Northeastern University
Khoury College of Computer Sciences

CS5520 Mobile Application Development

Final Project

Fall 2021 - Team 66141

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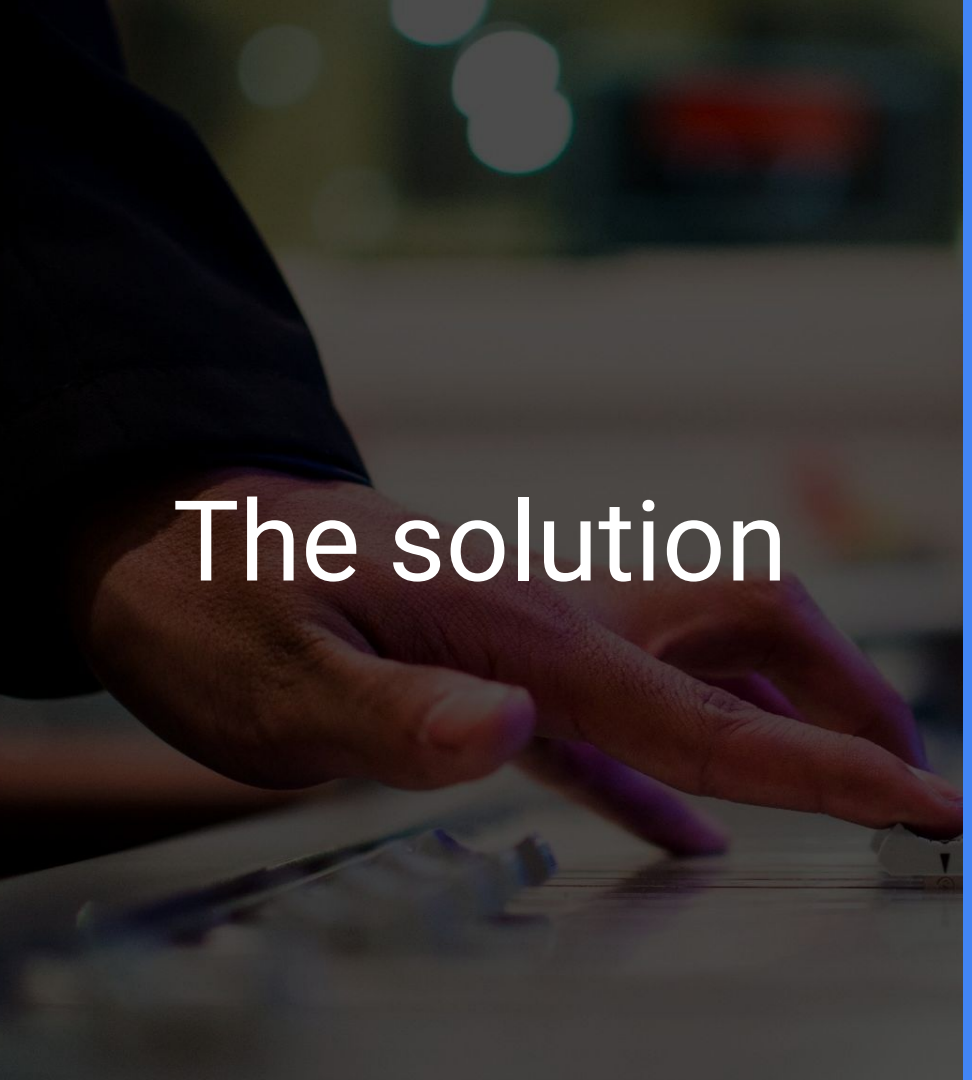
Cardless ATM - Quick Cash

The problem

Cost on printing / mailing ATM card

Customer need to remember the ATM PIN in order to get the cash

Fraudster on ATM cash



The solution

Why not replace the ATM Card with Mobile Device ?

