

Smart NFC Card Application

User Manual – Link App

Vast Expanse (Group 7)

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Glossary

Android 	An operating system for mobile phones developed by Google. It is also used for other mobile devices such as tablets and smart watches
NFC 	Near-field communication. A wireless technology that allows your device to share information with other NFC-enabled devices
Virtual business card	A digital representation of what a normal business card looks like, containing the details of an employee working for a company
Virtual wallet	A wallet that can be loaded with credits that can be used within the company who gave you the virtual wallet. Credits in the wallet cannot be traded in for actual money and can only be spent at the supported vendors within the company
WiFi 	Wireless technology that allows your device to connect to the internet when in range of WiFi signals

System Overview

Link App is a mobile app that is meant to be used by the employees and clients of companies. The main purpose of the app is to make it easier for employees of a company to share their business card, WiFi details, access to their offices as well as to setup a virtual wallet for clients to use within the company. Clients will use the app to view business cards that has been shared with them, connect to companies' WiFi, gain access to offices as well as to spend money at the companies using their virtual wallet.

Direct relation between what an employee and client can do:



Employee	Client
1. Share virtual business card	1. View virtual business cards
2. Give access to offices	2. Gain access to offices
3. Share WiFi details	3. Connect to WiFi
4. Setup a virtual wallet	4. Spend money on the virtual wallet

System Configuration

For now, only Android phones are supported. To use the Link App, you need a mobile phone that runs Android version 5.0 or above and that supports NFC. To be able to connect to WiFi, your mobile phone also must support WiFi.

To check if your mobile phone is running a compatible version of Android:



When trying to download the app, Google Play Store should automatically check if your phone is running a compatible version of Android. To check manually, you can follow these steps:

1. Go to your mobile phone's **Settings** 
2. Tap on **About device** or something similar, for instance **About phone** (usually near the bottom of the list of settings)
3. Look for **Android version** if it there, continue to the next step, otherwise you might have to first tap on **Software information** or something similar.
4. If **Android version**  is 5.0 or higher, your mobile phone is running a compatible version of android.

If your mobile phone is not running a compatible version of Android, you can try to update it, but otherwise your device unfortunately doesn't support the app.

To check if your phone supports WiFi:



The easiest way to check for this is to look for the WiFi symbol on your screen. When your screen is on, it should appear on the top toolbar of the phone. If you do not see the symbol there, you can follow these following steps:

1. Go to your mobile phone's **Settings** 
2. Look for the **Wireless and networks** section. You might first have to tap on an option similar to **Connections**.
3. You should now see an option that says **Wi-Fi**  and it might show you the symbol.

If your phone does not support WiFi, the chances that it has NFC is very slim and thus your mobile phone unfortunately doesn't support the app.


To check if your phone supports NFC:

There are some websites like <https://www.unitag.io/nfc/is-my-phone-compatible-with-nfc> that allows you to check if your mobile phone supports NFC. You can also manually check your phone for the capability by following these steps:

1. Go to your mobile phone's **Settings** 
2. Look for the **Wireless and networks** section. You might first have to tap on an option similar to **Connections**.
3. You should now see an option that says **NFC and payment**  and it might show you the symbol. If not, you might first have to tap on **More settings**.

If your phone does not support NFC, your mobile phone unfortunately doesn't support the app.

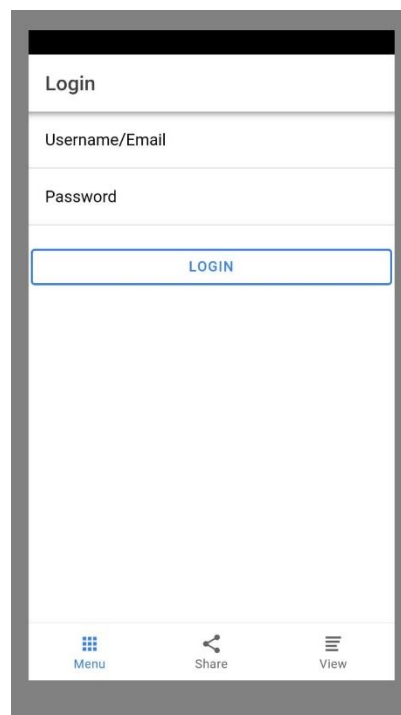
Installation

The app is still in early development and thus cannot yet be found publicly. It will, however, when nearing a more complete build be put on the Google Play Store  and made publicly available for download.

