



# ERP-COIN: Team Turing

## USER MANUAL

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## Table of Contents

General Information .....	3
System Overview .....	3
Getting Started.....	5
ERP Coin User.....	5
Login.....	5
Register User .....	5
View Account .....	6
Edit Profile.....	7
Change Password .....	9
Log Out.....	10
Conservation Administrator Web Portal .....	10
Login.....	10
Edit Information or Change Password .....	11
Logout .....	12
ERP Administrator Web Portal.....	13
Login.....	13
Using The System .....	14
ERP Coin User.....	14
Start Patrolling .....	14
Send Alert.....	16
Buy a Reward .....	17
Link Wallet .....	18
Send ERP Coin .....	19
Receive ERP Coins .....	20
Conservation Area Administrator .....	21
View and Select a New Alert To Broadcast.....	21
View or Delete a Broadcasted Alert.....	22
View list of current Rewards .....	23
Add Reward.....	24
Delete Reward.....	24
Edit Reward .....	25
ERP Administrator Management Portal.....	25
Create a Conservation Area .....	25
Assign or Remove Conservation Administrators .....	26
Verify an Award.....	27

Troubleshooting.....	28
ERP Coin User.....	28
Cannot start Patrolling .....	28
Cannot send an alert.....	28
Denied purchase of a reward or cannot send ERP Coins.....	28
Cannot receive ERP Coins .....	28
Not receiving confirmation of purchase/ERP transfer/received .....	28
Not Receiving ERP Coins .....	28
Conservation Area Administrator .....	29
Have no credentials to log in .....	29
Admin of the wrong conservation area .....	29
Reward not shown to public .....	29
Reward disappeared from list of rewards .....	29
ERP Admin.....	29
Cannot find conservation area.....	29
Conservation Area Admins not receiving login details email .....	29