How it works

Step 1

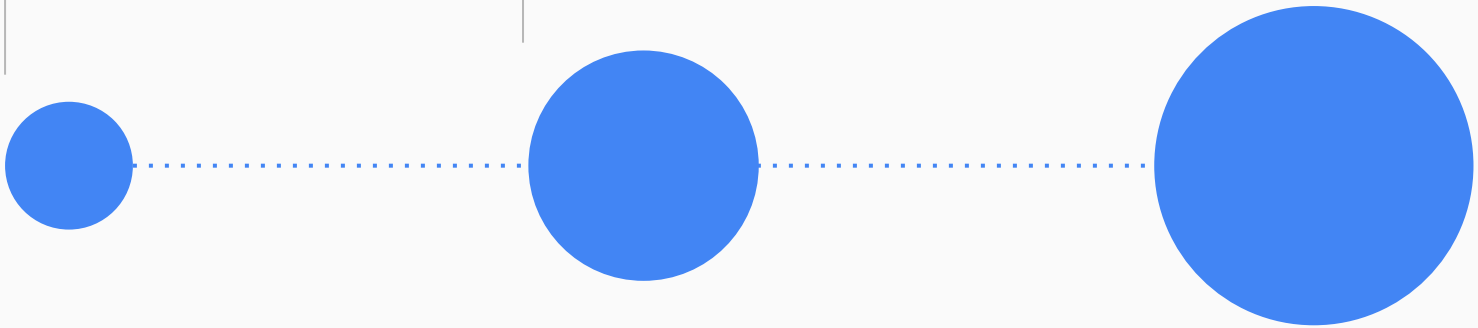
Get ATM QR code

Step 2

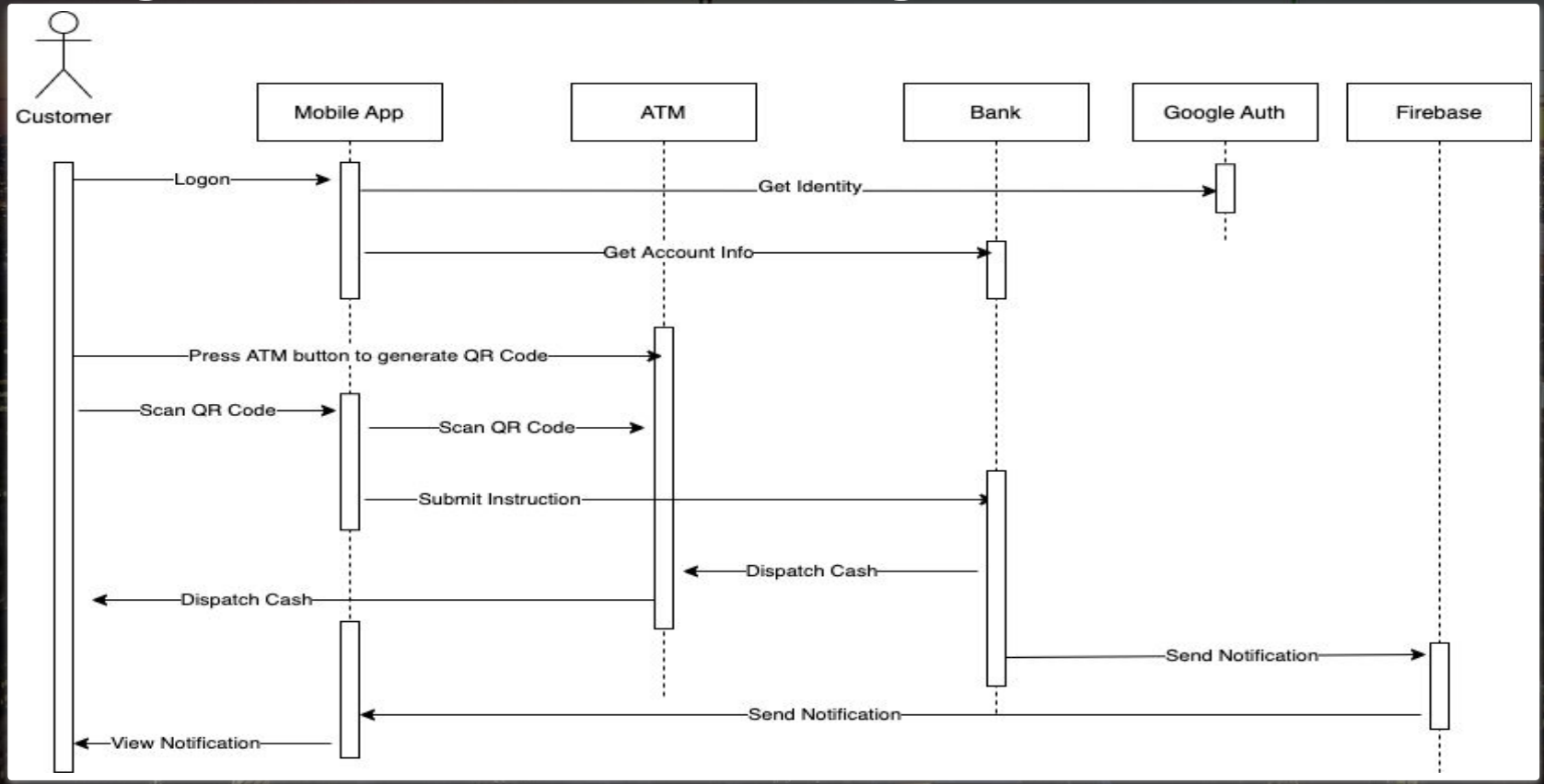
Scan it

Step 3

Collect cash



High Level Integration



Security

Biometric verification

Use customer biometric information to authenticate customer genuine

Push notification

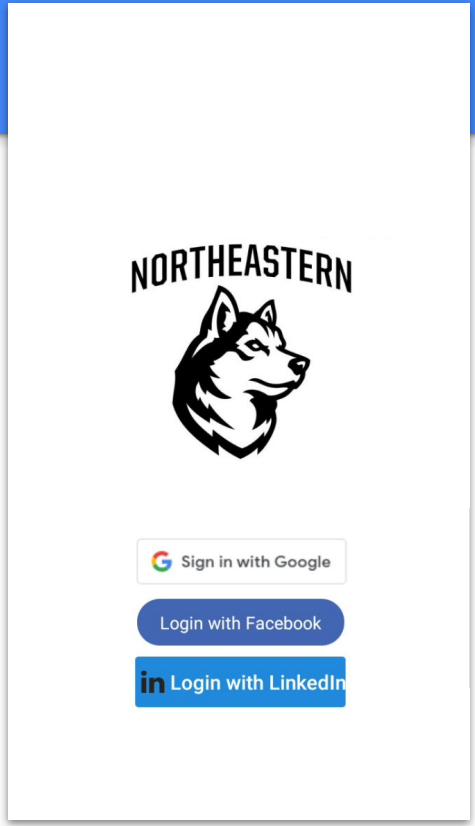
Push notification will notify customer upon cash dispatch

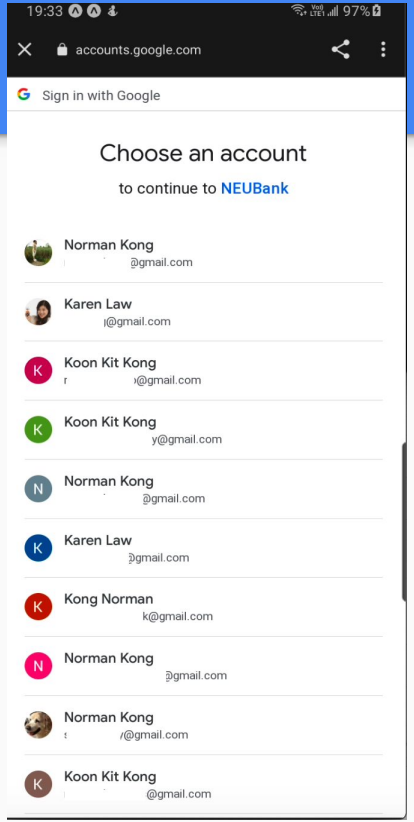
The technology:

- react-navigation/native
- react-native-gesture-handler
- react-native-reanimated
- react-native-screens
- react-native-safe-area-context
- react-native-community/masked-view
- react-navigation/stack
- react-session-api
- react-native-elements
- react-native-paper
- react-native-snap-carousel
- expo-google-app-auth
- expo-notifications
- expo-camera
- expo-brightness
- expo-location
- expo-local-authentication
- expo-sharing
- expo-facebook
- react-navigation/bottom-tabs
- react-navigation/native-stack
- lottie-react-native
- react-native-maps
- react-native-btr
- react-native-view-shot
- react-native-svg-charts
- rn-linkedin-login
- react-bootstrap
- react-native-webview
- react-native-indicators

expo-google-app-auth

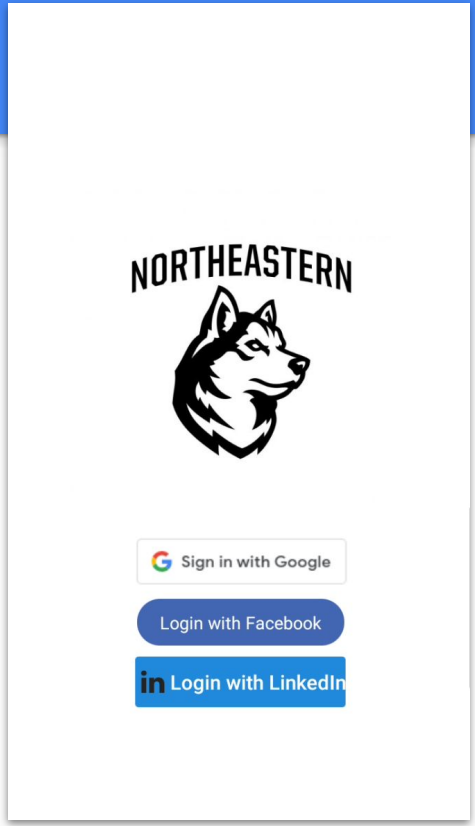
It provides Google authentication integration for Expo apps using a secure system web browser with native expo-app-auth