Getting Started

If you are an employee of a company that wants to use the app to share information as specified in the 'System Overview', you will first have to register. To find out how to register contact team.vast.expense@gmail.com. If are a client of a company or merely wish to get the virtual business card from an employee, you do not have to register.

Start by following the procedure specified under 'Installation'. Once you have downloaded and installed the app, you can get started. Navigate to where your apps are stored and tap on Link (icon will come here in the future). Once you have tapped on the app, it should open, and you should see this screen:



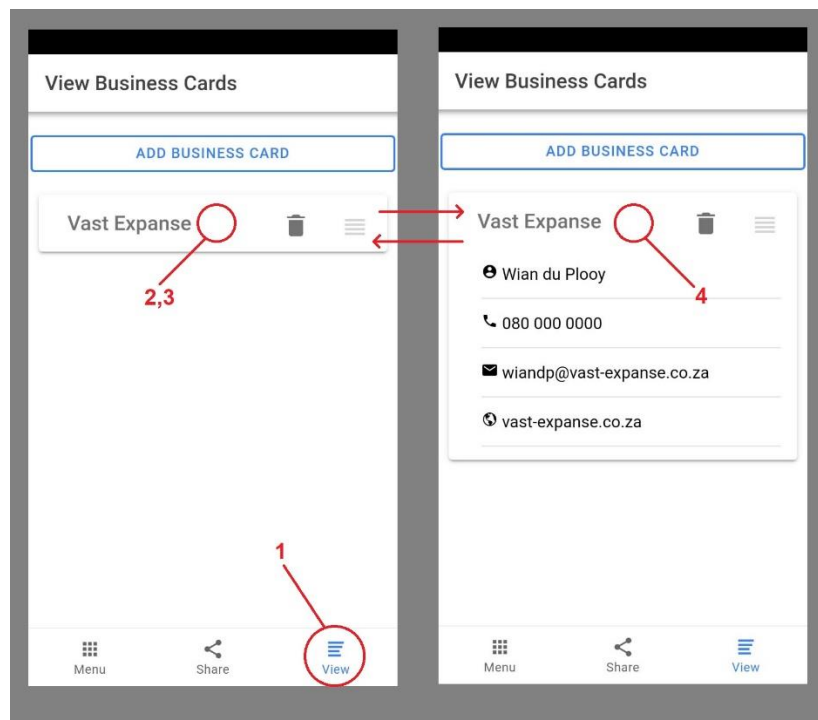
If you see this screen, continue to 'Using the System', otherwise consult the 'Troubleshooting' section to see if there is a potential fix.

Using the System

View business cards

If a virtual business card has been shared with you via the app, you can view the details of that business card by following these steps:

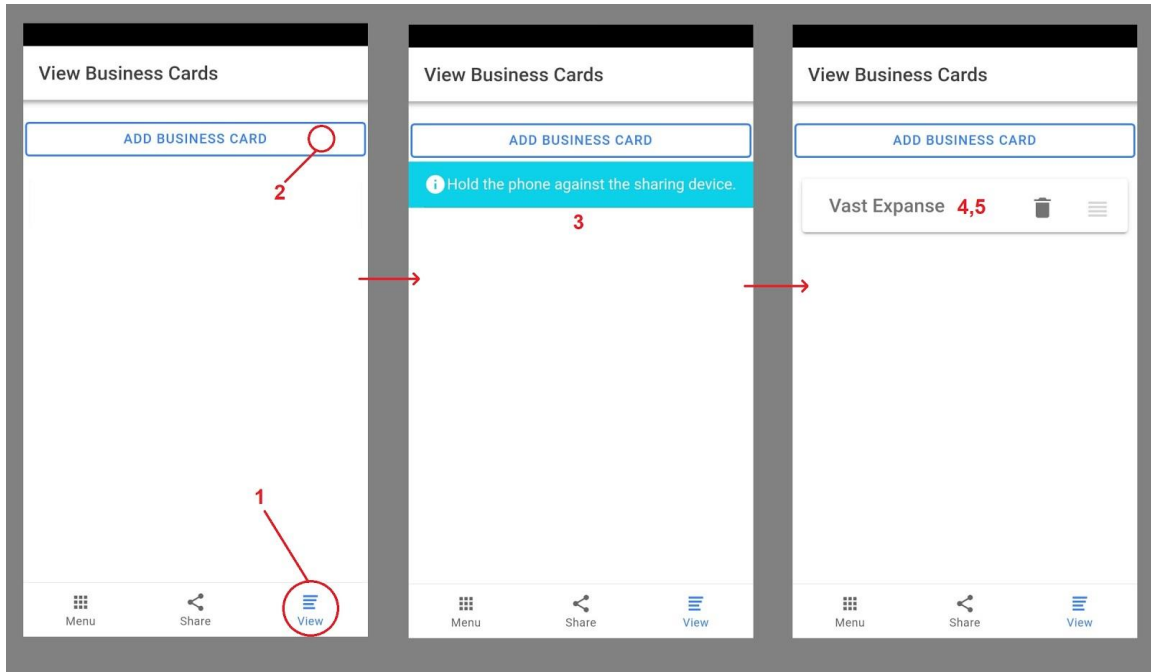
- 1) Navigate to the 'View' tab by tapping on its icon at the bottom right hand corner.
- 2) Look for business card you would like to view (e.g. Vast Expanse in this example).
- 3) Tap on the name of the company to expand the business card to view its details.
- 4) Once you are done, you can tap on the name of the company again to collapse the card back into its compact version.



Add a business card to the list of business cards

When an employee wants to share his business card with you, using the app, you can receive his business card by following these steps:

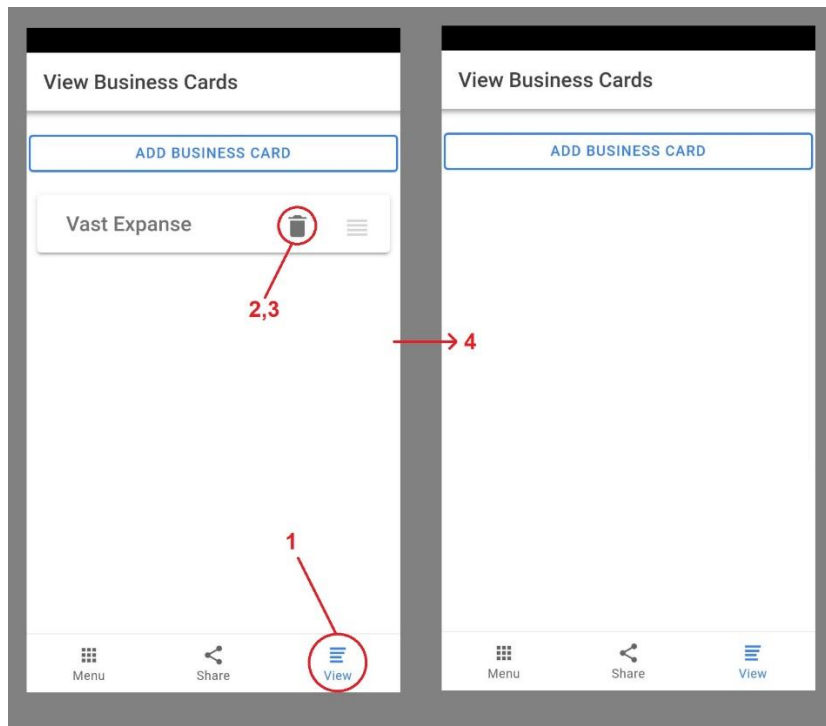
- 1) Navigate to the 'View' tab by tapping on its icon at the bottom right hand corner.
- 2) Tap the 'Add Business Card' button.
- 3) Hold your mobile phone against the employee's mobile phone.
- 4) Wait for the success message to come through.
- 5) The new business card will be added to the top of the list.