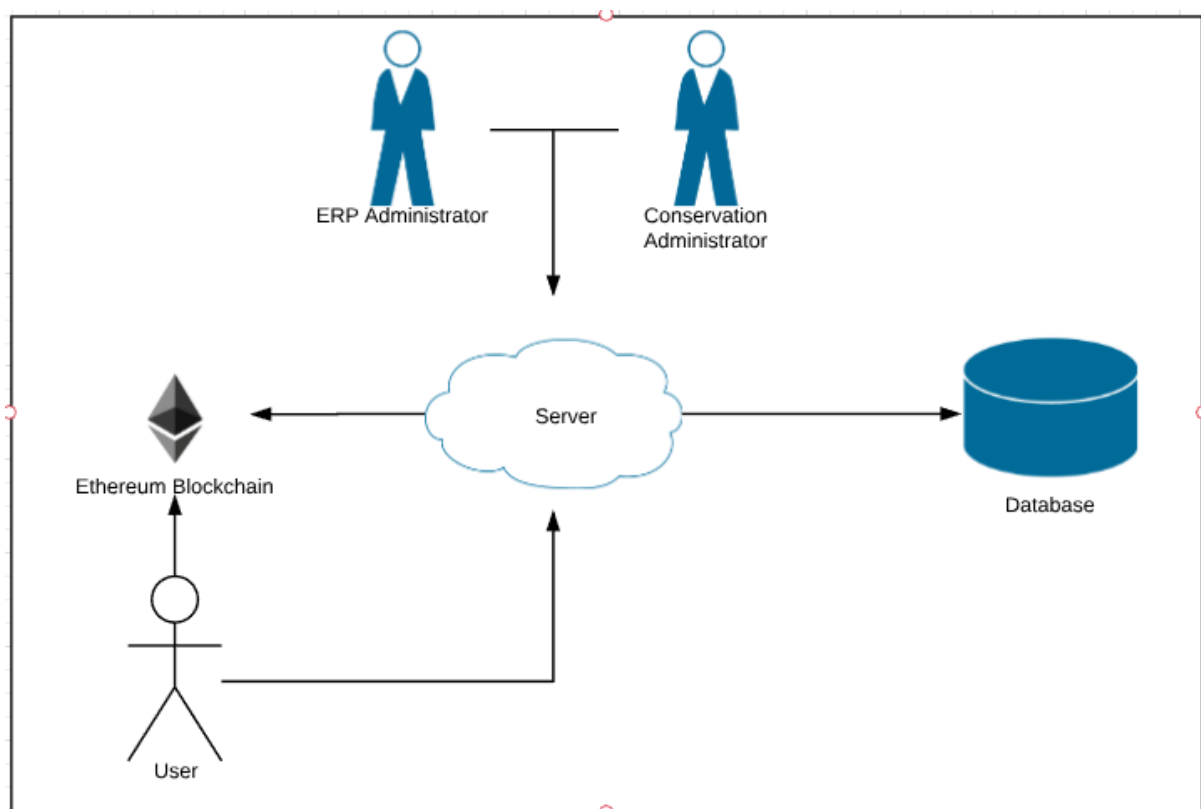
## General Information

### System Overview

One of the current initiatives is surveillance at Rietvlei Nature Reserve in Pretoria. Any volunteer can go to the area, sign in and patrol the area. This is to create a presence in the area and report any suspect behaviour concerning the safety of the Rhinos in the Rietvlei Nature Reserve.

This project should provide volunteers with a mobile app that will record the area they have monitored, suggest routes of areas that haven't been monitored recently, allow them to log notes and pictures of any suspicious behaviour and send alerts. But we want a way to 'reward' the volunteers by means of an Ethereum blockchain token.

Here is a deployment picture



It illustrates that the project will contain an Ionic app and separate Ionic management portals for both the Conservation Administrator and the ERP Administrator. The web application will be used by the user to have its location tracked and send and receive coins on the Ethereum blockchain. Data, like coordinates, conservation- and user details, will be stored in a database. Certain external services will be used such as Google maps API and Open Street Map API.

Since it is a web application on all 3 interfaces, the ERP Coin app and the management portals, can be accessed on any device, desktop or mobile, with a web browser.

You can find the ERP Coin web app by visiting

<https://erpcoin.westeurope.cloudapp.azure.com:8080>

Conservation Administrator and ERP Administrator websites are TBC.

## Getting Started

Since the project comprises of 3 different interfaces, they will be discussed separately.

### ERP Coin User

Go to <https://erpcoin.westeurope.cloudapp.azure.com:8080>

### Login

To login to your account, first launch the application

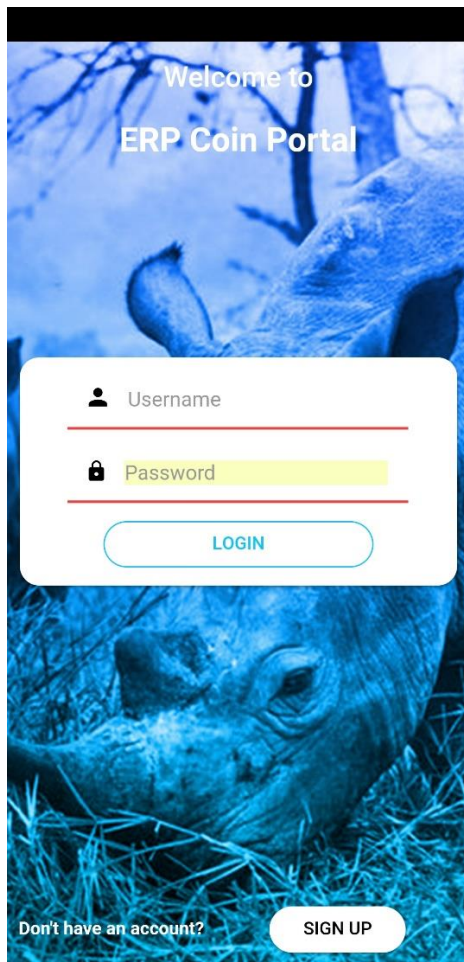


Figure 1.1.1 Login Screen

You will see the Login Screen ([Fig 1.1.1](#))

Enter your Username and password and tap Log In. If your details are correct then you are logged in!