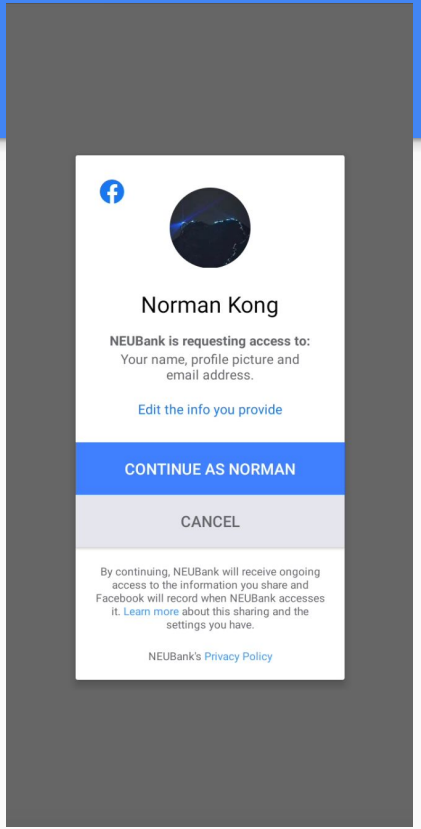




expo-facebook

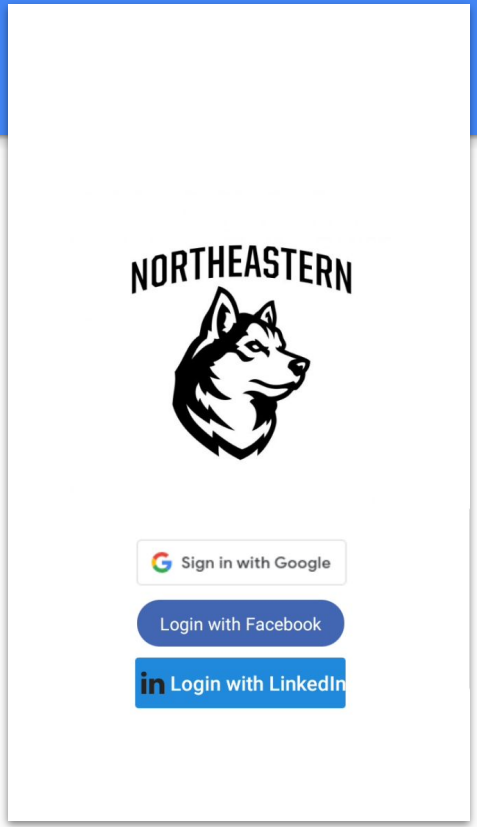
It provides Facebook app to app authentication integration

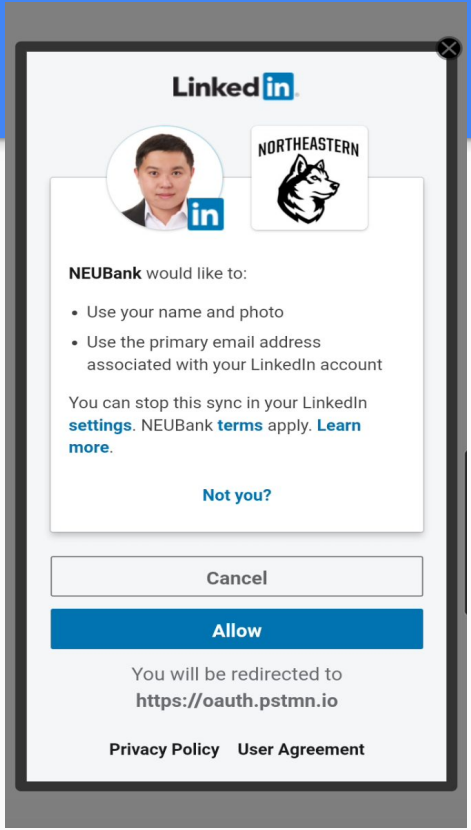




rn-linkedin-login

It provides LinkedIn OAuth integration using webview





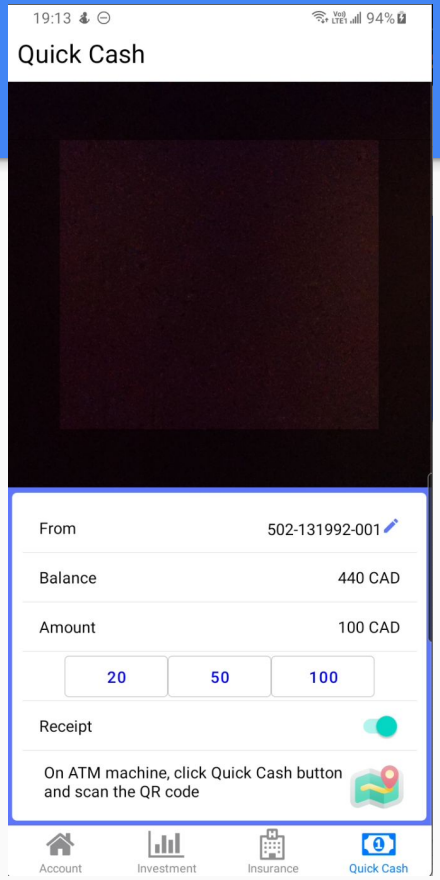
expo-camera / expo-brightness

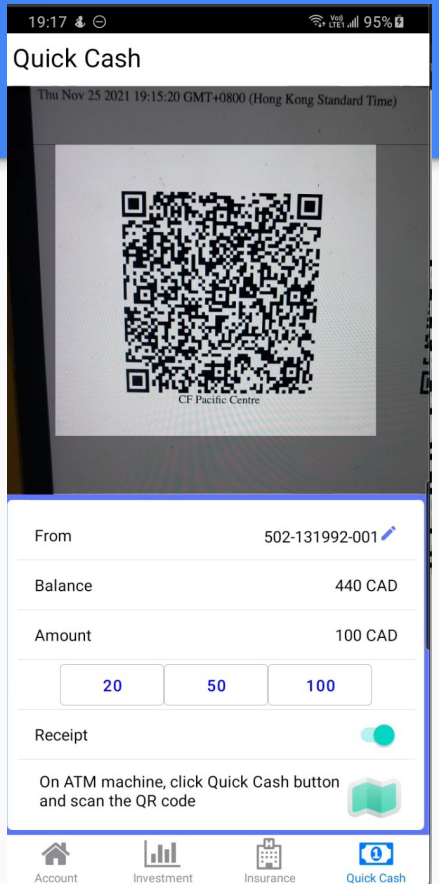
expo-camera

- Provides a React component that renders a preview for the device's front or back camera

expo-brightness

- Get and set screen brightness.





