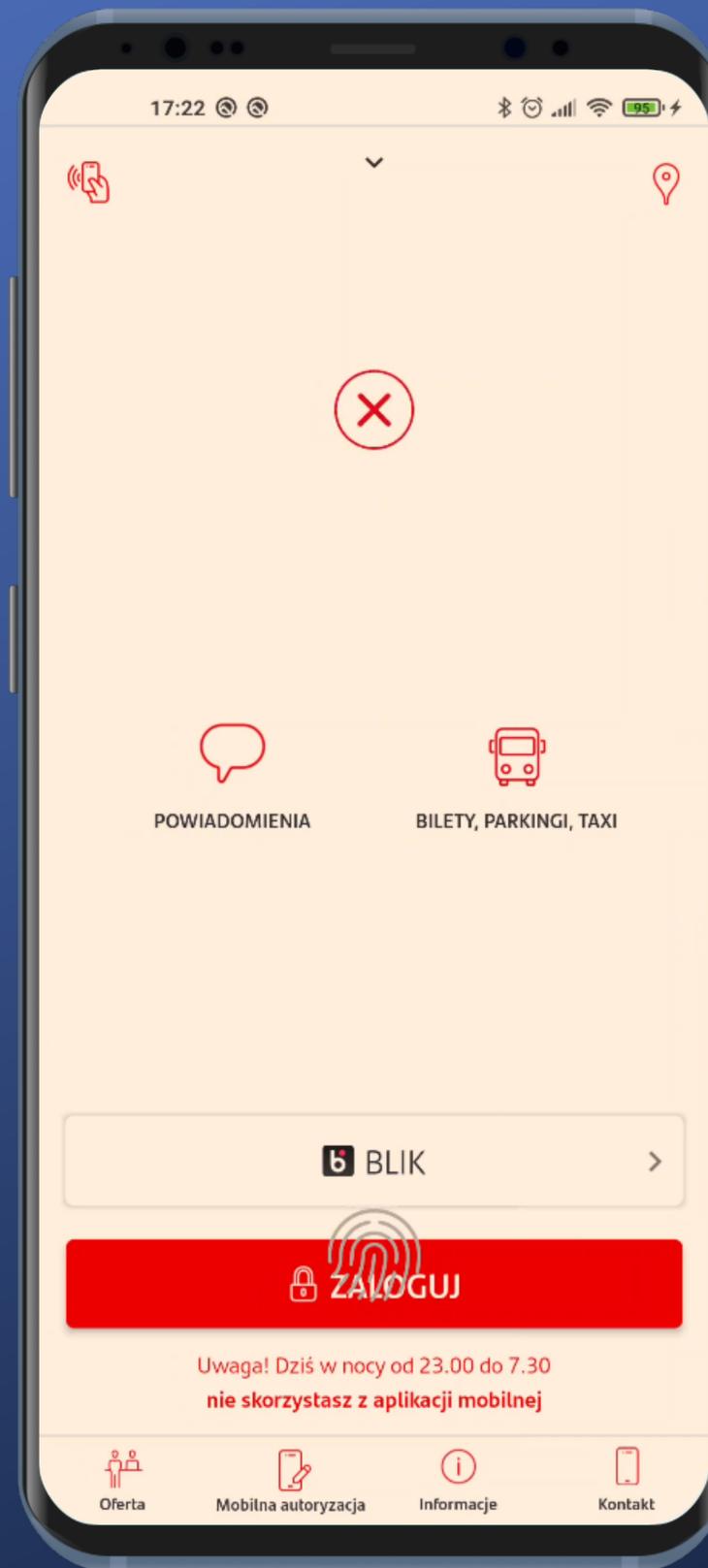


It worked.

Let's see how it handles logging in.



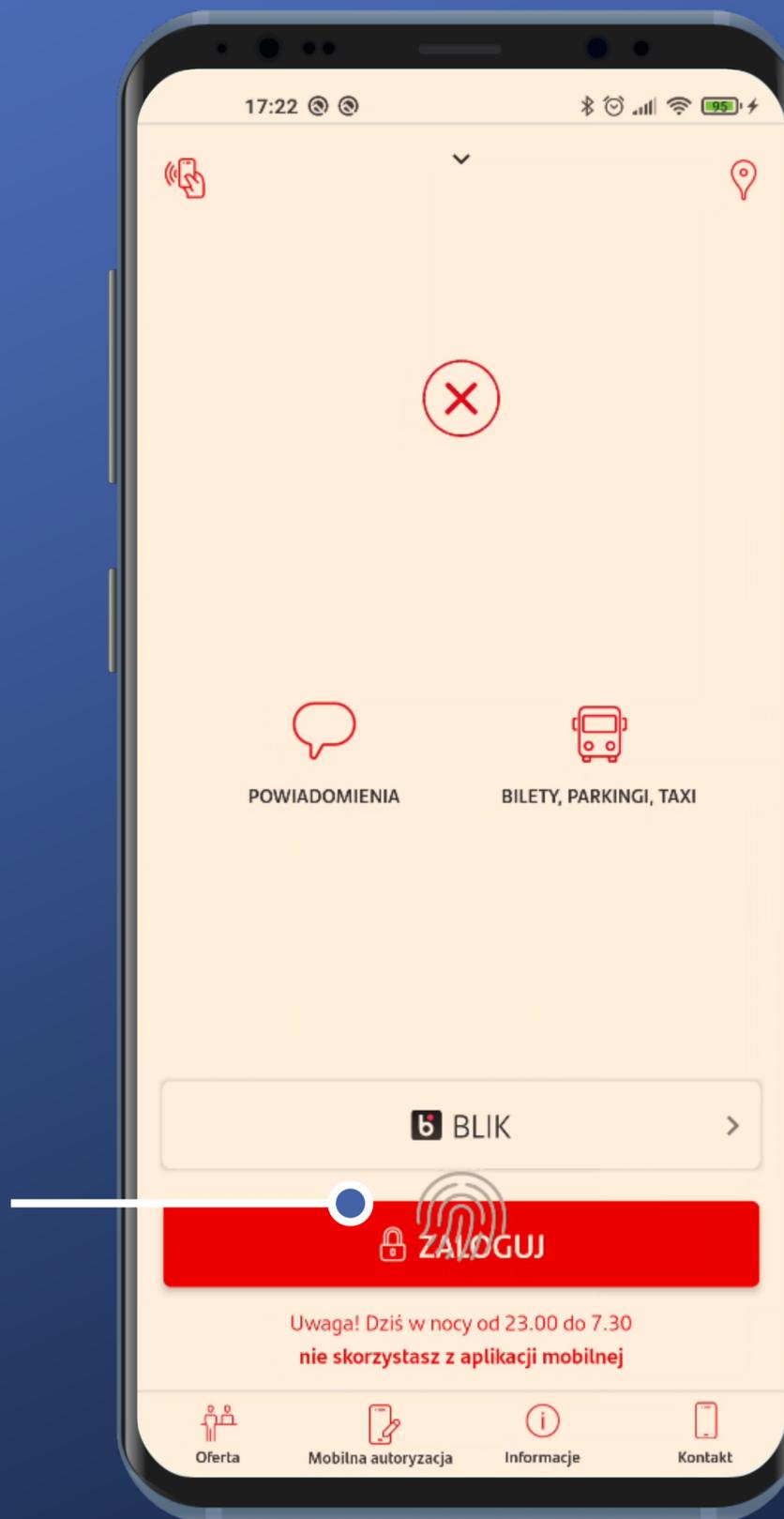




Immediately after launching, the application tries to verify the fingerprint – the device gives a vibration and an animation is being displayed.

Unfortunately the first try is unsuccessful – we did not have enough time to take a look at the screen, let alone put a finger on it.

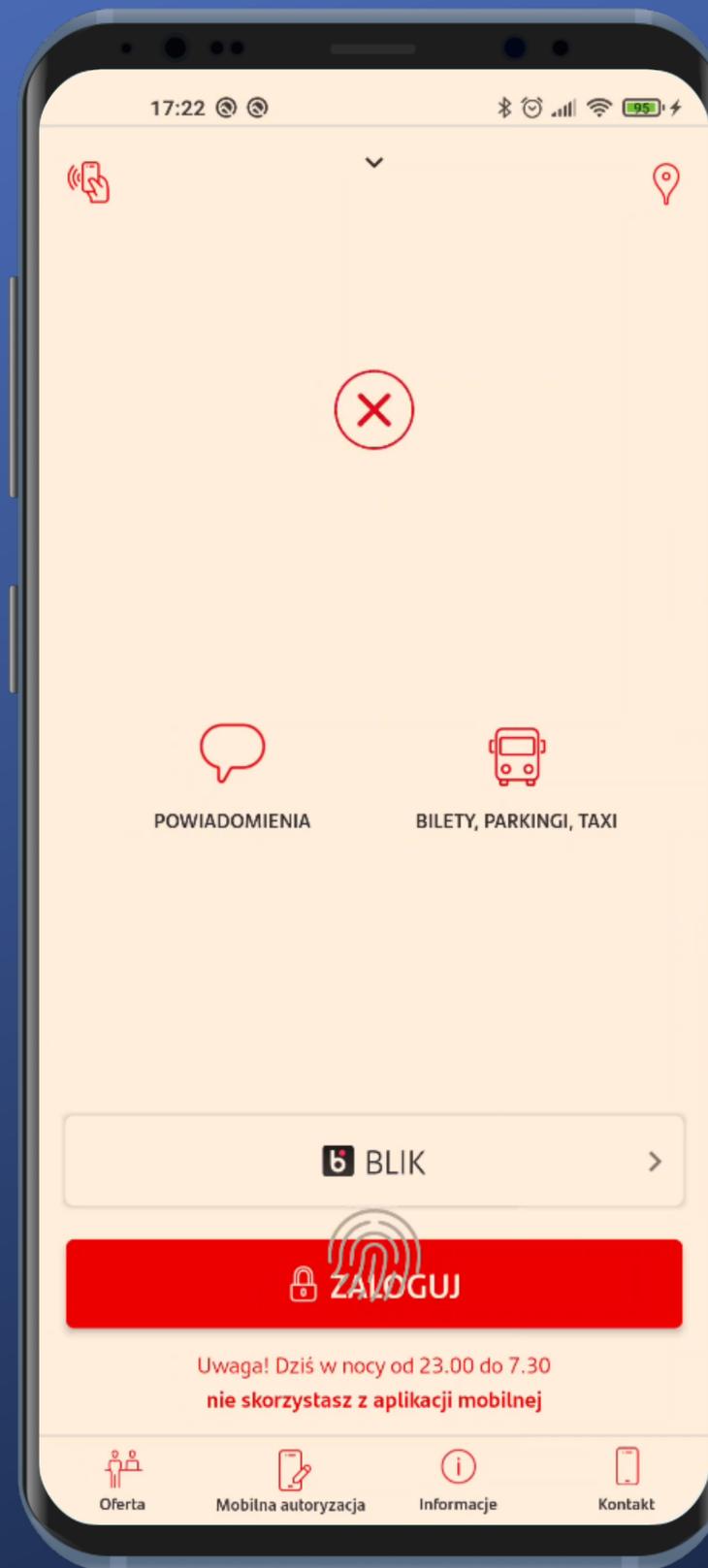
Putting a finger here results in successful login. It doesn't look very good, but at least it enables a way to login right after opening the app.



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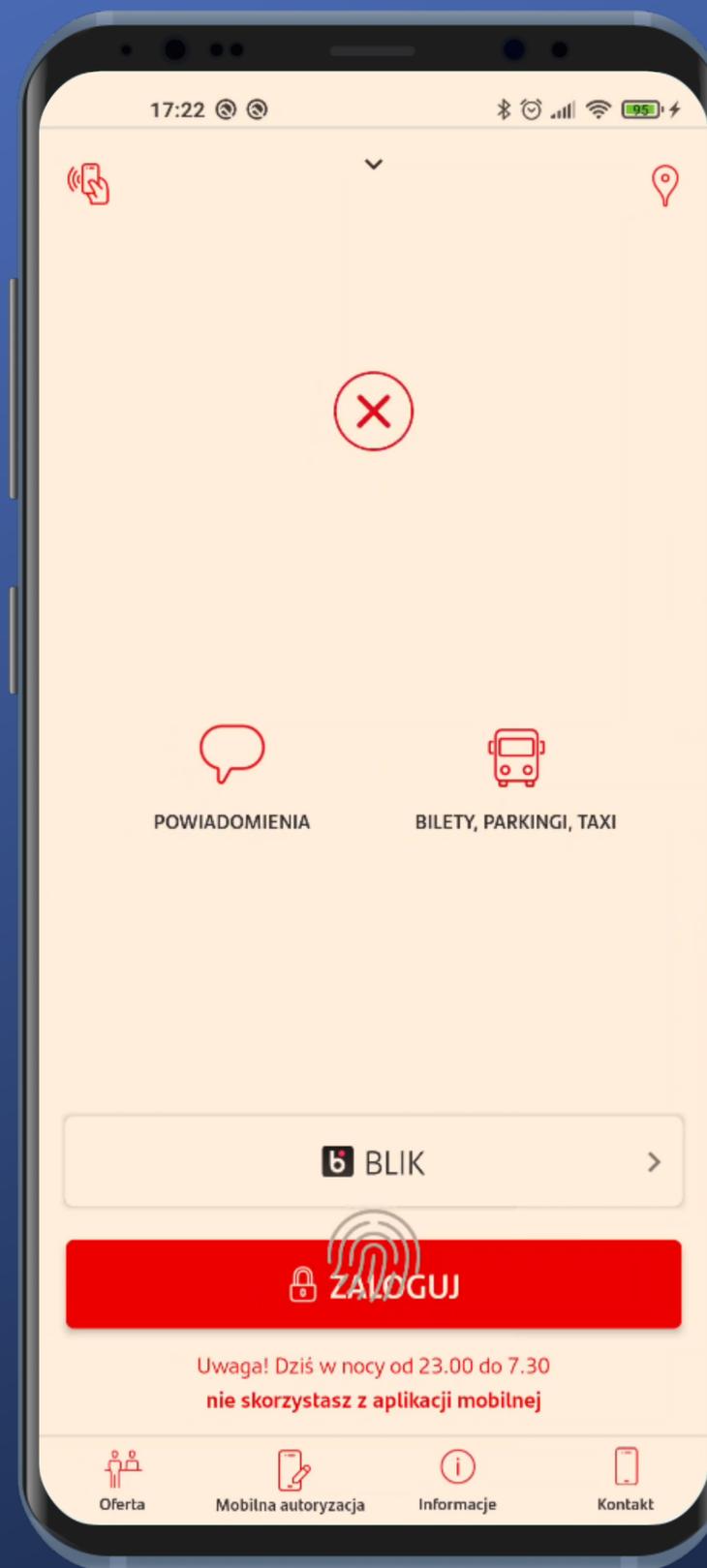
Visual issues with the biometric authentication presentation are probably a result of using outdated Android API (all versions up from 9.0 should provide the system biometric panel).

Putting a finger here results in successful login. It doesn't look very good, but at least it enables a way to login right after opening the app.