### Register User

To create an user account, at the Launch Screen ([Fig 1.1.1](#)) tap Register. You will see the Registration Screen([Fig 1.1.2](#))

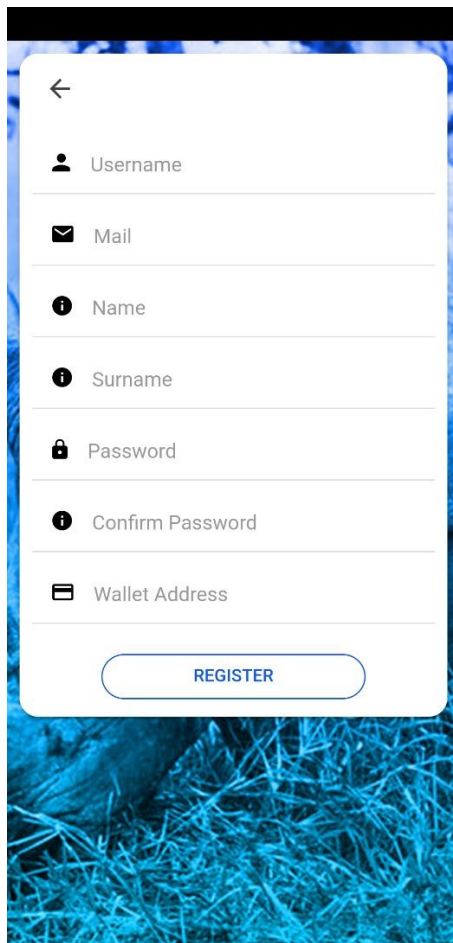


Figure 1.1.2 Registration Screen

Fill in all the fields and tap Register. If what've entered in Password and Confirm Password do not match, you will receive an error message and will not be registered.

#### View Account

To view your account, login to your account ([Fig 1.1.1](#)).

You will then be transferred to the My Account Screen ([Fig 1.1.4](#)).



Figure 1.1.4 My Account / Home Screen

Here you can view your ERP-Coin Balance. Here you can manage your wallet, like send and receive ERP coins.

#### Edit Profile

To edit your profile, from the Home Screen ([Fig 1.1.4](#)) open the side menu ([Fig 1.1.5](#)).