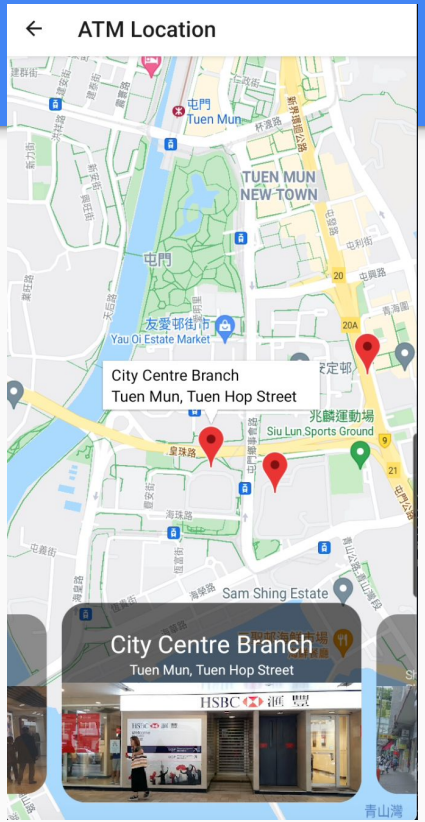
expo-location / react-native-maps

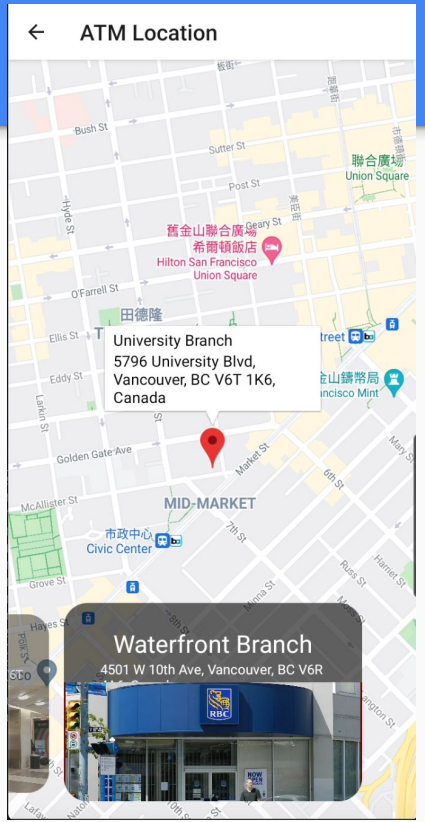
expo-location

- allows reading geolocation information from the device.

react-native-maps

- provides a Map component that uses Apple Maps or Google Maps on iOS and Google Maps on Android.

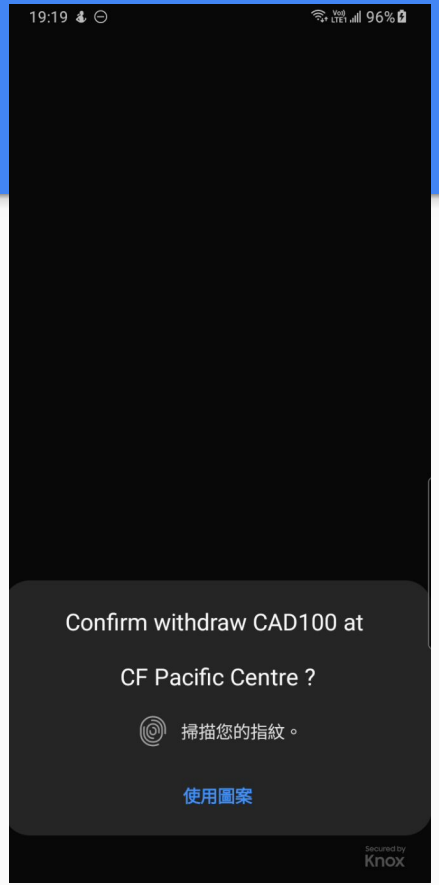




expo-local-authentication

expo-local-authentication

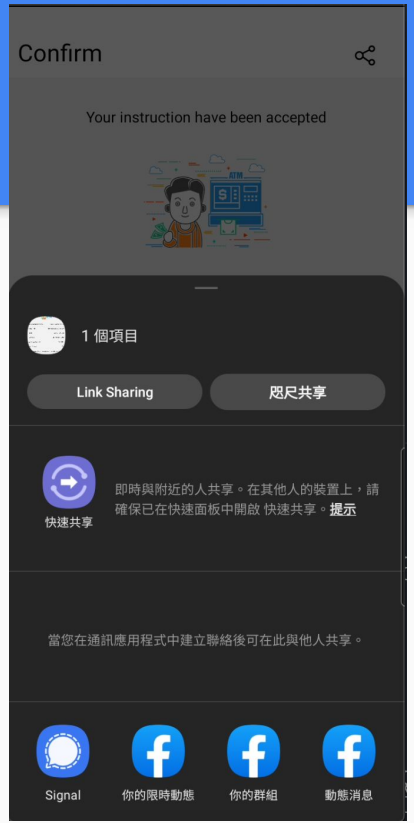
- allows you to use FaceID and TouchID (iOS) or the Biometric Prompt (Android) to authenticate the user with a face or fingerprint.