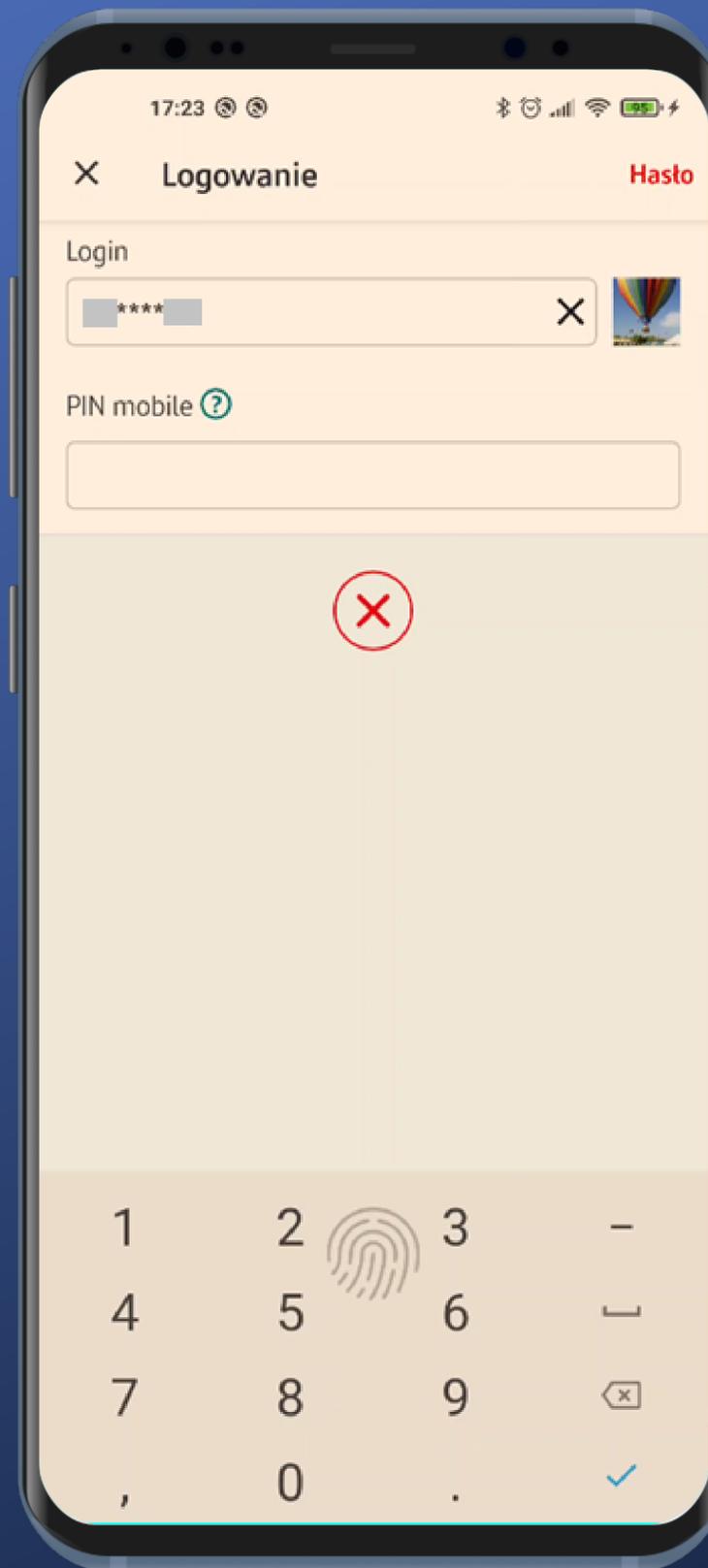
Immediately after launching, the application tries to verify the fingerprint – the device gives a vibration and an animation is being displayed. Unfortunately the first try is unsuccessful – we did not have enough time to take a look at the screen, let alone put a finger on it.

We can go to Login option as well.

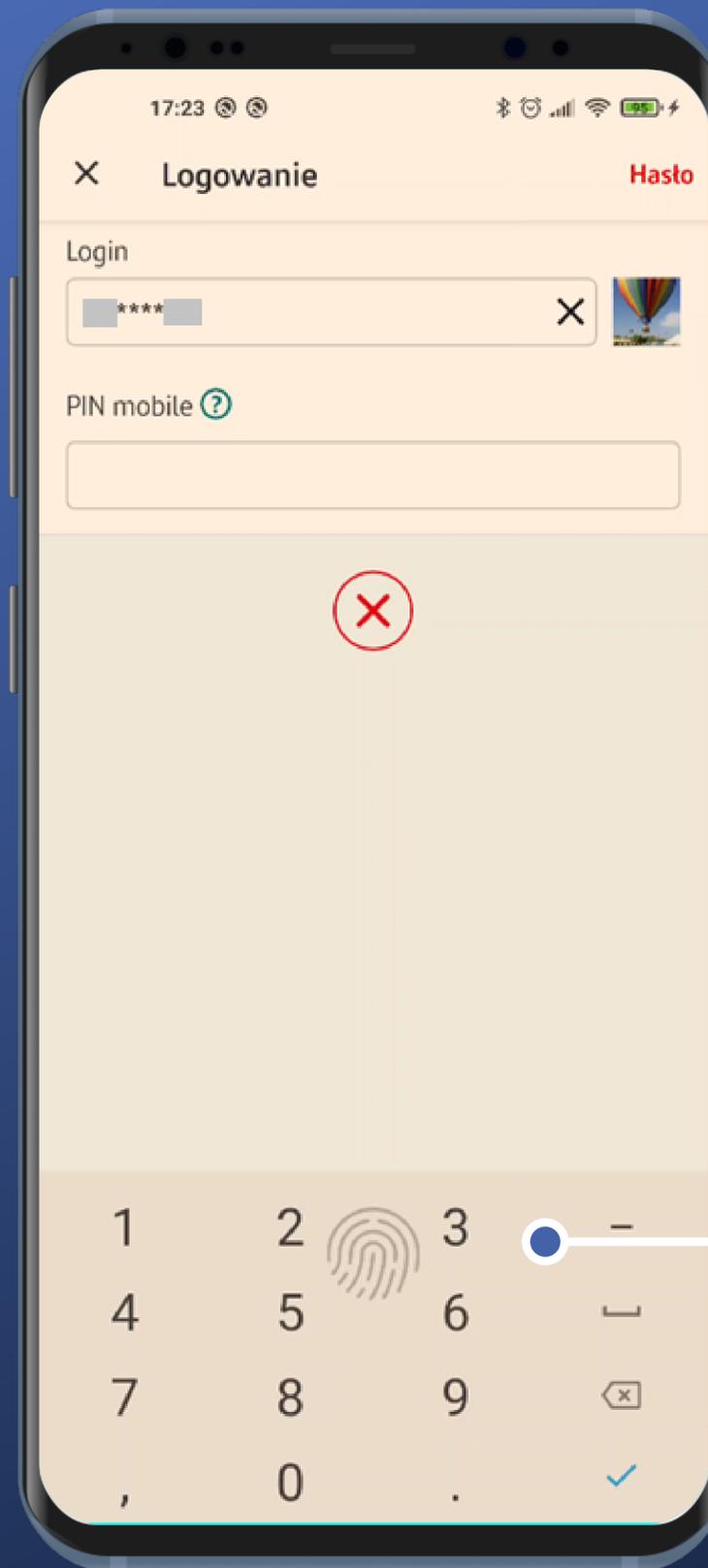


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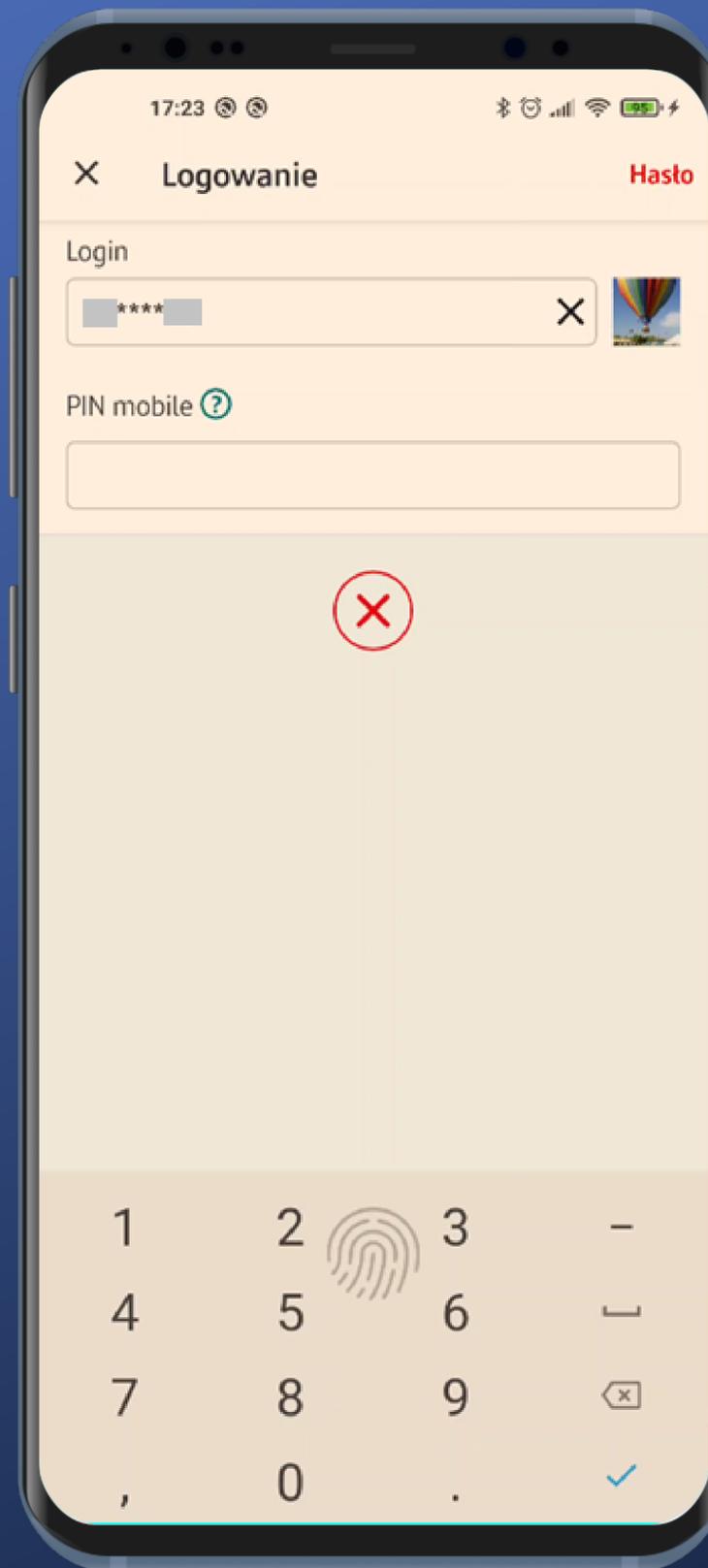


We encounter the very same problem here as the application runs the fingerprint scan immediately after displaying this screen, which obviously fails.



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We can log in by putting a finger here.

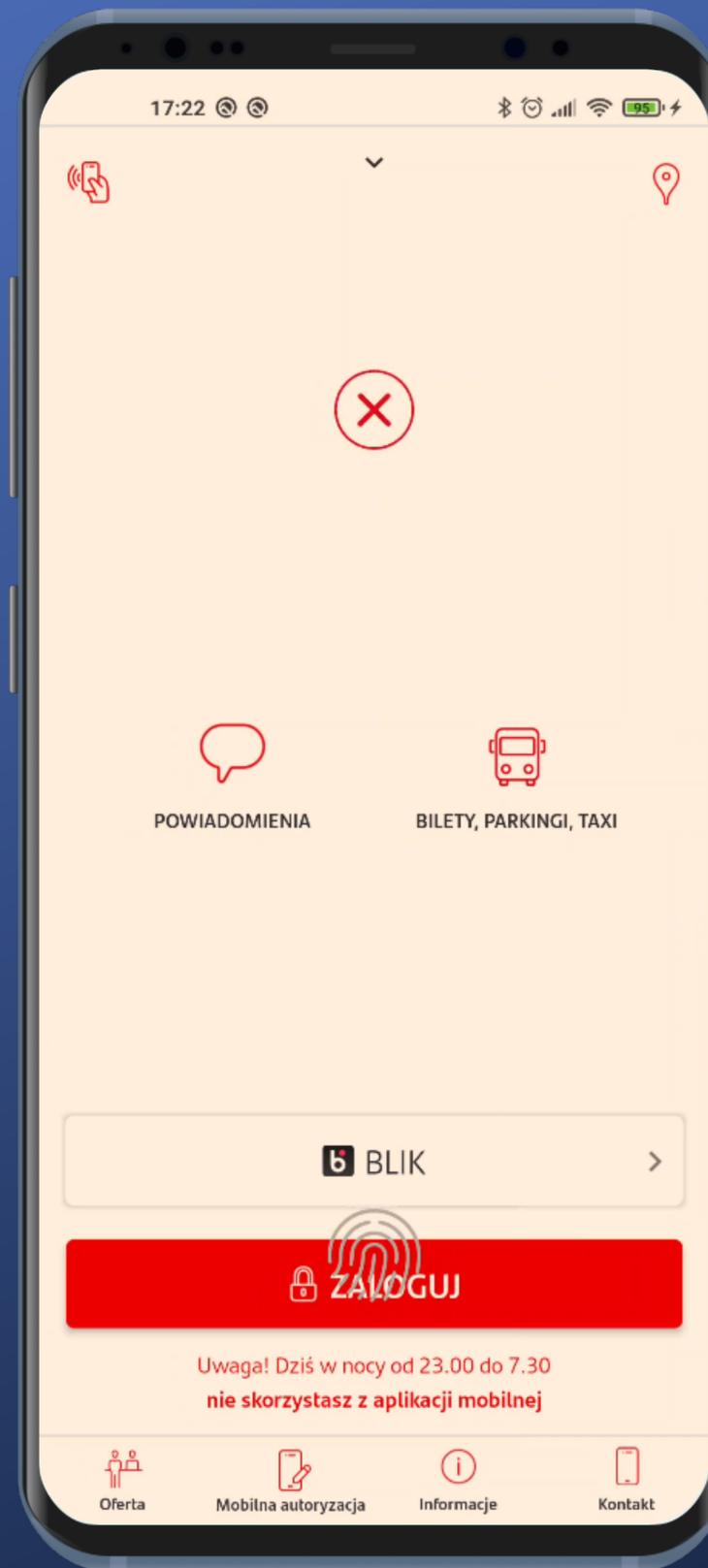


We can just enter the PIN,
too.