Remove a business card from the list of business cards

When you no longer want a specific business card on your phone, you can remove it by following these steps:

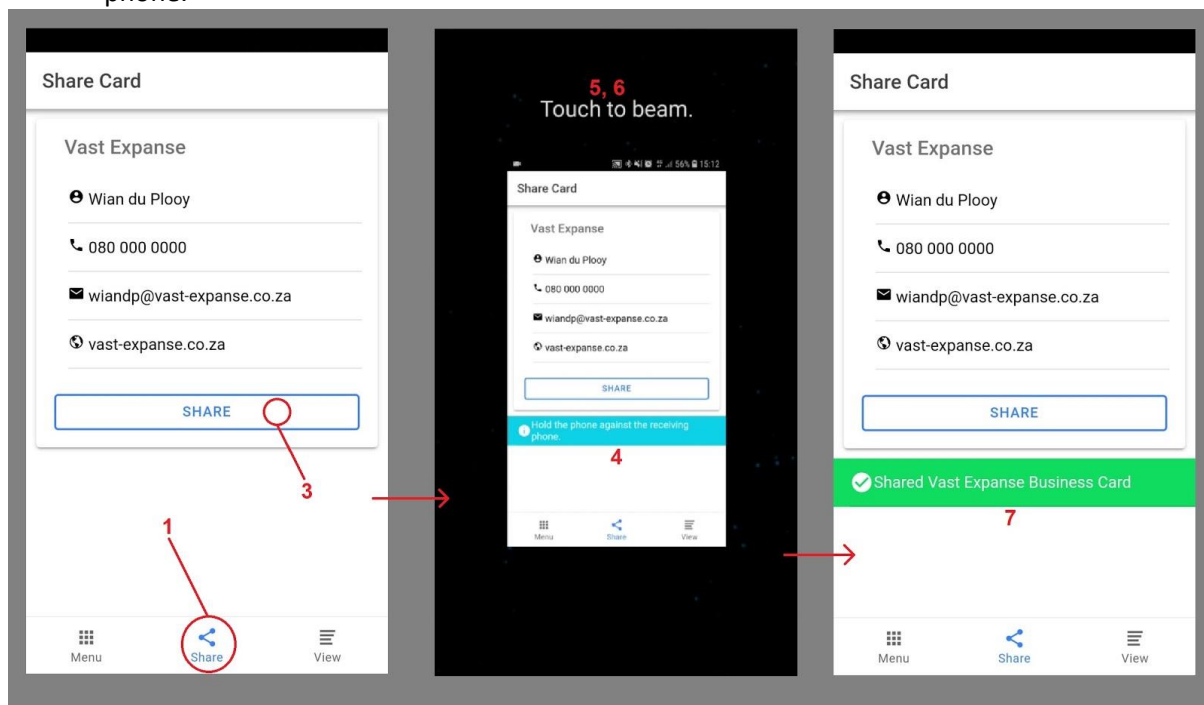
- 1) Navigate to the 'View' tab by tapping on its icon at the bottom right hand corner.
- 2) Look for the business card that you would like to remove.
- 3) Tap on the trashcan next to the name of the business card.
- 4) The business card should now be removed from the list.