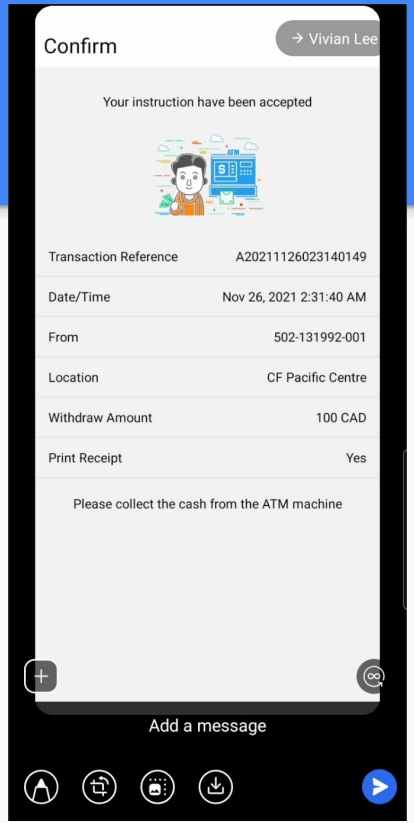


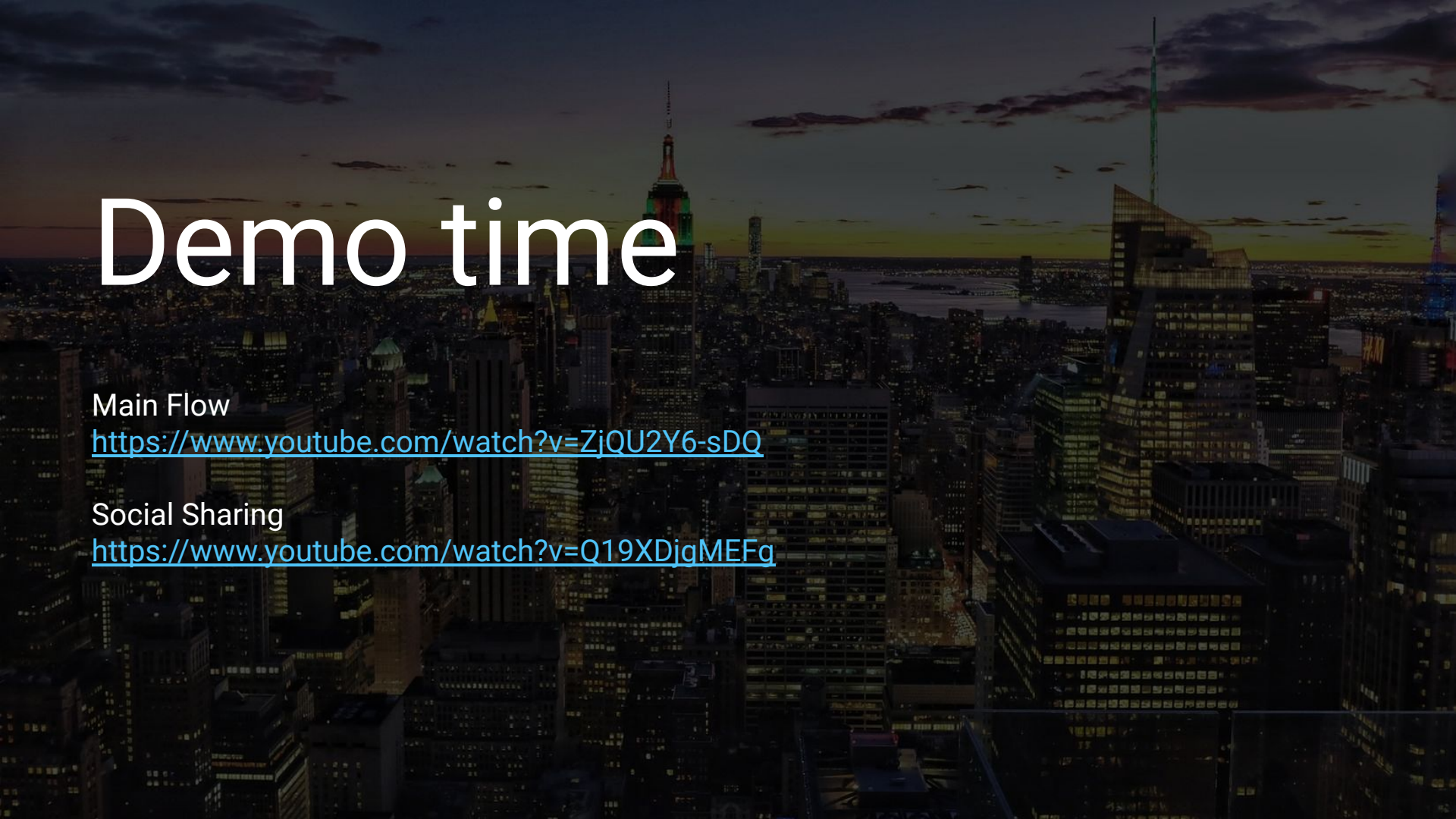
expo-sharing

expo-sharing

- allows you to share files directly with other compatible applications.