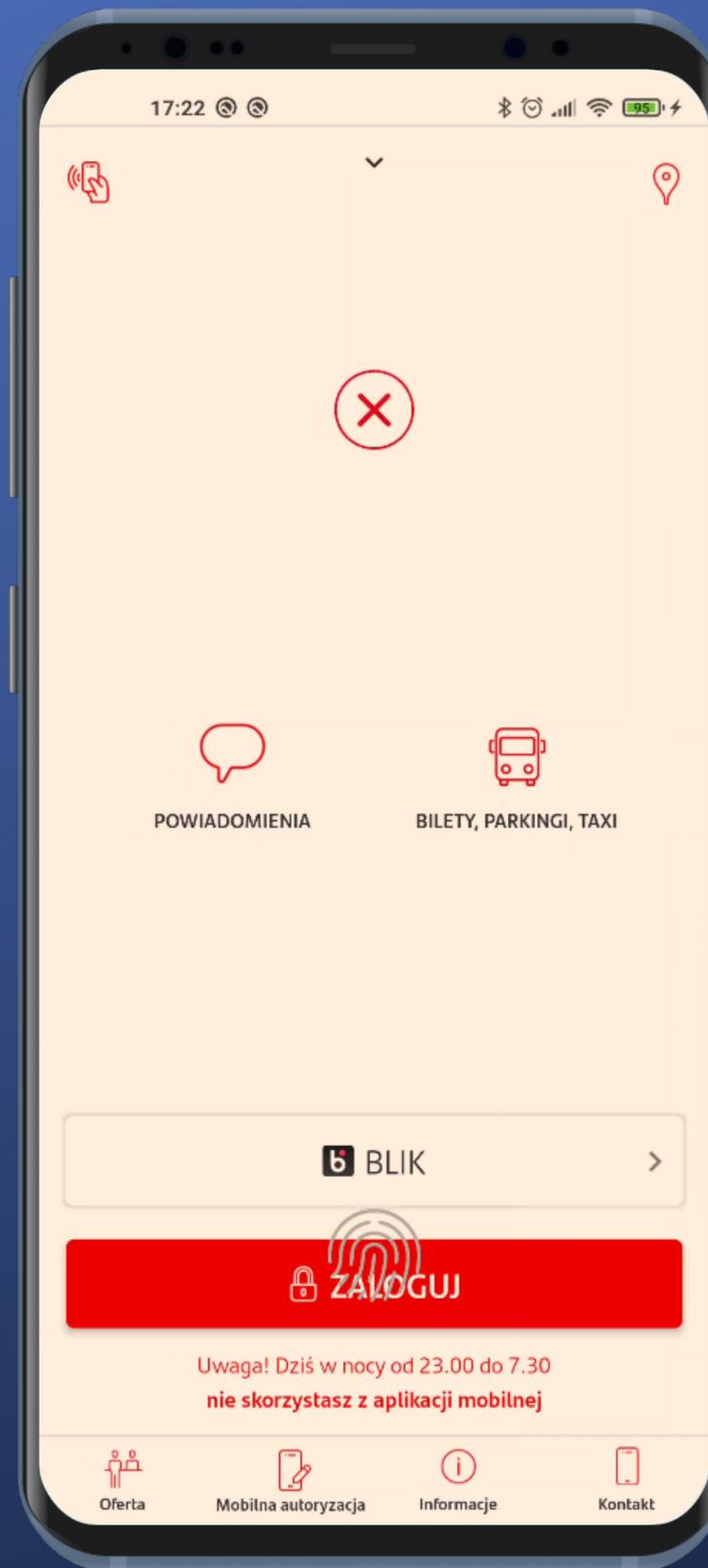
We encounter the very
same problem here as
the application runs
the fingerprint scan
immediately after
displaying this screen,
which obviously fails.

We can log in by putting a
finger here.

**Access your account
balance without logging in**

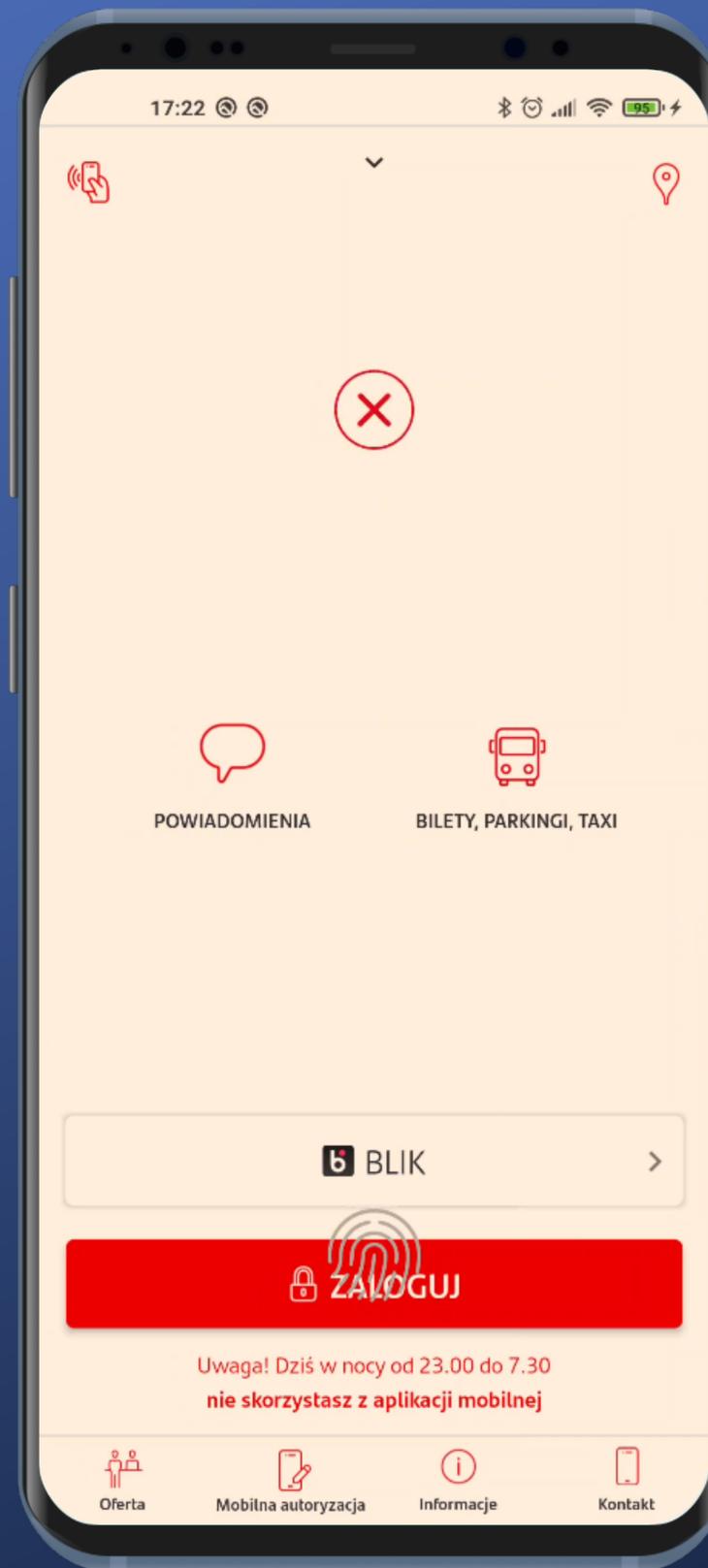


There is no account balance information in sight.



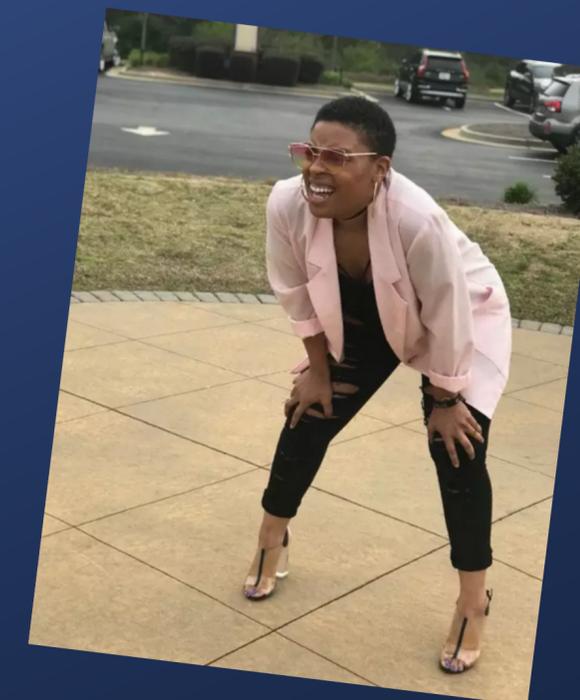
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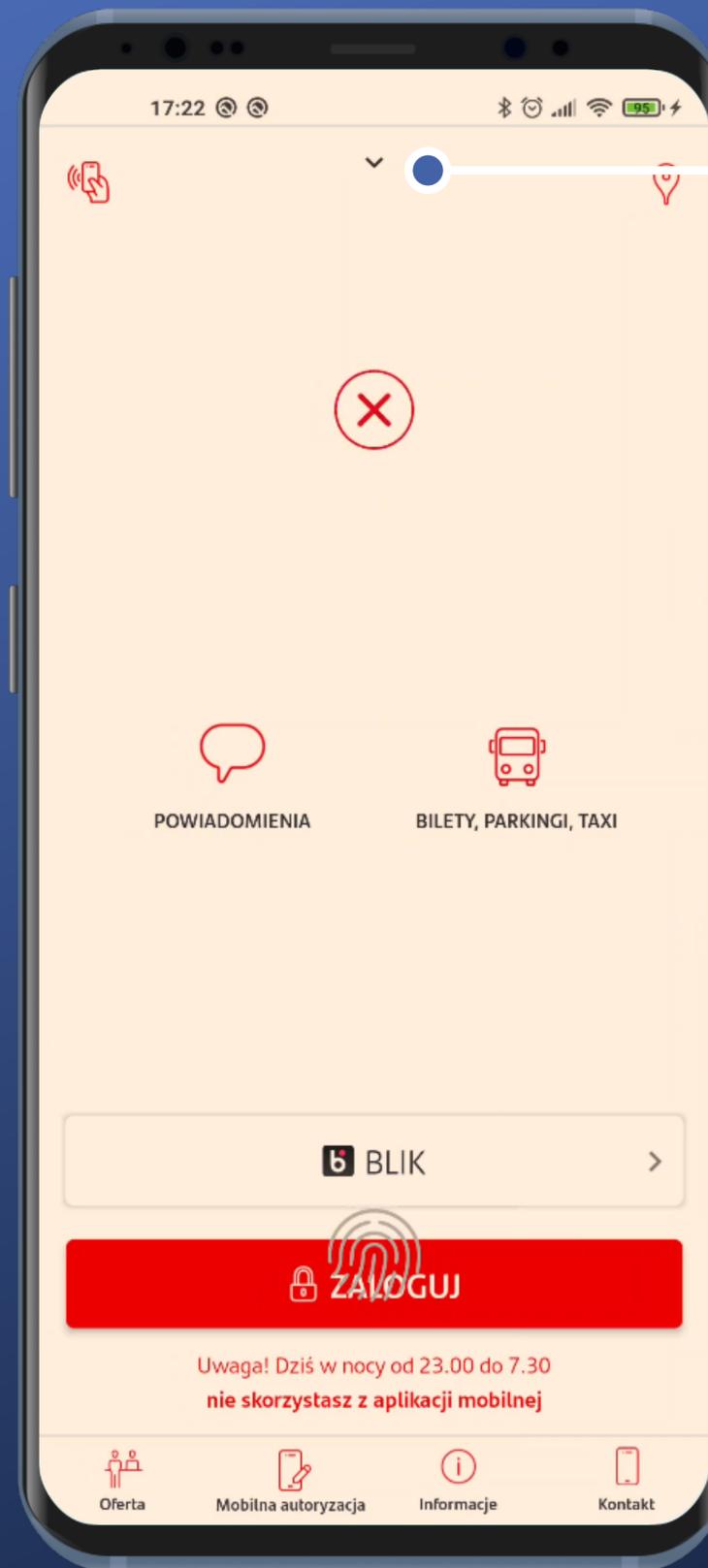
But...



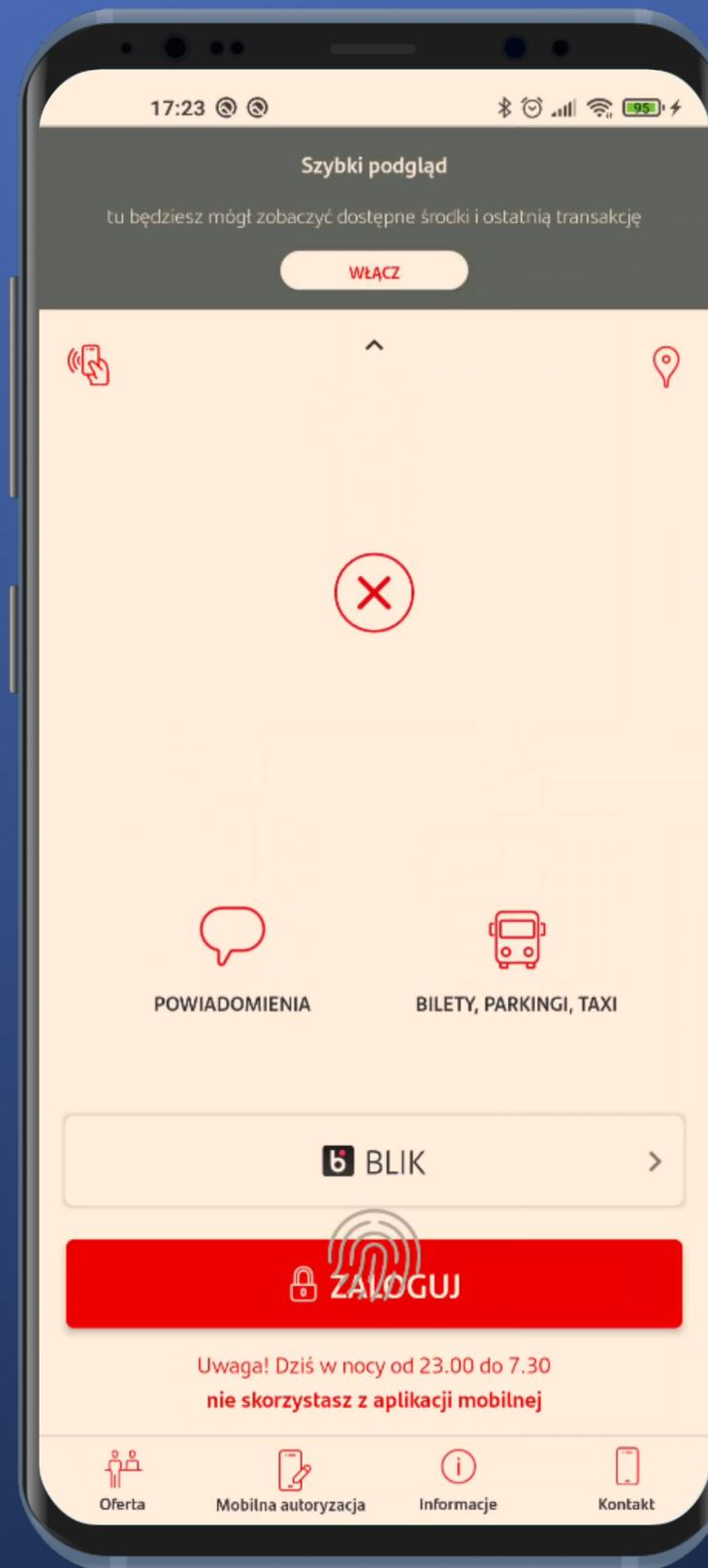
There is no account balance information in sight.

But...