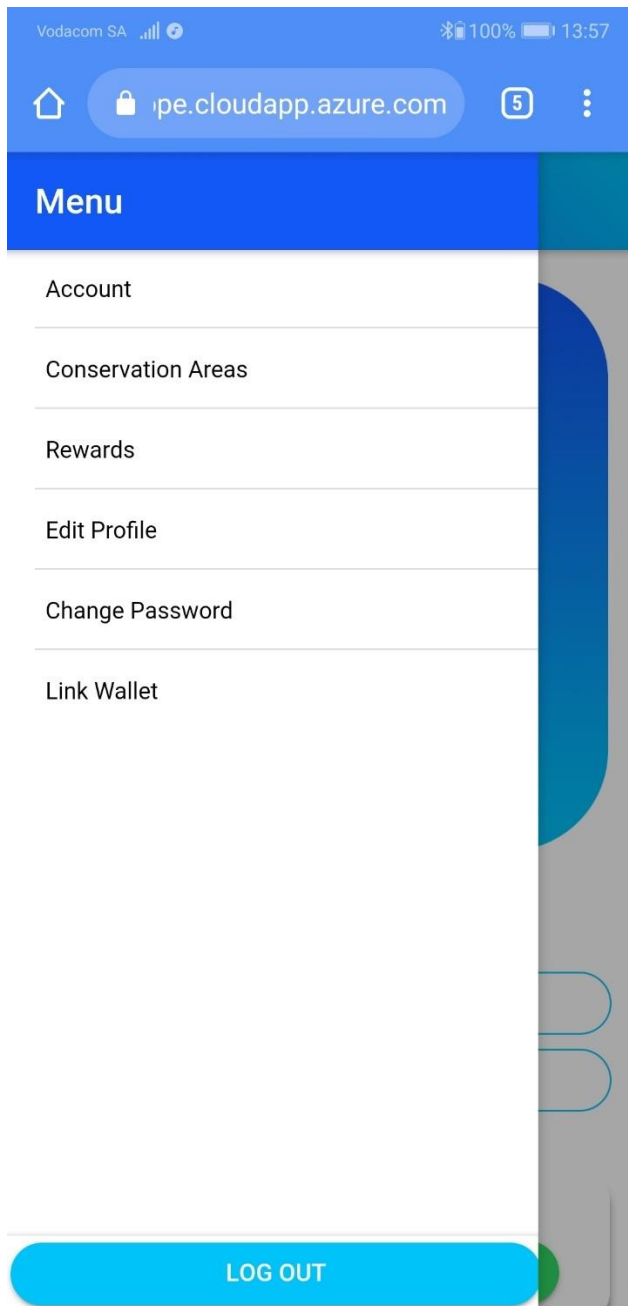


Figure 1.1.5 Side Menu

Tap Edit Profile. You are Now on Edit Profile Screen ([Fig 1.1.6](#))

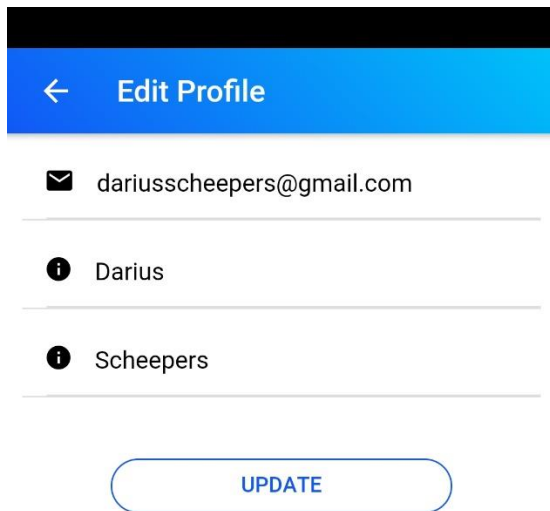


Figure 1.1.6 Edit Profile

Change any details you like and tap UPDATE.

#### Change Password

To change your password, from the Side Menu ([Fig 1.1.5](#)) tap on Change Password. You are now on the Change Password Screen.

← New Password

Old Password

Password

Confirm Password

UPDATE

Figure 1.1.7 Change Password

Enter your old password, as well as your new Password and Confirm it by retyping it in.

Tap Update.

Log Out

To change your password, form the Side Menu ([Fig 1.1.5](#)) tap on Log Out at the bottom. You will be redirected to the Login Screen ([Fig 1.1.1](#))