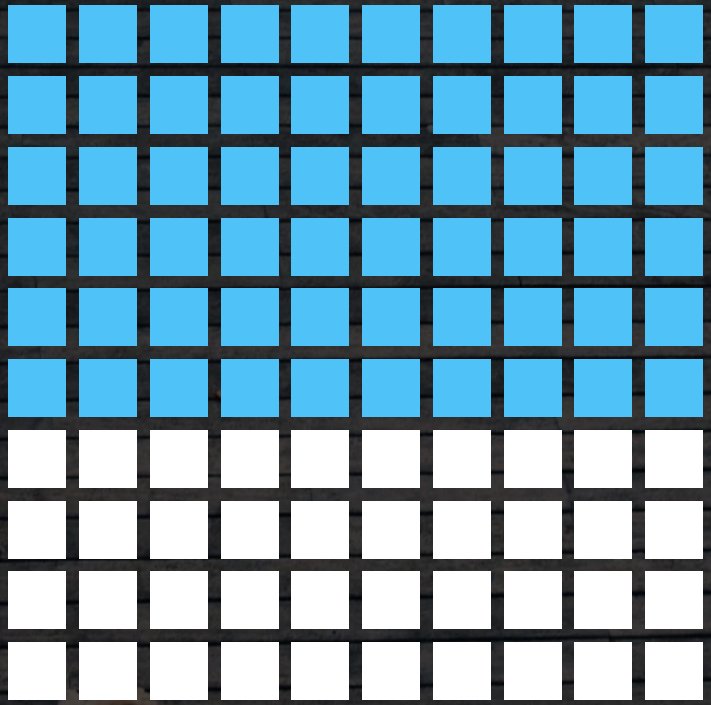


Demo time

Main Flow
https://www.youtube.com/watch?v=ZjQU2Y6-sDQ

Social Sharing
https://www.youtube.com/watch?v=Q19XDjgMEFg

Appendix

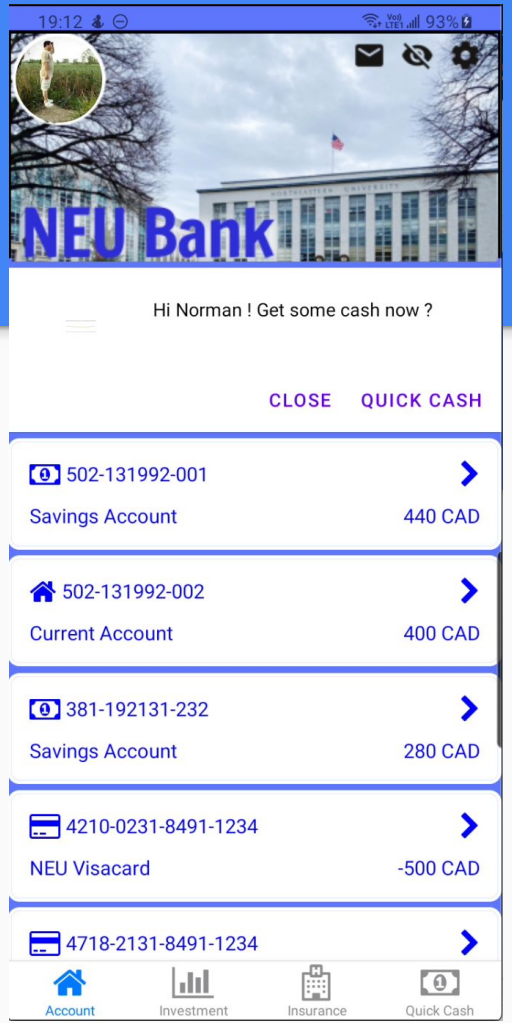


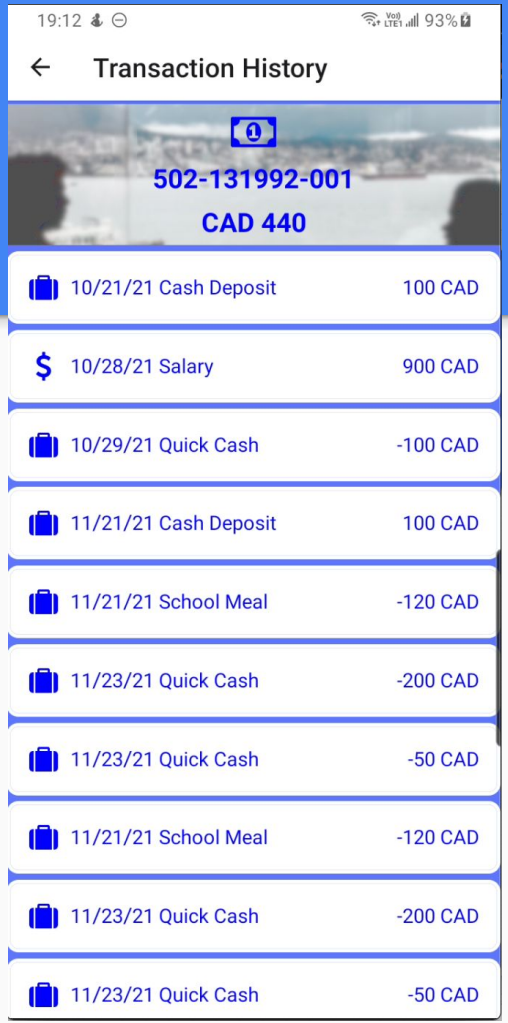
NORTHEASTERN

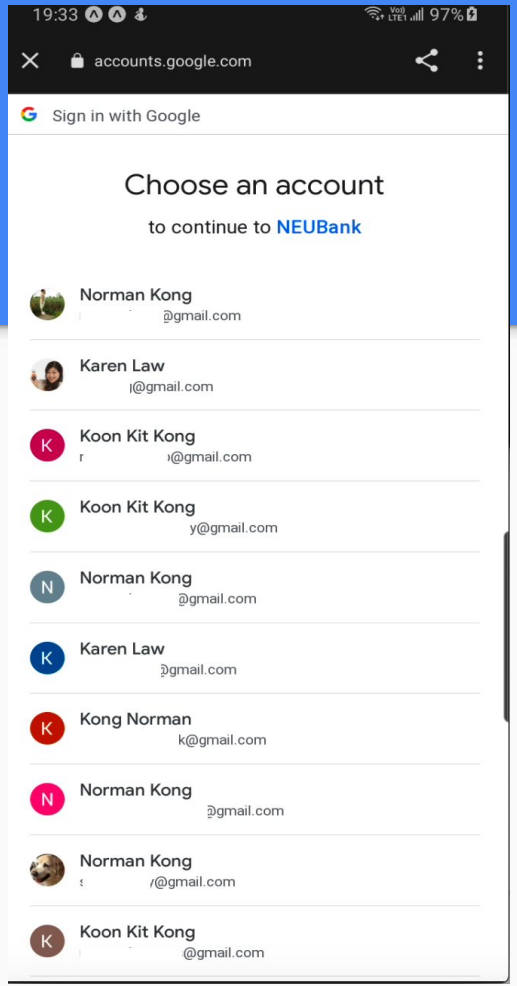
Sign in with Google

Login with Facebook

Login with LinkedIn






19:33
97%
accounts.google.com
Sign in with Google
Choose an account
to continue to NEUBank
Norman Kong
@gmail.com
Karen Law
@gmail.com
Koon Kit Kong
@gmail.com
Koon Kit Kong
y@gmail.com
Norman Kong
@gmail.com
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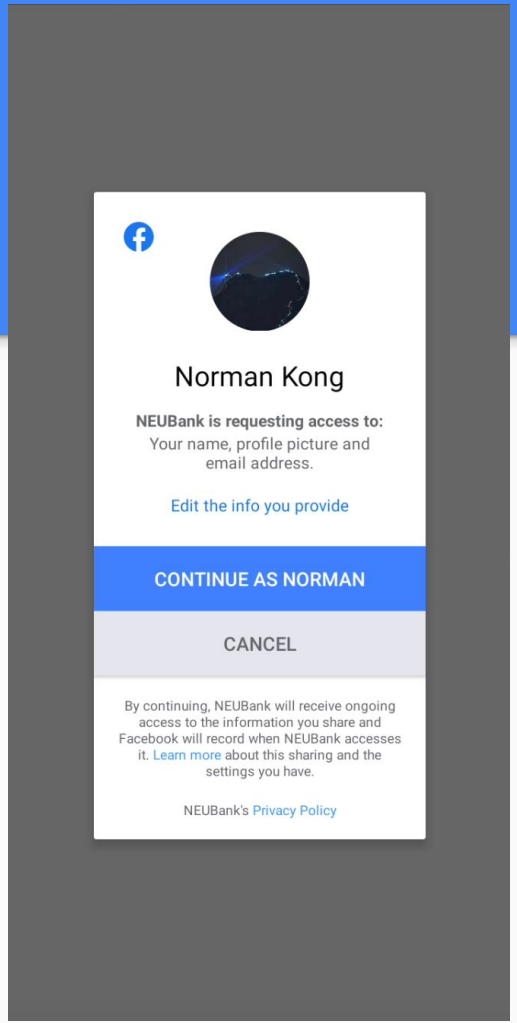
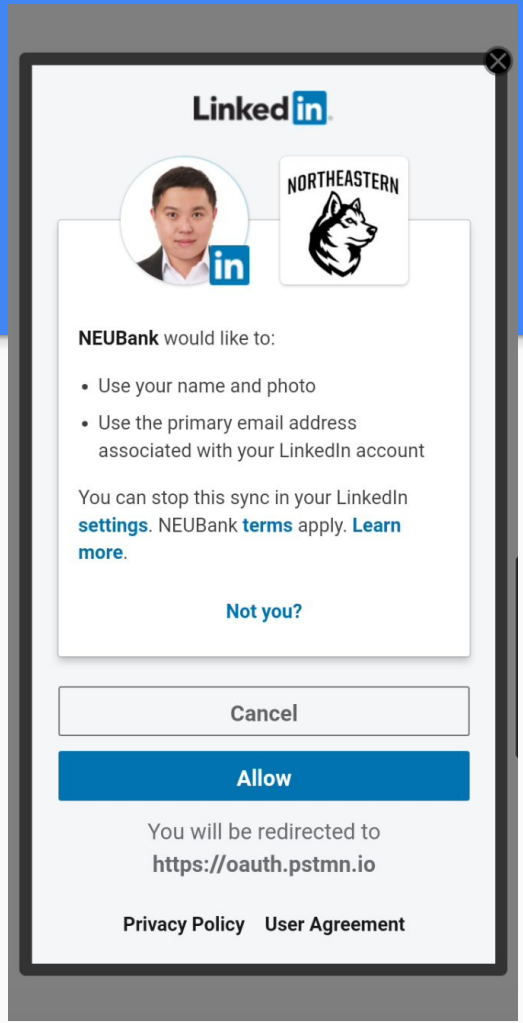