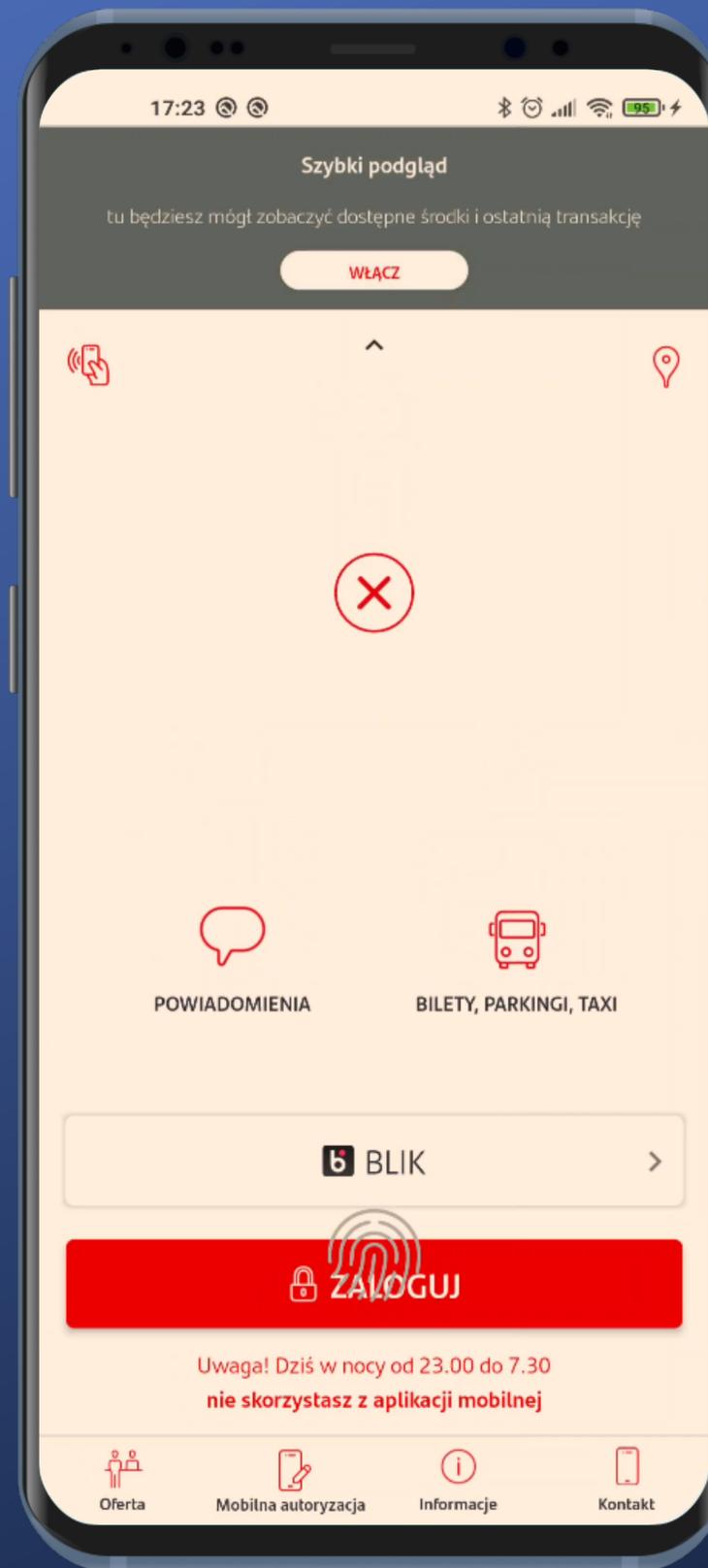




There's this teeny-weeny thingy suggesting it can reveal something else. Let's give it a chance.

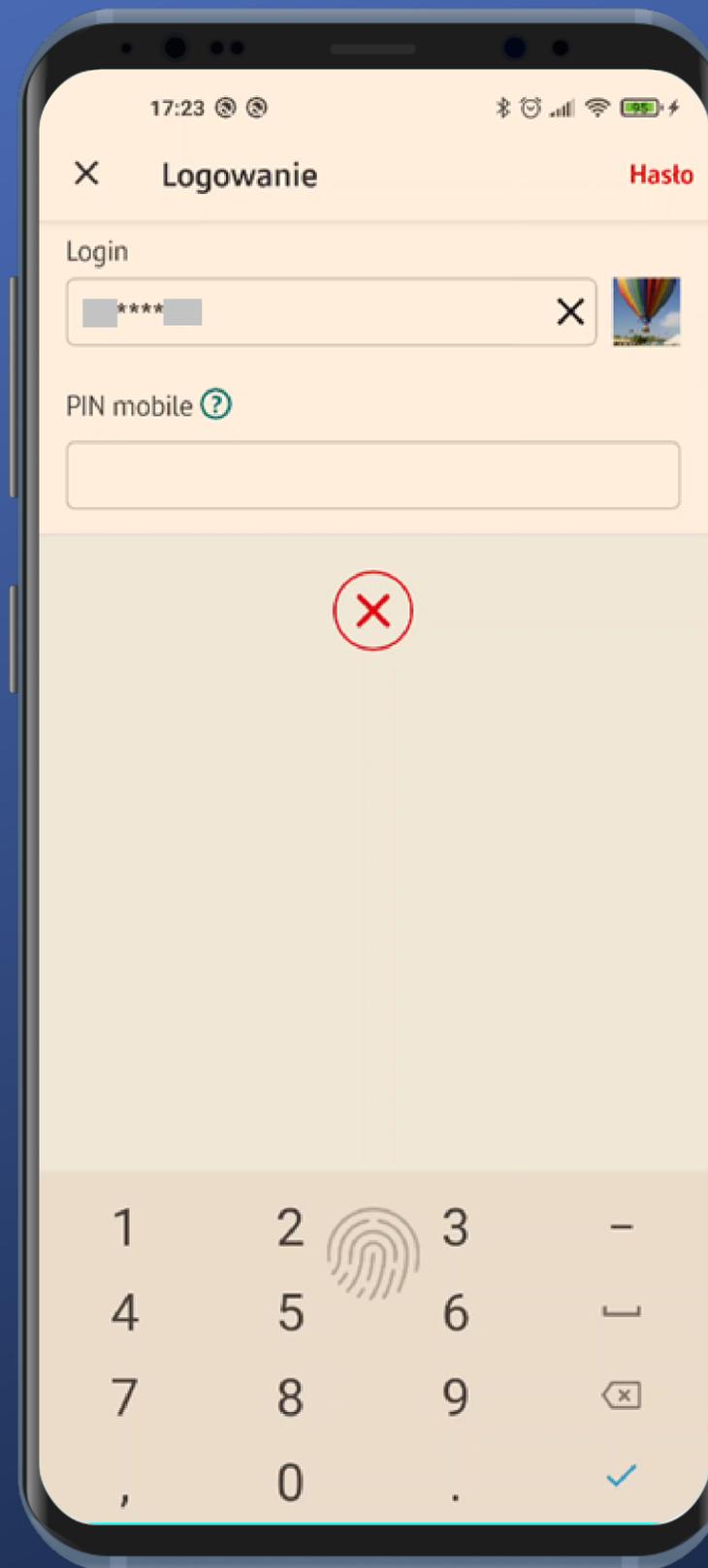


And this is it – here's an information about possibility of turning the balance preview on. Very well then.

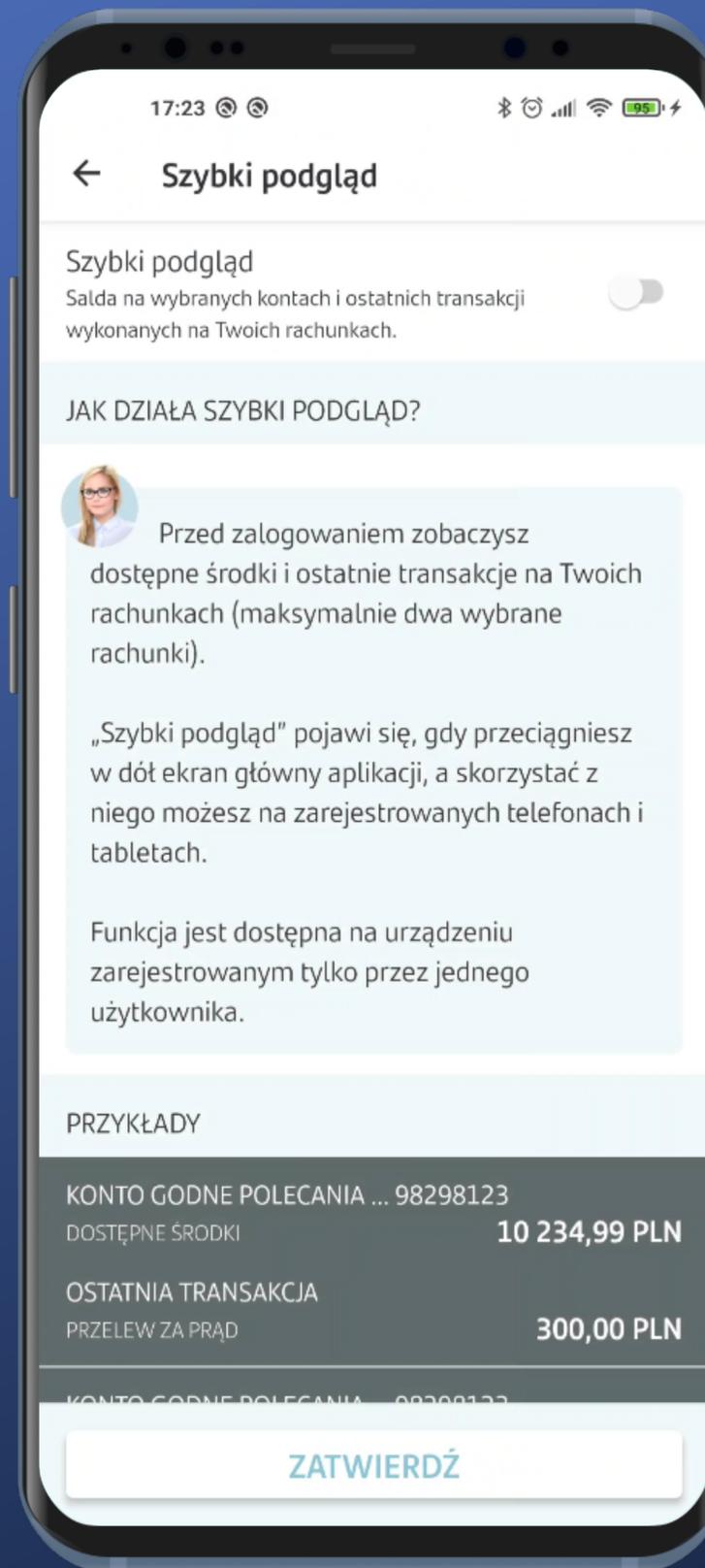


And this is it – here’s an information about possibility of turning the balance preview on. Very well then.

Let’s turn it on.

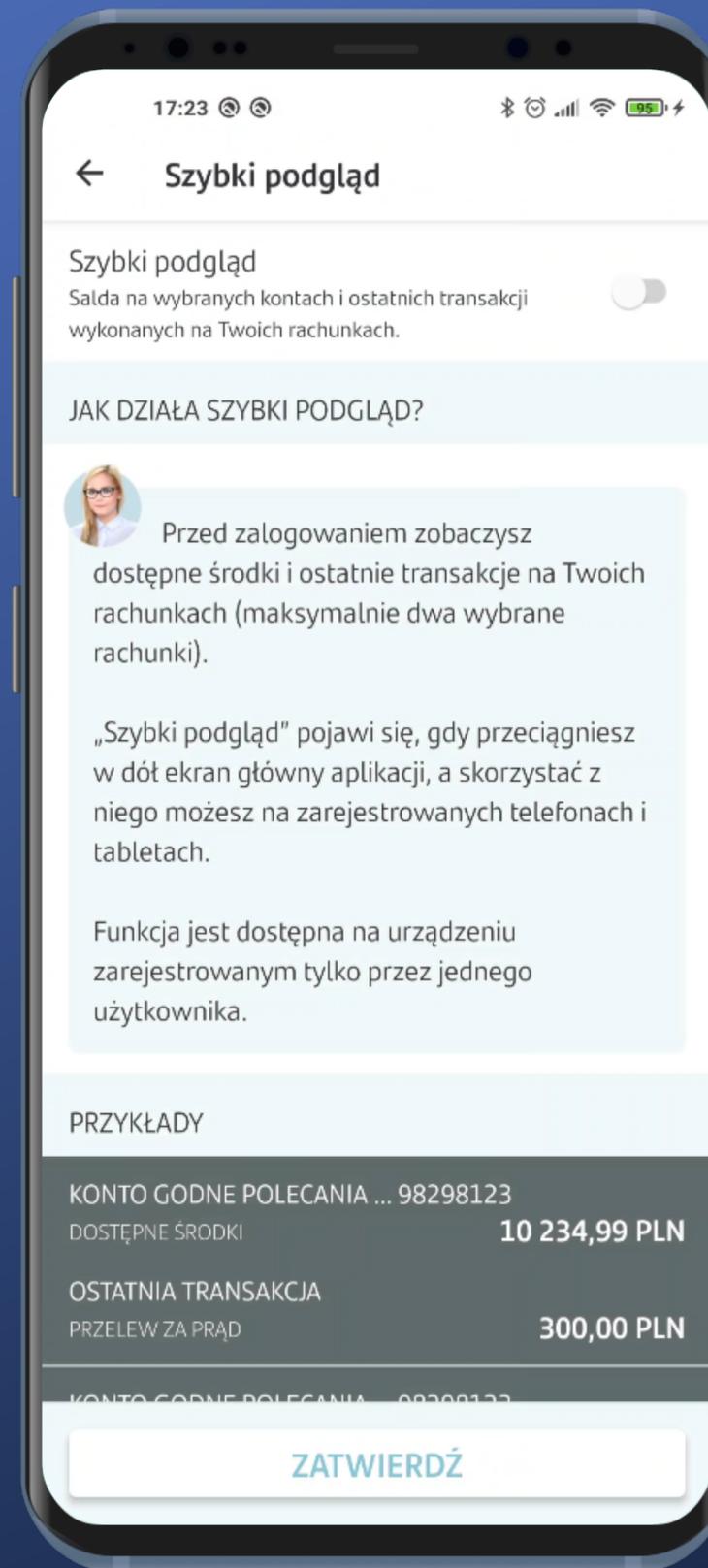
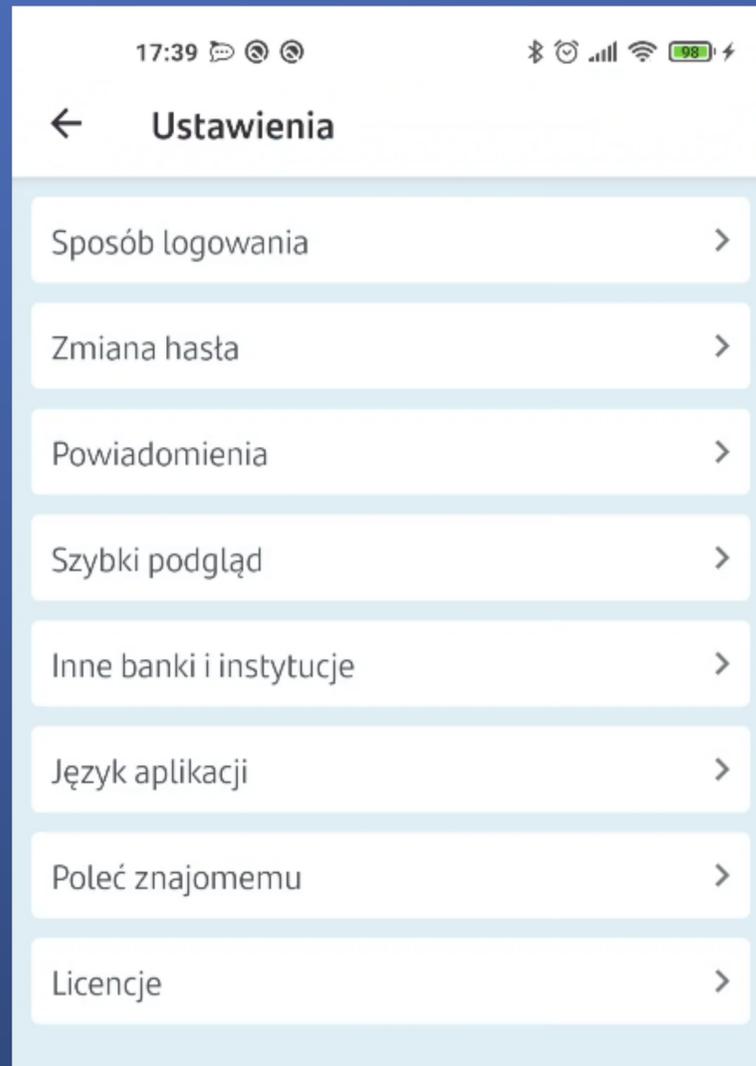


Logging in is required. Its' totally understandable.