Sharing your business card with a client

When you want to share your business card with a client, using the app, you can share it with the client by following these steps:

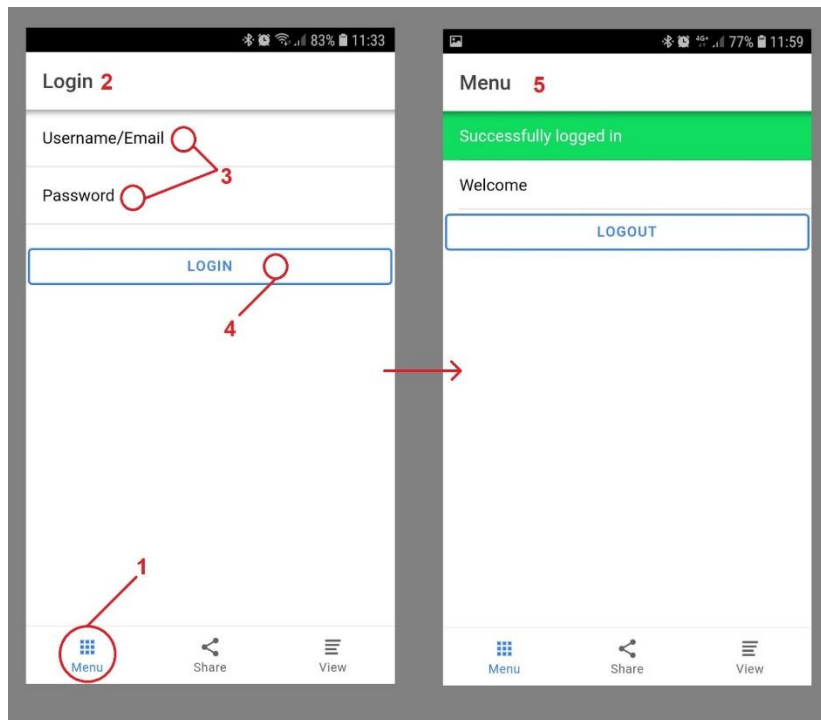
- 1) Navigate to the 'Share' tab by tapping on its icon at the bottom middle.
- 2) If there isn't a business card there, you must log in first, otherwise continue.
- 3) Tap on the 'Share' button at the bottom of the business card.
- 4) Hold your mobile phone against the client's mobile phone.
- 5) Wait for Android Beam to appear.
- 6) Tap on the screen to push the business card to the client.
- 7) The success message should now display, and the business card should be on the client's phone.



Logging in to the app

When you have been registered by your company and you would like to log in to get access to more features, follow these steps:

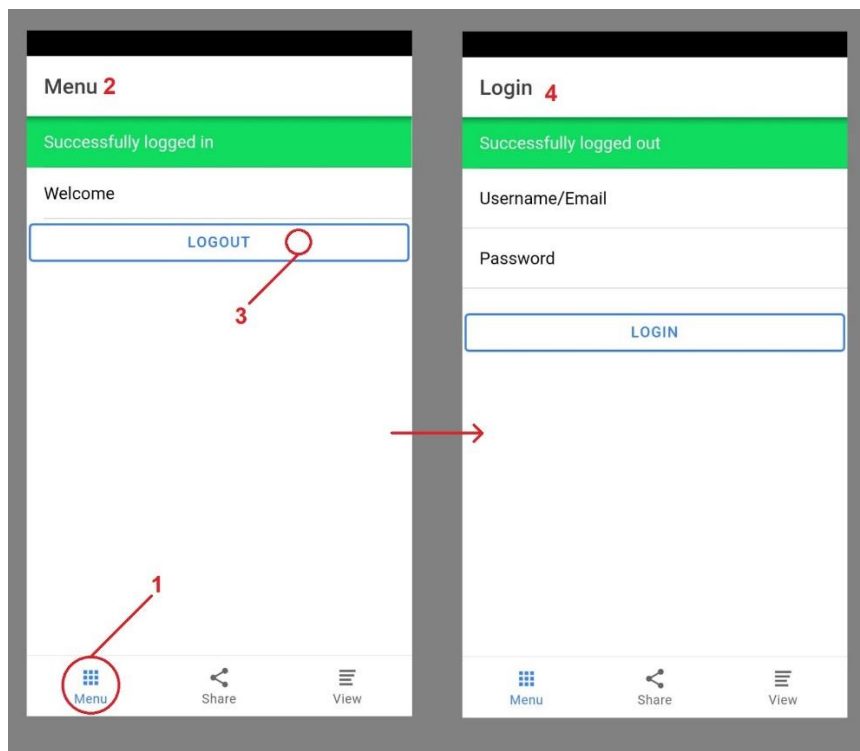
- 1) Navigate to the 'Menu' tab by tapping on its icon at the bottom left hand corner.
- 2) If the Title says Menu, you are already logged in. Log out if you want to log into a different account.
- 3) Enter your username/email and then password.
- 4) Click the 'Login' button.
- 5) If the details were correct, there should be a success message and the Title should now say Menu.