Norman Kong
NEUBank is requesting access to:
Your name, profile picture and email address.
Edit the info you provide
CONTINUE AS NORMAN
CANCEL
By continuing, NEUBank will receive ongoing access to the information you share and Facebook will record when NEUBank accesses it. Learn more about this sharing and the settings you have.
NEUBank's Privacy Policy


LinkedIn
NORTHEASTERN
NEUBank would like to:
Use your name and photo
Use the primary email address associated with your LinkedIn account
You can stop this sync in your LinkedIn settings. NEUBank terms apply. Learn more.
Not you?
Cancel
Allow
You will be redirected to
https://oauth.pstmn.io
Privacy Policy
User Agreement

19:12 93%

Investment

Investment

Account | Investment | Insurance | Quick Cash

19:12 93%

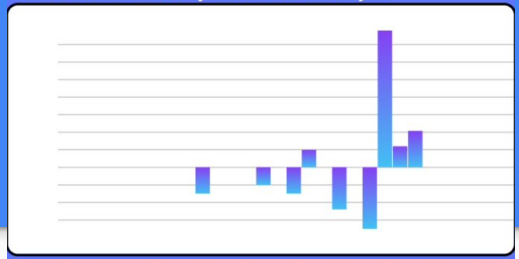
Insurance

Insurance

Account | Investment | Insurance | Quick Cash

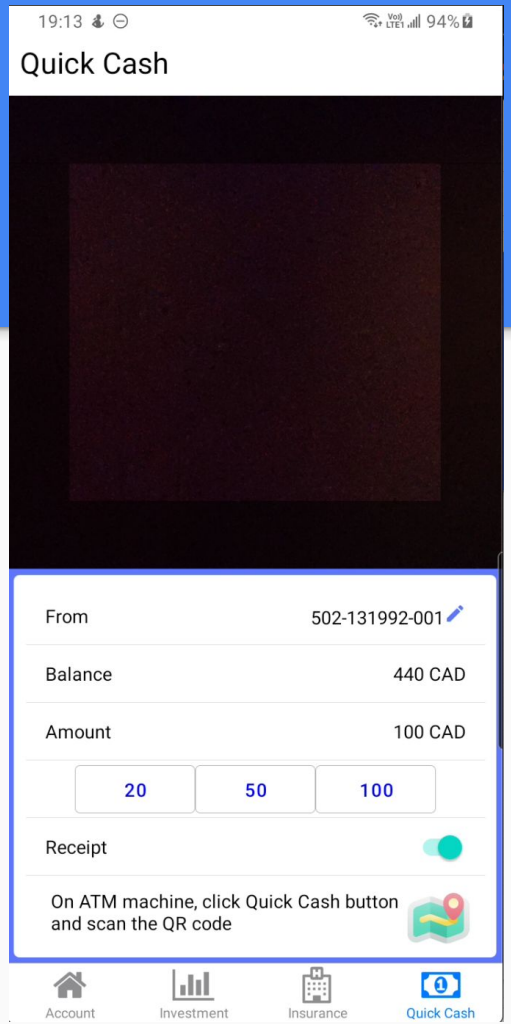
Finance

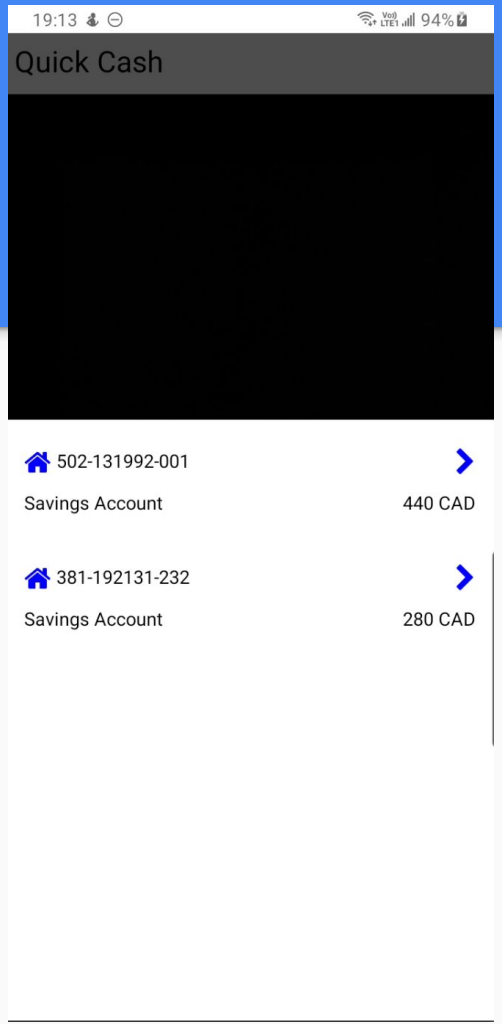
Transaction History over last 30 days.



11/12/21 Quick Cash	-50 CAD
11/12/21 Quick Cash	-100 CAD
11/16/21 Quick Cash	-100 CAD
11/18/21 Schoo Fee	-150 CAD
11/19/21 Cash Deposit	100 CAD
11/21/21 School Meal	-120 CAD
11/23/21 Quick Cash	-200 CAD

Account | Finance | Quick Cash

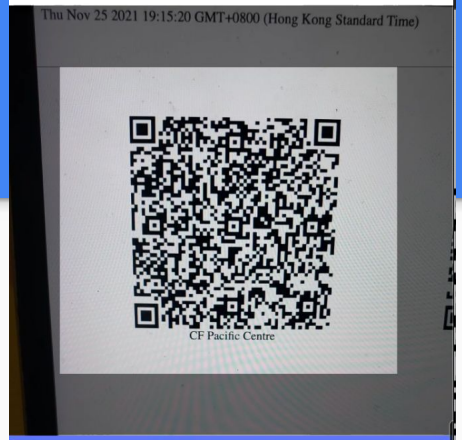

19:13
94%
Quick Cash
From
502-131992-001
Balance
440 CAD
Amount
100 CAD
20
50
100
Receipt
On ATM machine, click Quick Cash button and scan the QR code
Account
Investment
Insurance
Quick Cash


19:13
94%
Quick Cash
502-131992-001
Savings Account
440 CAD
381-192131-232
Savings Account
280 CAD

Market Branch
Tuen Mun, Tsing Shan Square
Tuen Mun
TUEN MUN NEW TOWN
TSENG TAU
Siu Lun Sports Ground
Market Branch
Tuen Mun, Tsing Shan Square

19:17 95%

Quick Cash



From	502-131992-001
Balance	440 CAD
Amount	100 CAD

20 | 50 | 100

Receipt

On ATM machine, click Quick Cash button and scan the QR code

Account | Investment | Insurance | Quick Cash

19:19 96%

Verify

Please verify the withdrawal instruction

From	Savings Account
	502-131992-001
Location	CF Pacific Centre
Withdraw Amount	100 CAD
Print Receipt	Yes

I acknowledge that I have read and agree to the above terms and conditions

Proceed

Cancel

19:19 96%

Confirm withdraw CAD100 at CF Pacific Centre ?