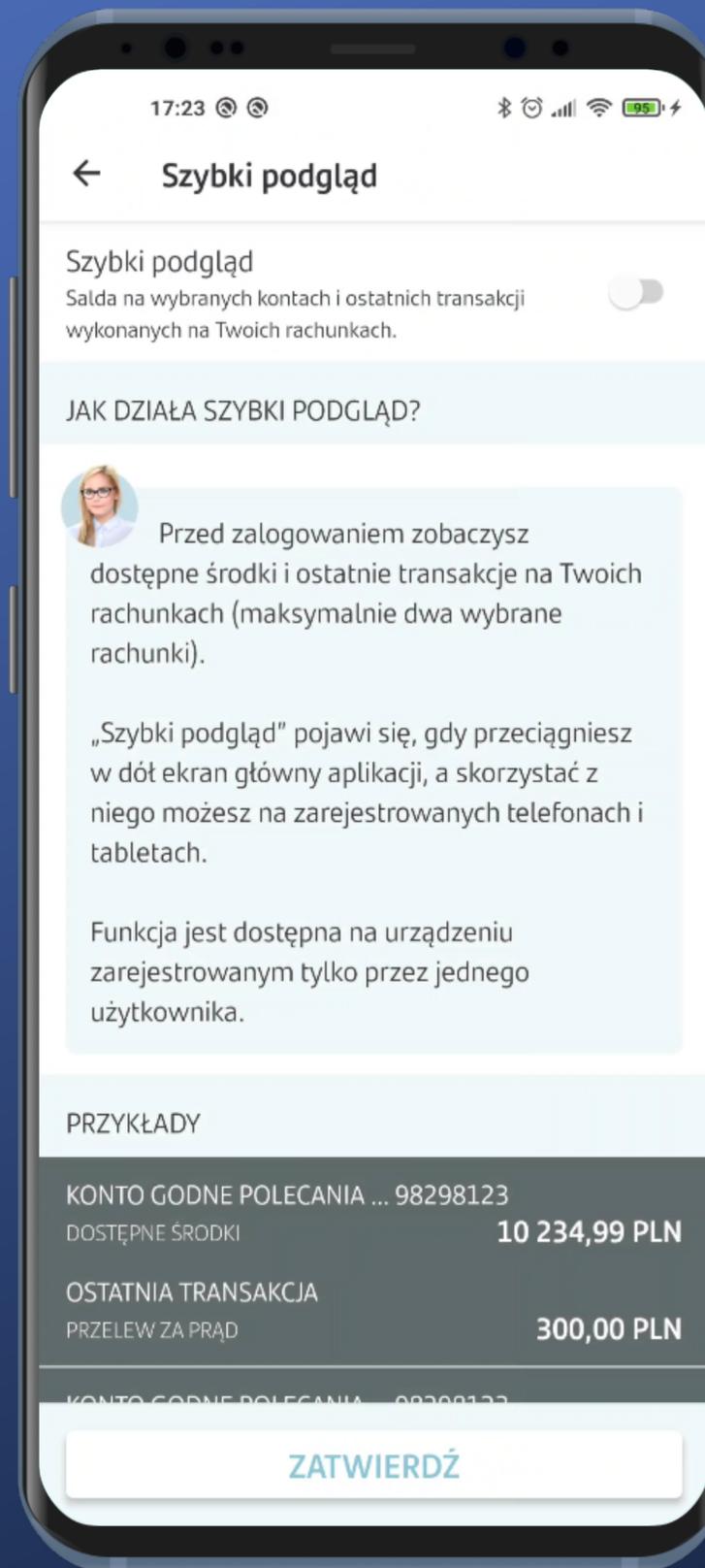


We got to the screen, where we can turn the balance preview on.

We could have got here from Settings, too:

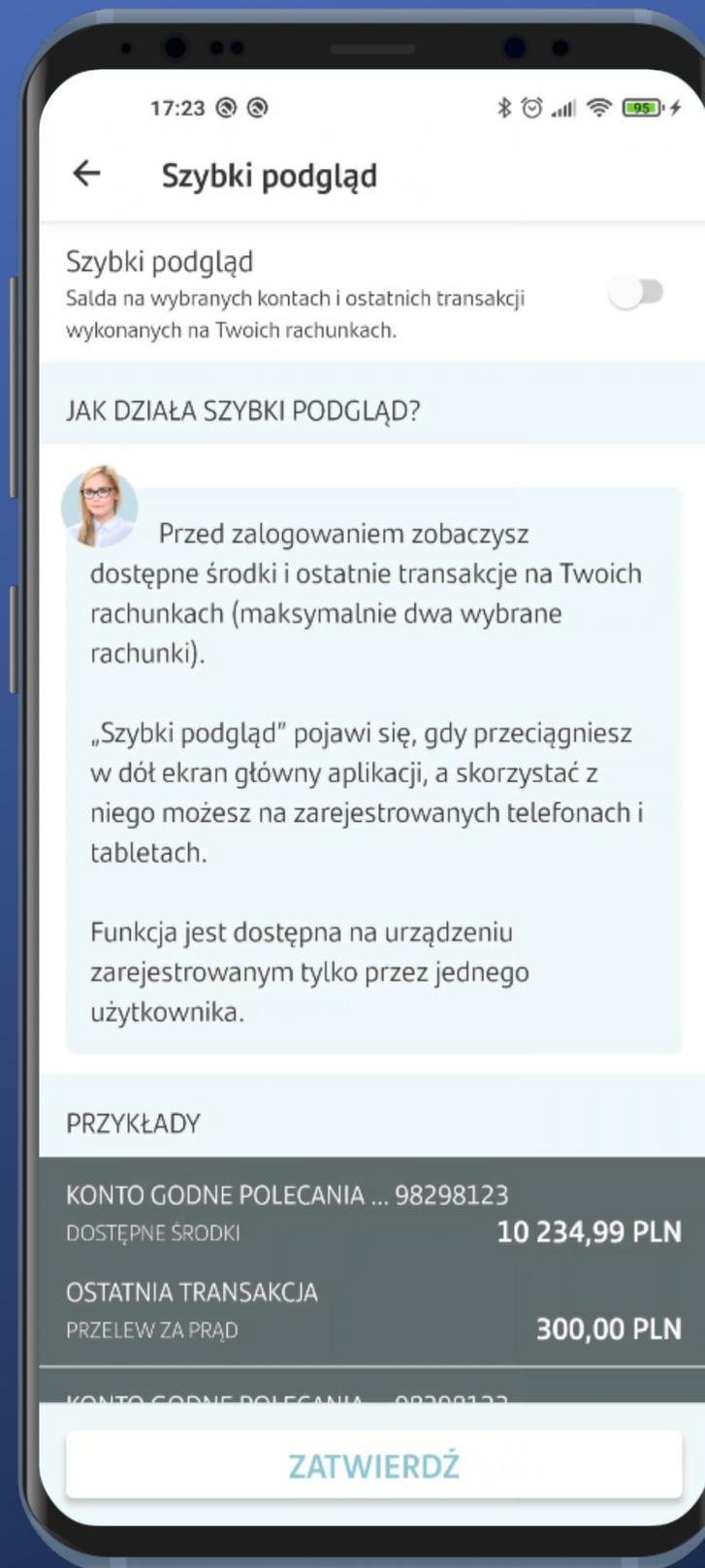


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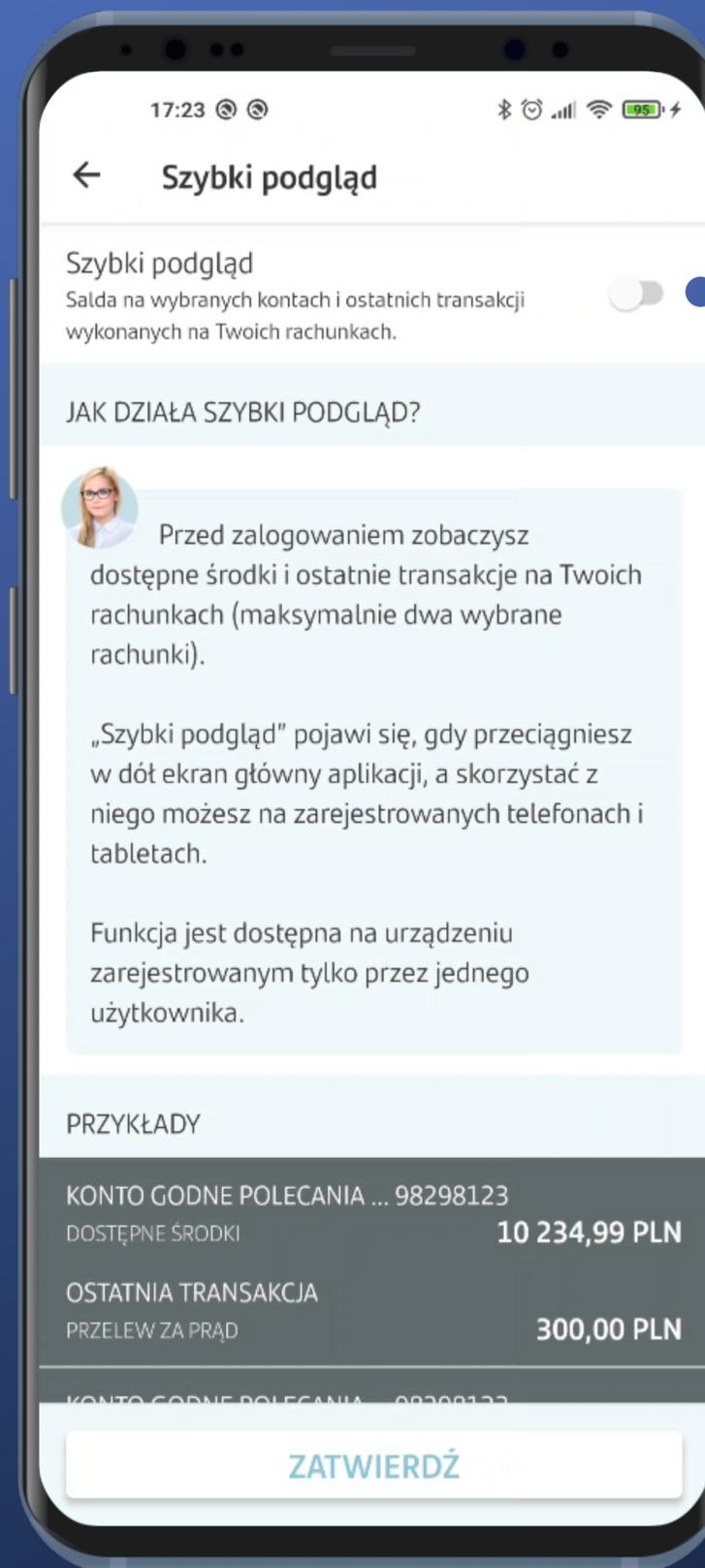
We can see a neat guide how to use the preview function, along with a visual example.



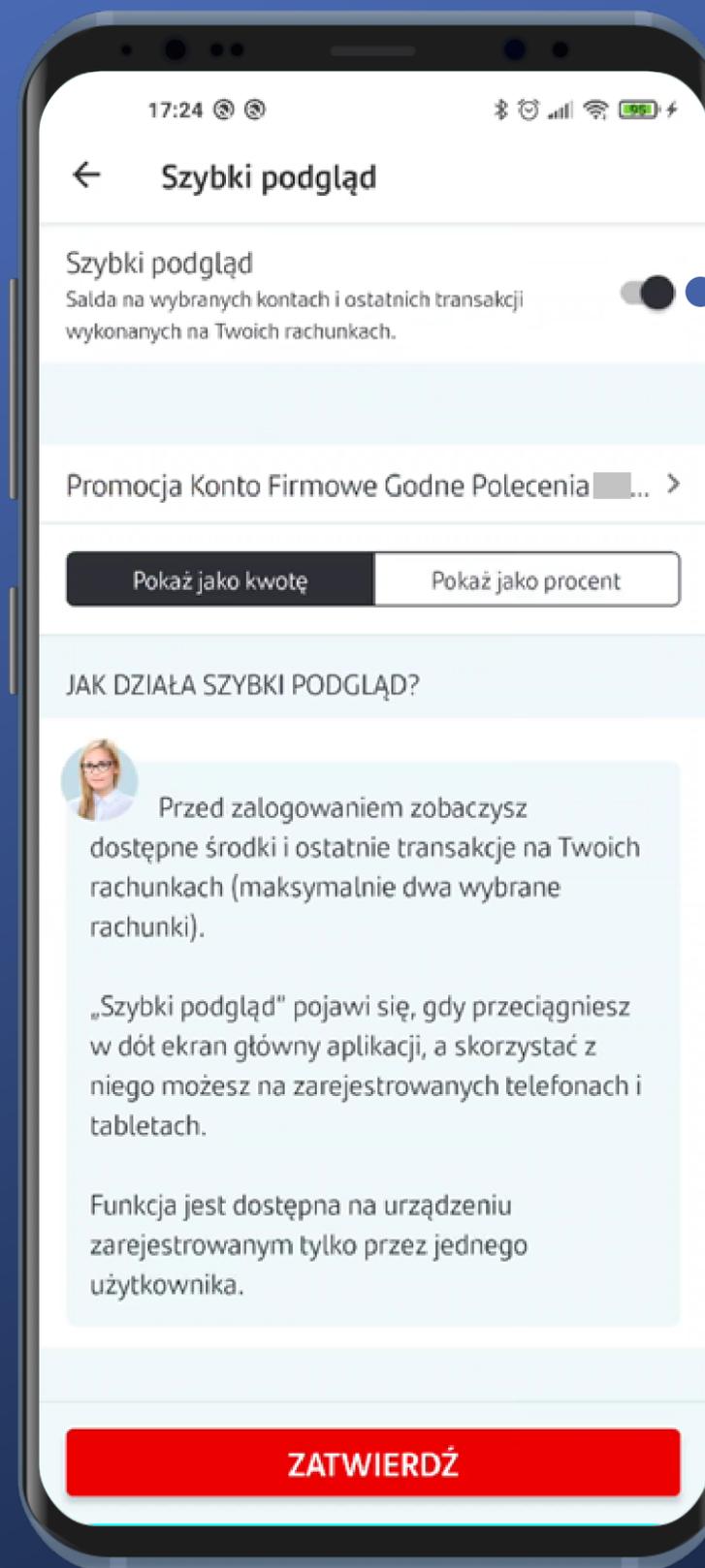
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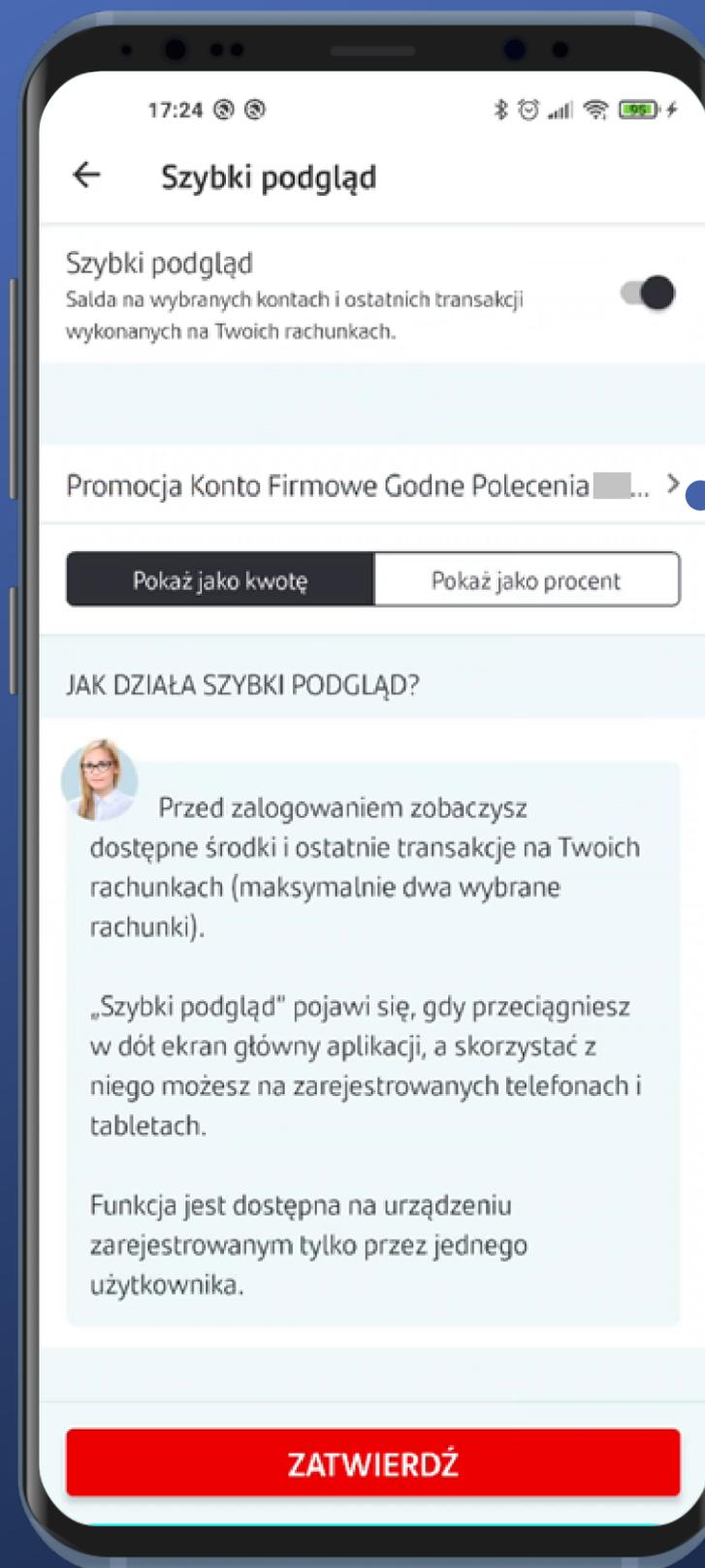
There is a preview of the balance of two selected accounts and the last transaction. Cool.