Logging out of your account

If you want to log out of your account, to for instance log into another account, you can follow these steps:

1. Navigate to the 'Menu' tab by tapping on its icon at the bottom left hand corner.
2. If the Title says Login, you are already logged out. Otherwise continue.
3. Click the 'Logout' button.
4. You should now see a success message and the Title should now say Login.





(Other functions still must be implemented and will be inserted here)


Troubleshooting


Link app is crashing, or won't open, responding, or work properly


Try the following steps below, after each step checking whether it fixed your issue. Please note the following steps are for Android devices


- 1) Restart your device
 - a) To restart your phone, press and hold the power button for a few seconds. Then, on your screen, tap "Restart".
 - b) If you do not see "Restart", press and hold the power button for 30 second until your phone restarts.

- 2) Update the Link app (However this is currently not a viable option as Link is not ready to be publicly available and hence not on the Google Play store)
 - a) Open your device's Play Store app .
 - b) Tap Menu  > **My apps & games.**
 - c) Apps with available updates will be labeled "Update"
 - i) If an update is available for Link, tap **Update**


- 3) Check for Android Updates
 - a) Open your device's Settings app .
 - b) Tap **System > Advanced > System update.** On certain versions of Android you will have to tap **Software update > Download updates manually.**
 - c) Follow onscreen instructions for updating the system software.

- 4) Force stop the Link app
 - a) Open your device's Settings app .
 - b) Tap **Apps & notifications.**
 - c) Tap the **Link** app. If you don't see it, first tap **See all apps** or **App info.**
 - d) Tap **Force stop.**

- 5) Clear the Link app cache
 - a) Open your device's Settings app .
 - b) Tap **Apps & notifications.**
 - c) Tap the **Link** app. If you don't see it, first tap **See all apps** or **App info.**
 - d) Tap **Storage > Clear cache.**

- 6) Clear the Link app's data (Caution: Any data that is saved on the app will be lost)
 - a) Open your device's Settings app .
 - b) Tap **Apps & notifications.**
 - c) Tap the **Link** app. If you don't see it, first tap **See all apps** or **App info.**
 - d) Tap **Storage > Clear storage** or **Clear data > OK**

- 7) Contact Links development team

- a) Read Links reviews and see if others have had the same problem you are facing and how they fixed it. (However, this is currently not a viable option as Link is not ready to be publicly available and hence not on the Google Play store)
 - b) Contact the development team by either writing a review on the app or by emailing the issue to team.vast.expense@gmail.com.
- 8) Uninstall and reinstall the Link app
- a) To uninstall:
 - i) Touch and hold on the Link icon until you can drag it
 - ii) Drag the icon to **Uninstall** at the top of the screen.
 - b) To reinstall: (However this is currently not a viable option as Link is not ready to be publicly available and hence not on the Google Play store)
 - i) Open your device's Play Store app  .
 - ii) Search in the search bar for “Link”
 - iii) Tap **Install**