掃描您的指紋。

使用圖案

Secured by Knox

19:20 96%

Confirm

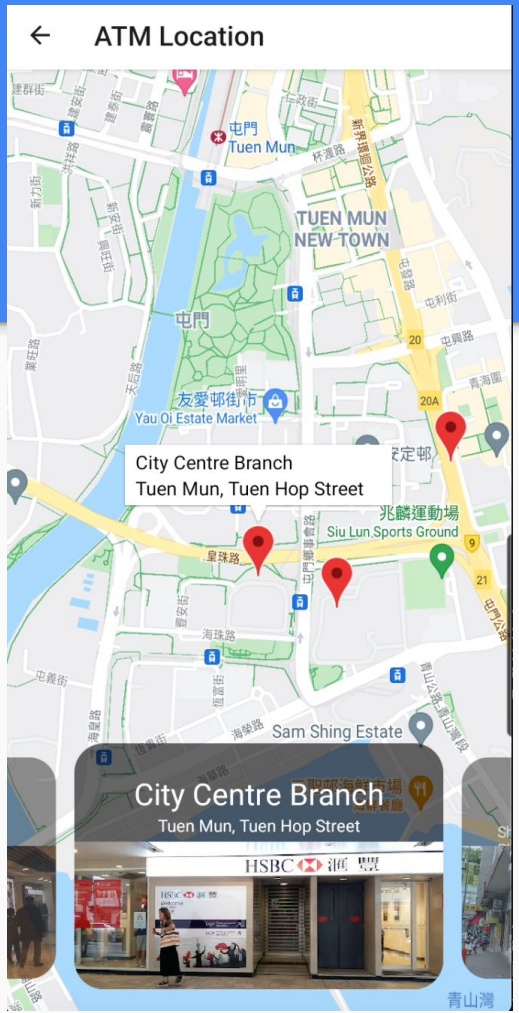
Your instruction have been accepted

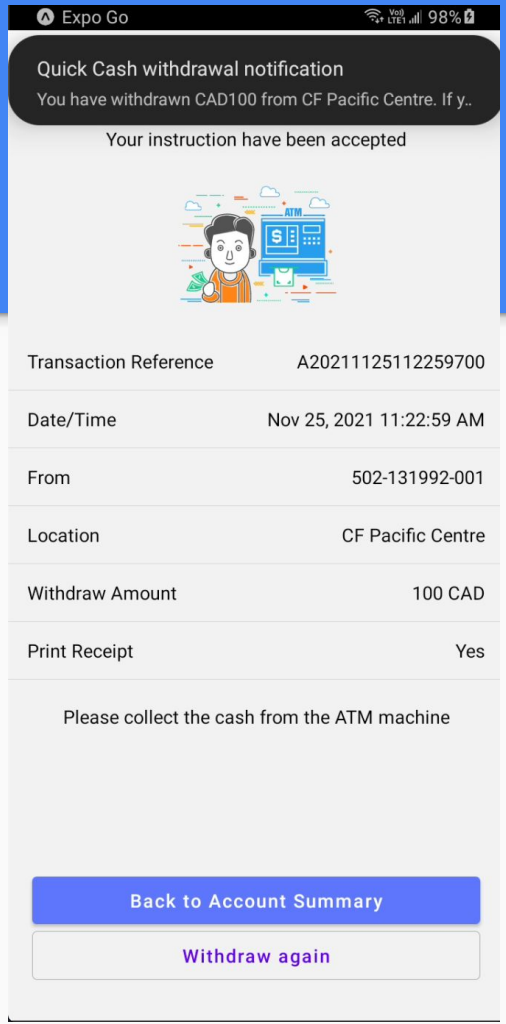
Transaction Reference	A20211123143816698
Date/Time	Nov 23, 2021 22:38:16
From	502-131992-001
Location	CF Pacific Centre
Withdraw Amount	100 CAD
Print Receipt	Yes

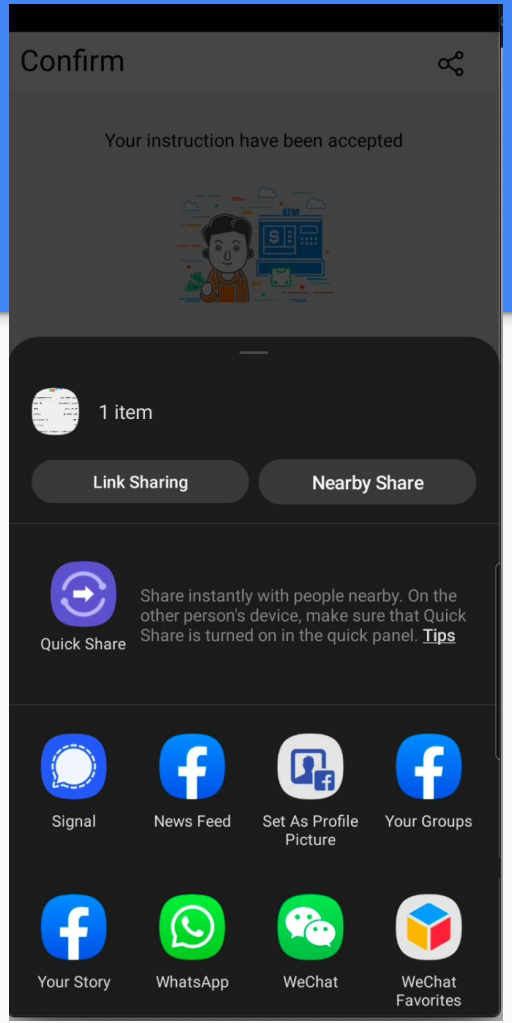
Please collect the cash from the ATM machine

Back to Account Summary

Withdraw again


ATM Location
City Centre Branch
Tuen Mun, Tuen Hop Street
City Centre Branch
Tuen Mun, Tuen Hop Street
HSBC 滙豐


Expo Go
98%
Quick Cash withdrawal notification
You have withdrawn CAD100 from CF Pacific Centre. If y..
Your instruction have been accepted
Transaction Reference A20211125112259700
Date/Time Nov 25, 2021 11:22:59 AM
From 502-131992-001
Location CF Pacific Centre
Withdraw Amount 100 CAD
Print Receipt Yes
Please collect the cash from the ATM machine
Back to Account Summary
Withdraw again


Confirm
Your instruction have been accepted
1 item
Link Sharing
Nearby Share
Quick Share
Share instantly with people nearby. On the other person's device, make sure that Quick Share is turned on in the quick panel. Tips
Signal
News Feed
Set As Profile Picture
Your Groups
Your Story
WhatsApp
WeChat
WeChat Favorites