So let's turn it on.



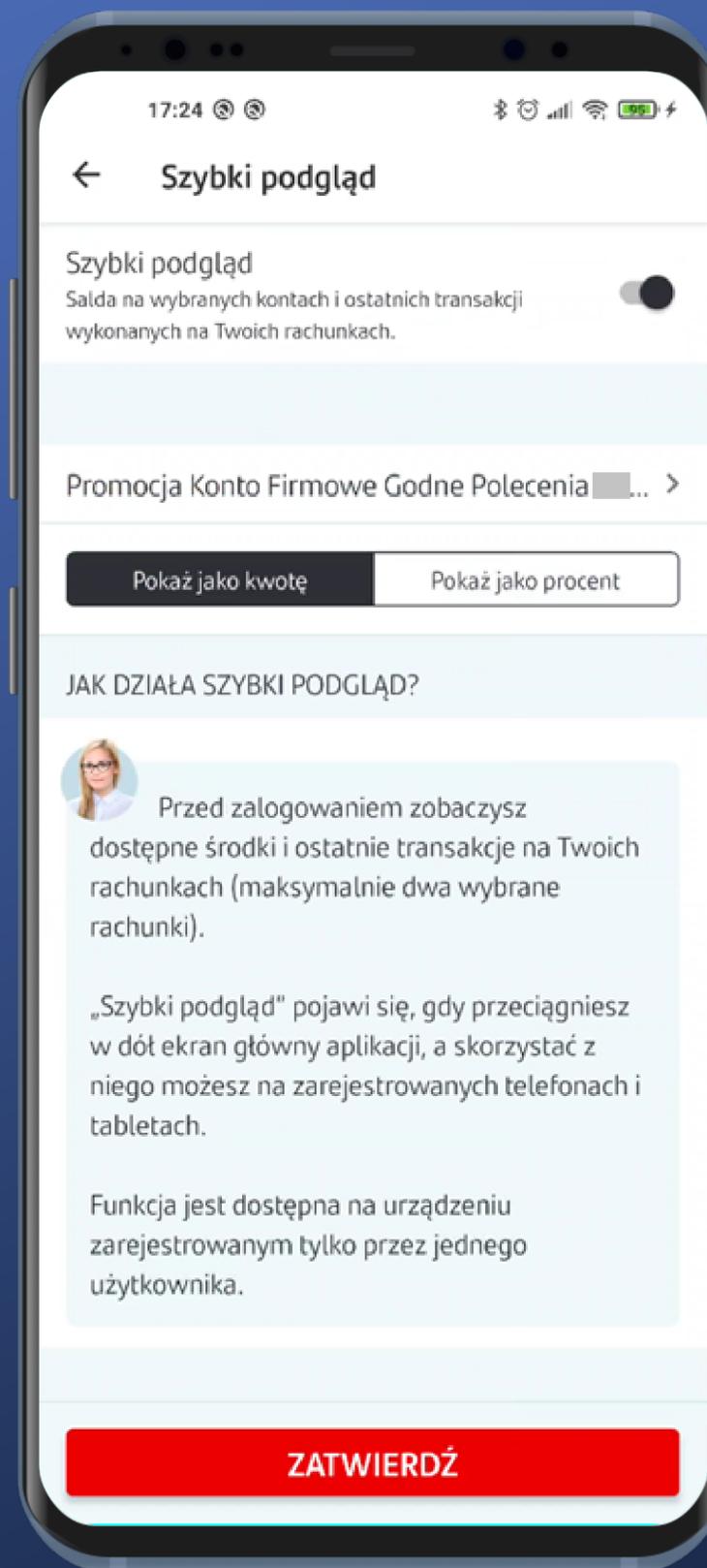
— Hmm, there is no preview anymore. We cannot check out how the selected options affect the data shown.



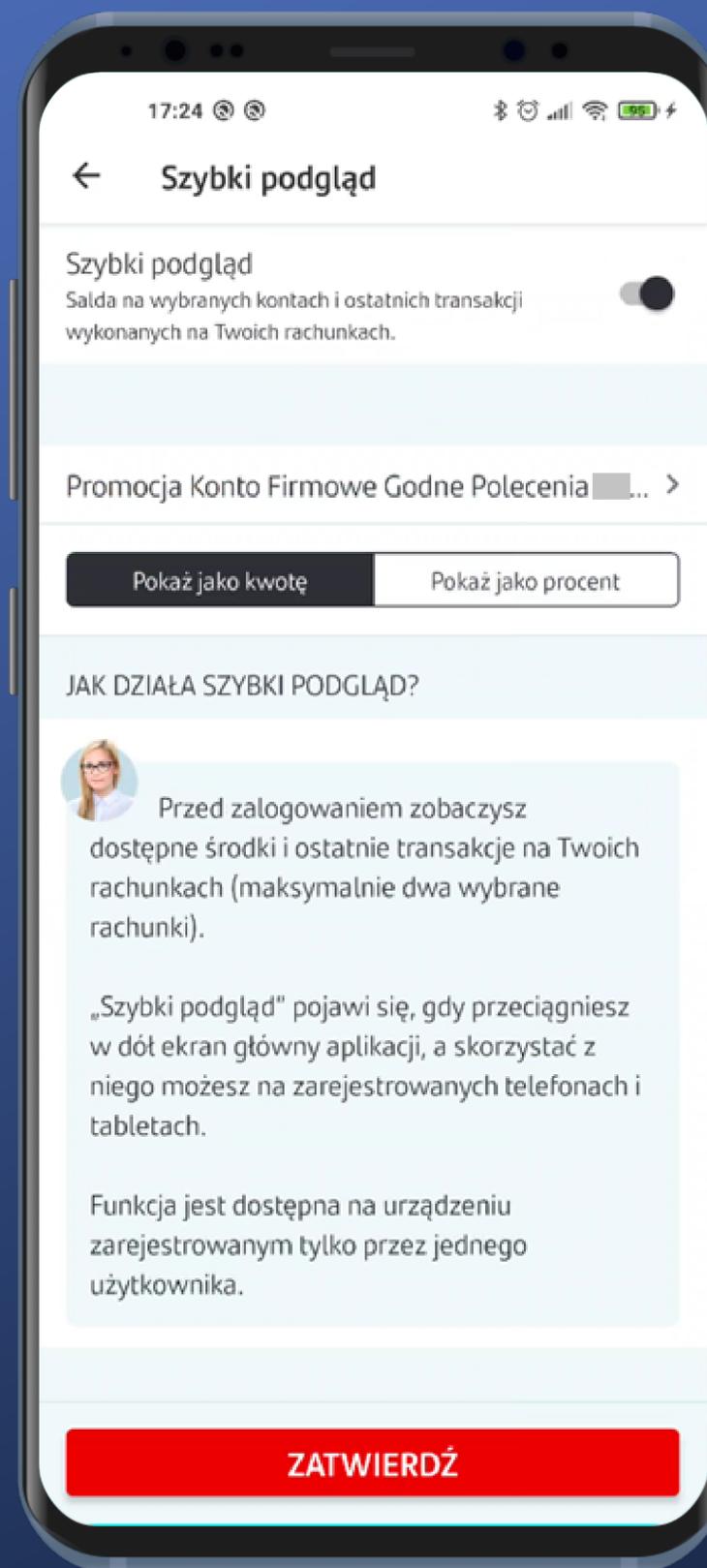
We're going to try to change or add a new account.



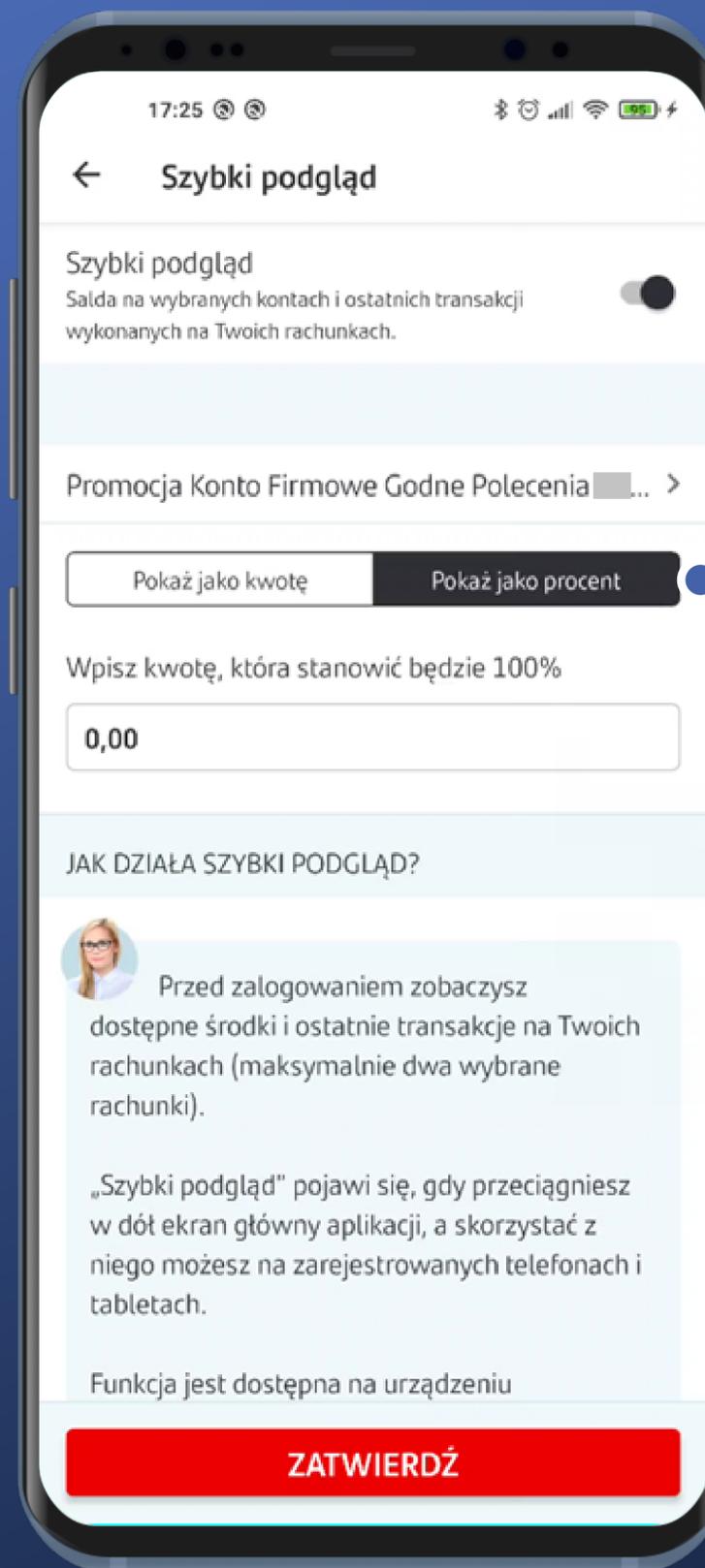
It's just too bad I only have one account.
We can only trust it's possible to select two different accounts if they're available.



I can't seem to find out how to set the last transaction visibility option though. Well, it looks like it's already there – account balance must come along with the last transaction. Not everyone will be happy with this solution.

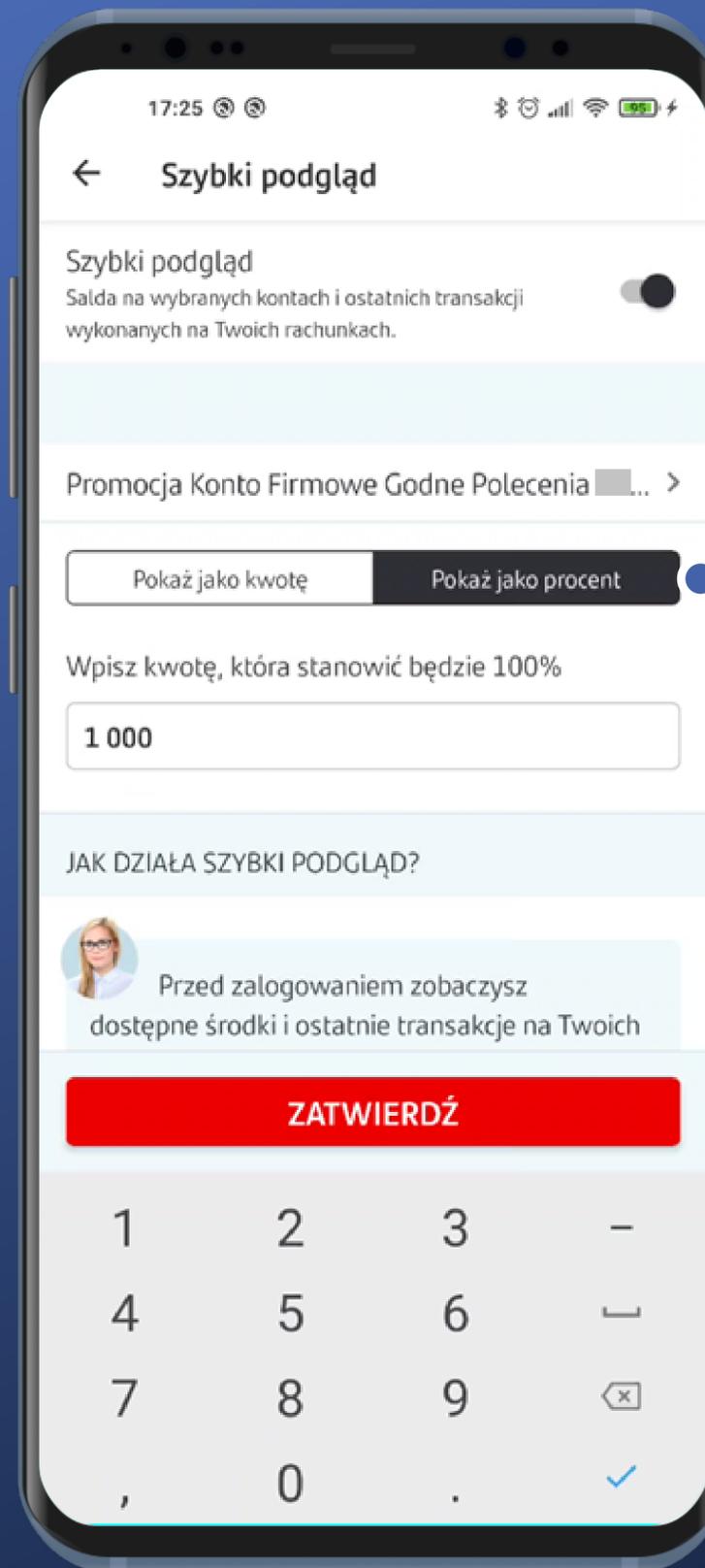


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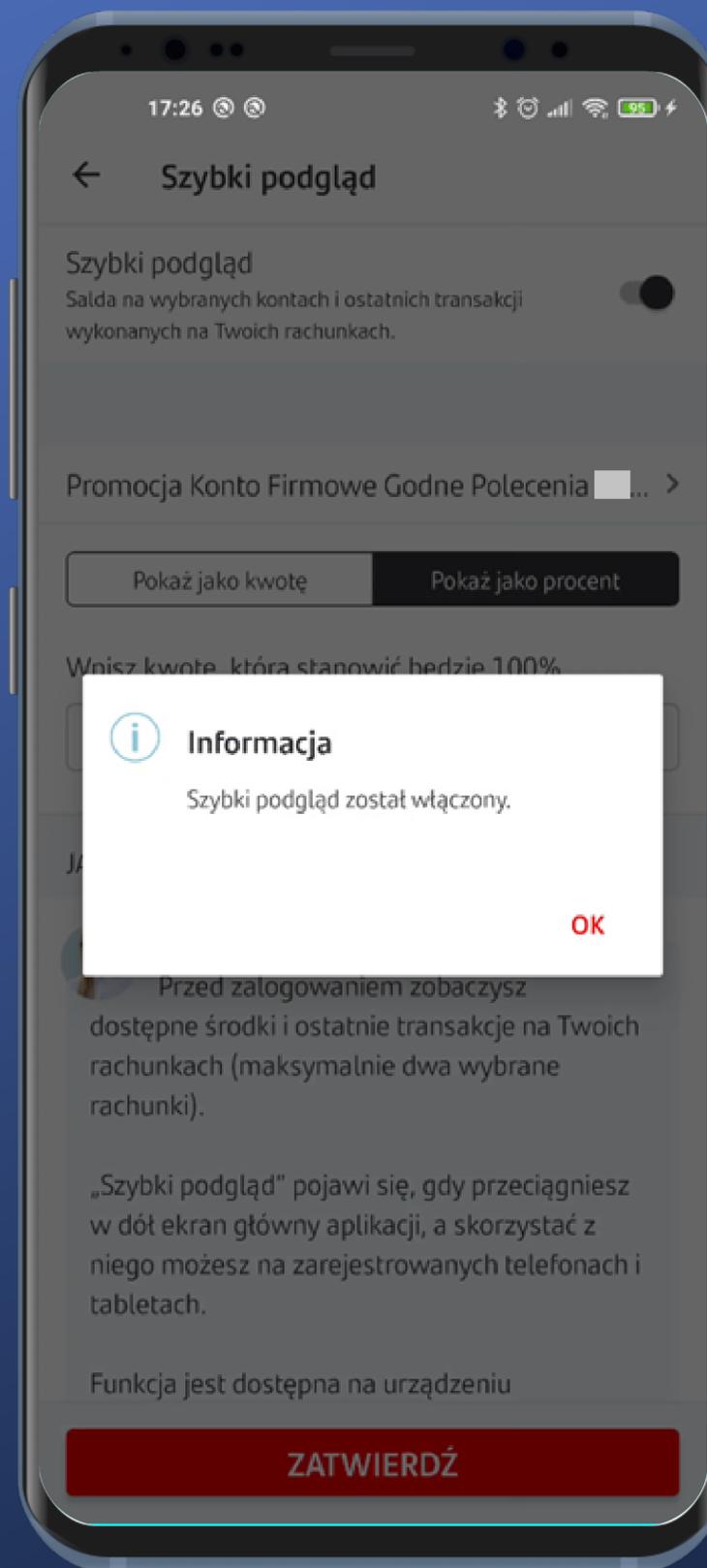
The base amount needs to be set. Let's go with 1000.



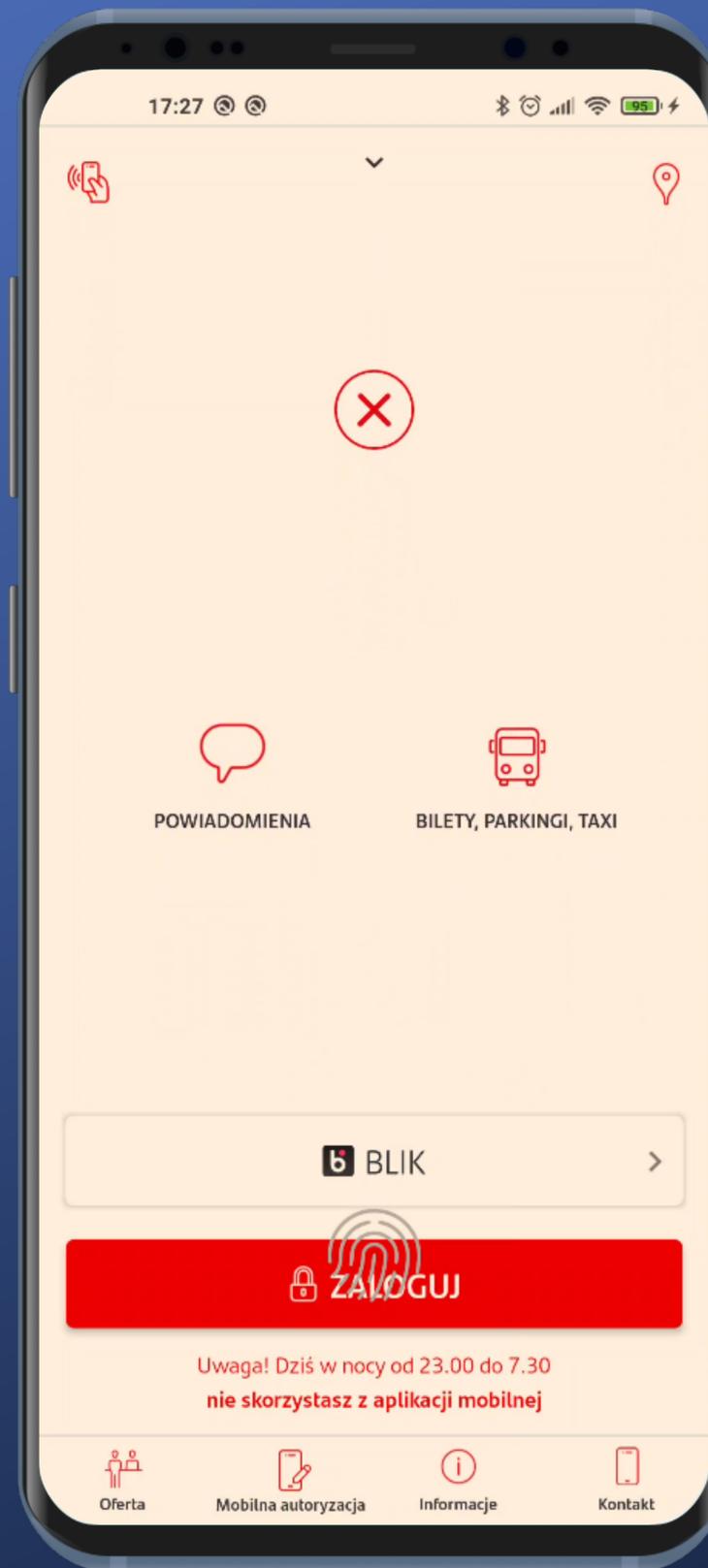
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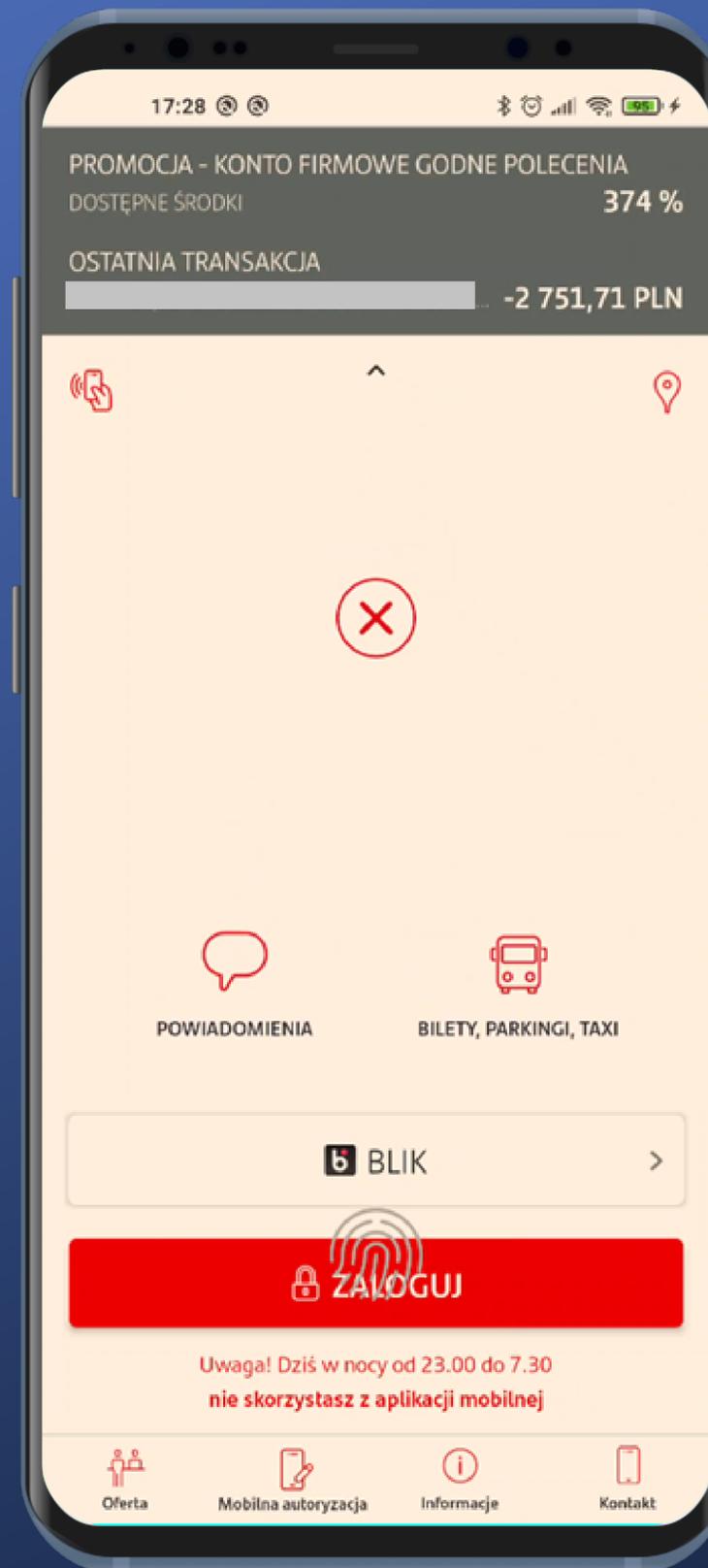
And confirm.



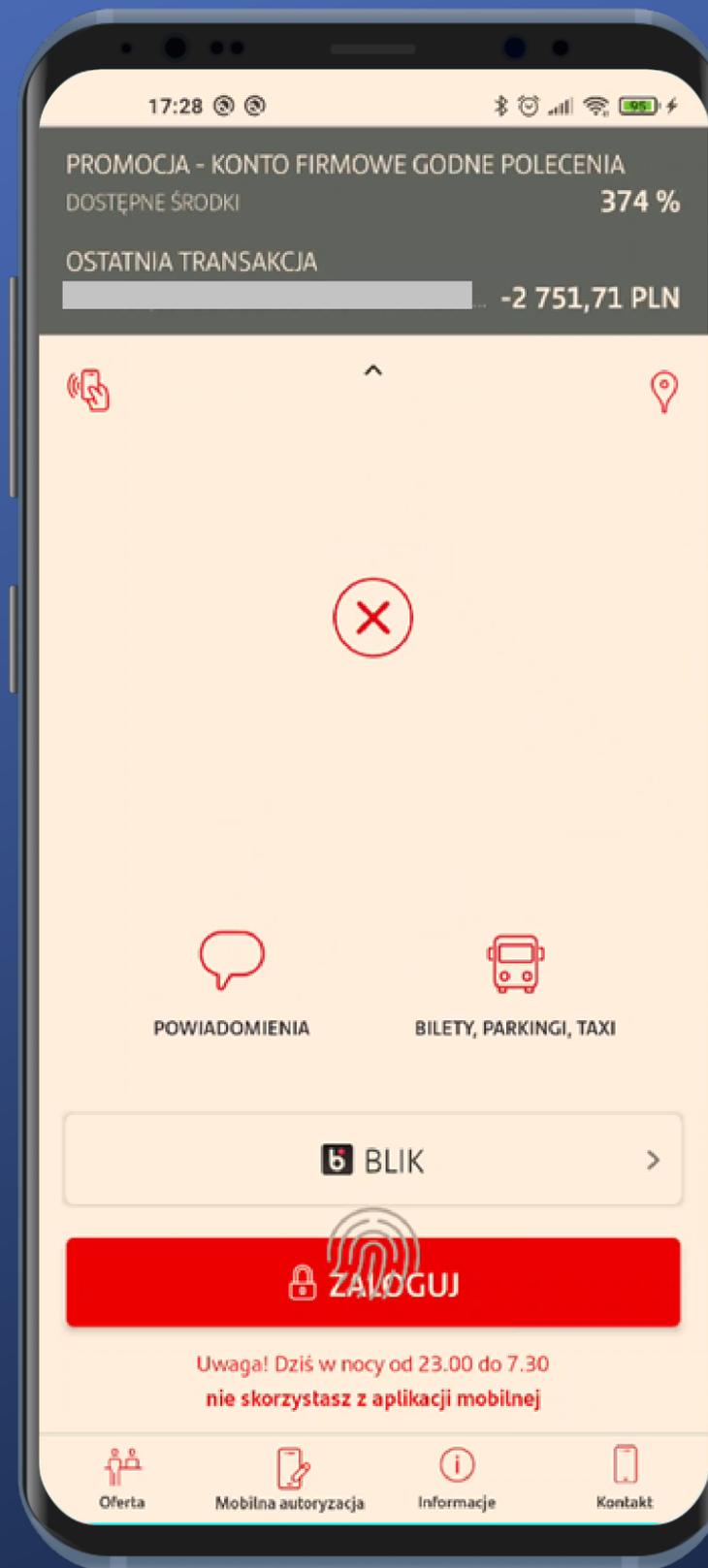
It worked.
So why don't we check the
startup screen out now?



We already know we need to expand this area. Okay then.

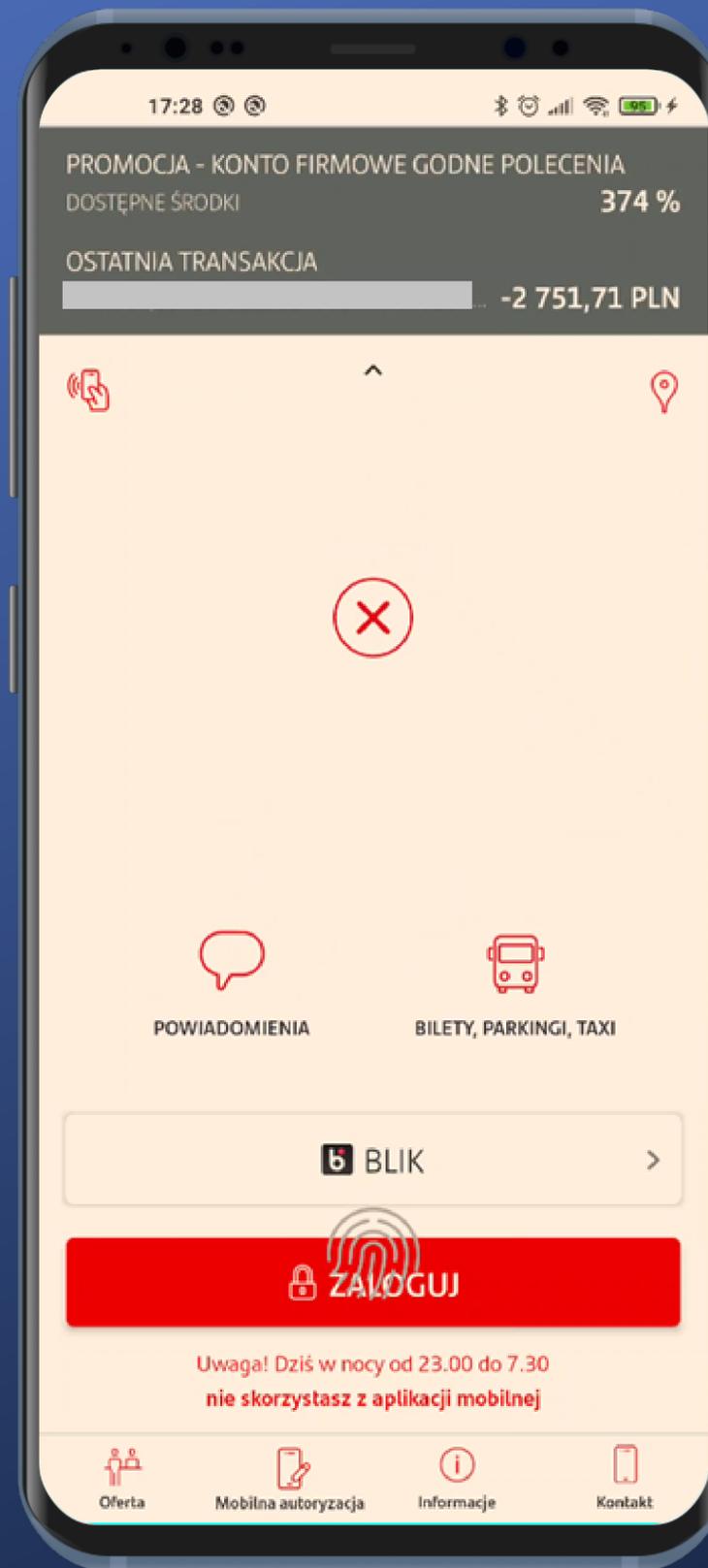


The account balance and the last transaction are on display.



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It's curious that the account balance goes over 100%.

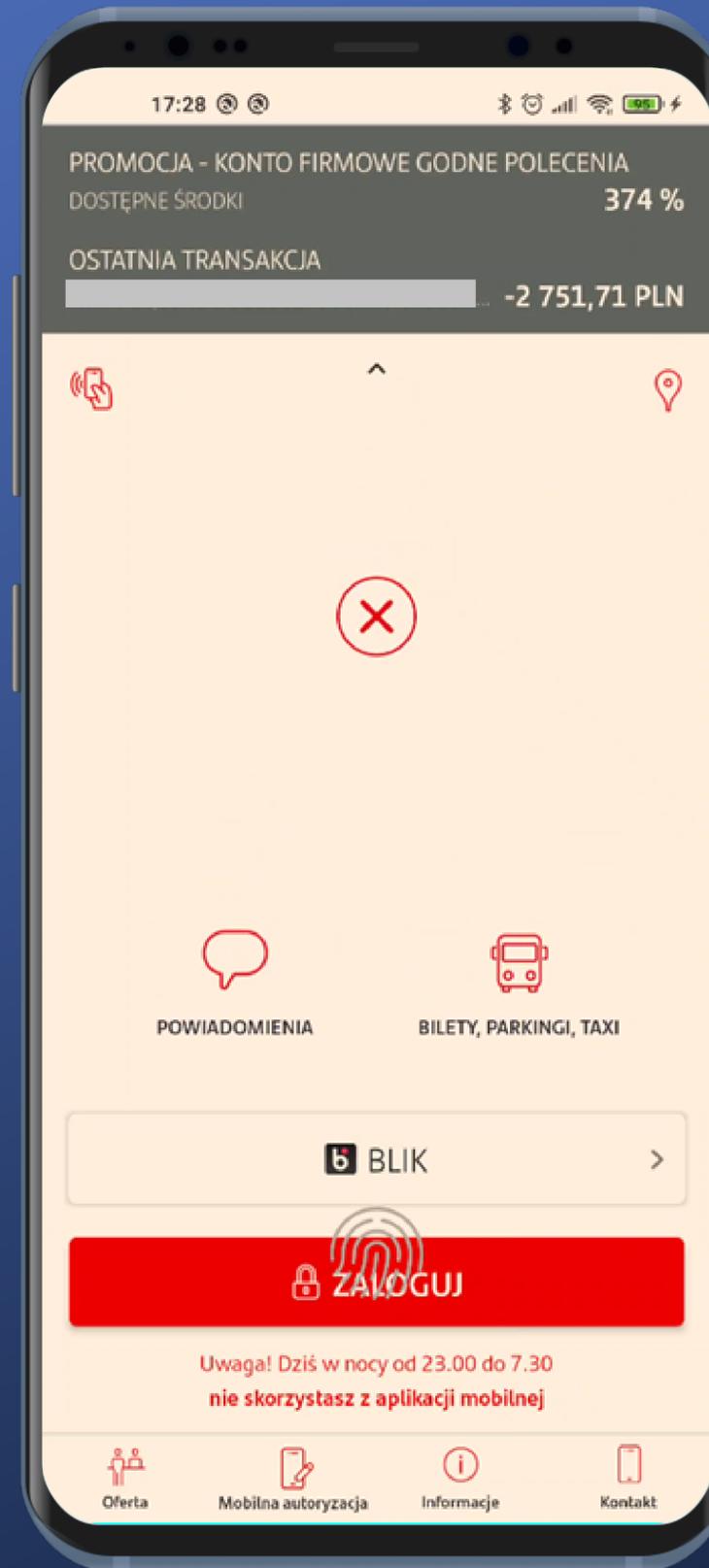


The account balance and the last transaction are on display.

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In case of larger amounts of money in the account, this way of presenting data indicates that we really deal with serious sums. Limiting displayed value down to 100% is much more common.

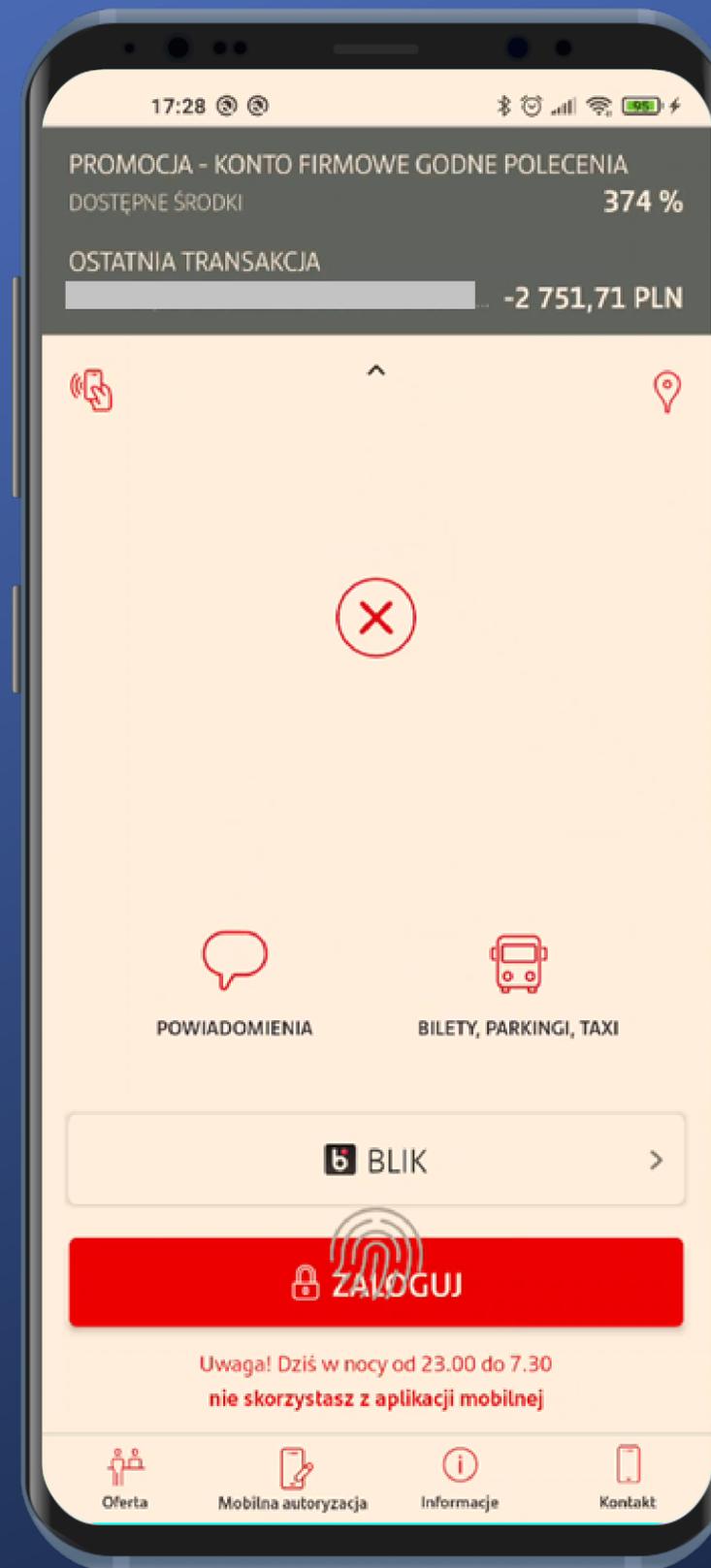


The account balance and the last transaction are on display.

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In case of larger amounts of money in the account, this way of presenting data indicates that we really deal with serious sums. Limiting displayed value down to 100% is much more common.

The last transaction shows the transfer title (we hid it here), and it's not something everyone would like to see.

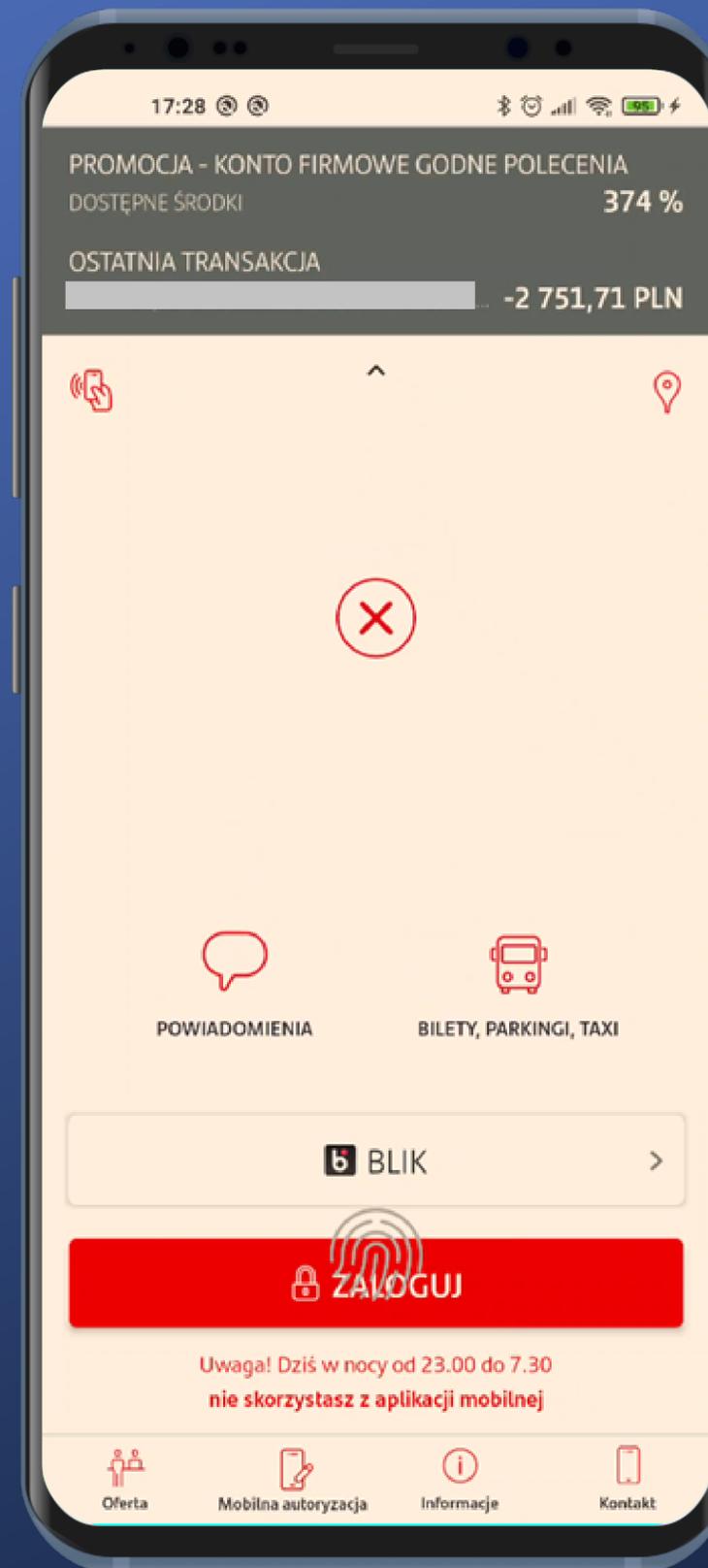


The account balance and the last transaction are on display.

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Summary





All in all, the process of logging in can be considered quick and comfortable, although visual glitches get in the way.

It's possible to enable biometric login right on startup screen.

It's possible to enable the account balance preview (along with the last transaction).