Conservation Administrator Web Portal

Login

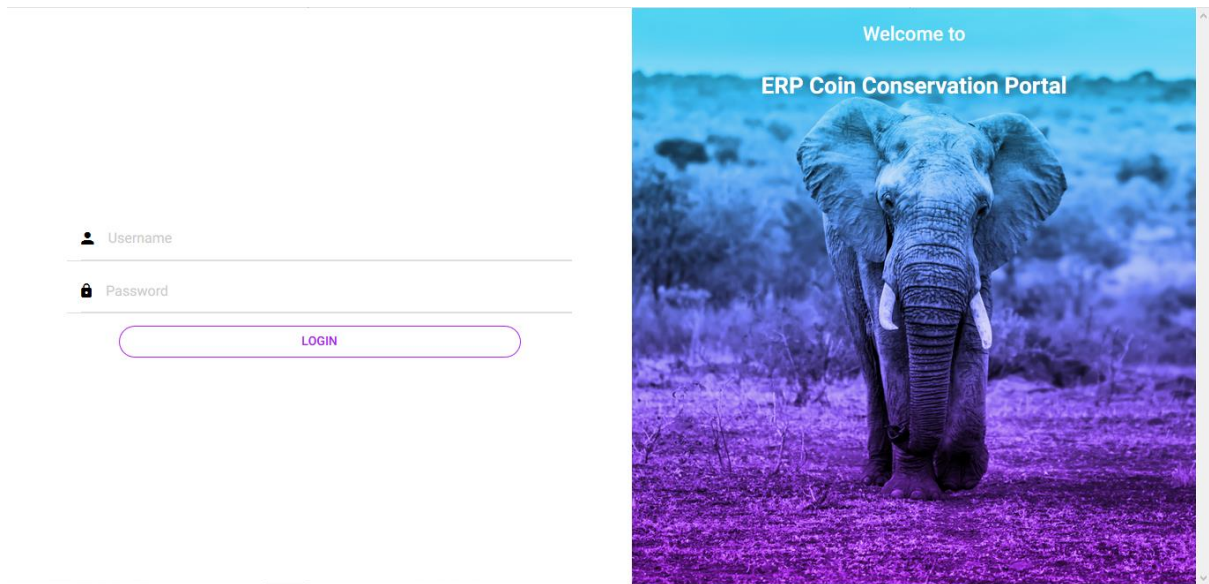


Figure 1.2.1 Login Screen

To Log into your account, open the application and you will see the Login Screen ([Fig 1.2.1](#)).

Enter your credentials that you have received in an email from the ERP staff.

You will be redirected to the Home Screen, also the New Alerts Screen ([Fig 1.2.2](#))

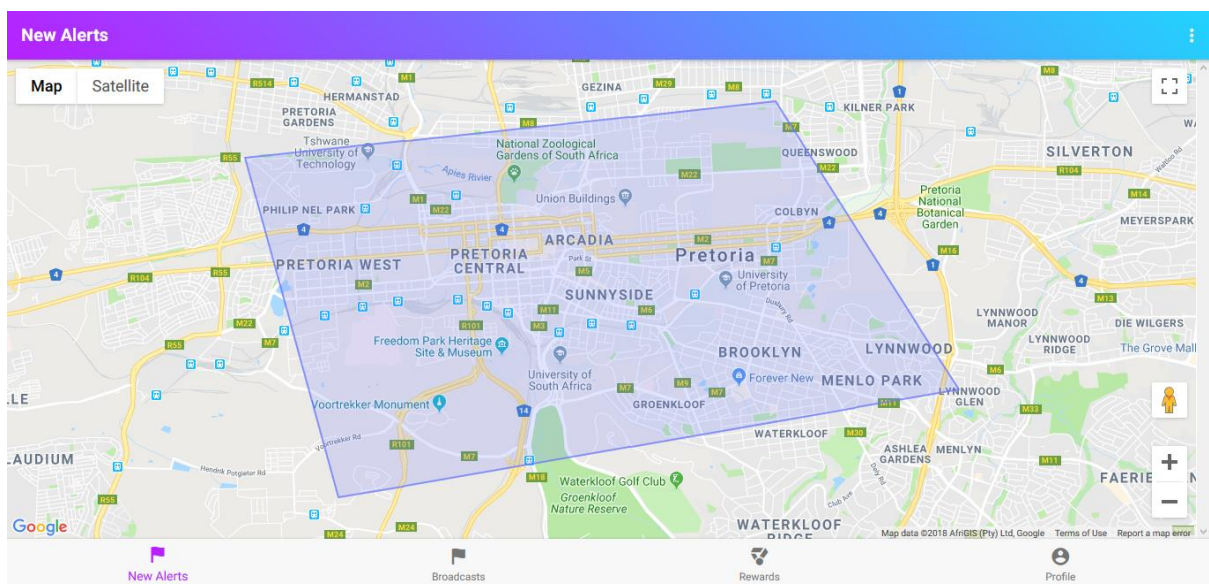


Figure 1.2.2 New Alerts Screen

**Edit Information or Change Password**

To edit information, from the Home Screen ([Fig 1.2.2](#)), go to the Profile Tab, in the bottom left corner. You will now be on the View Profile Screen ([Fig 1.2.3](#))



Figure 1.2.3 View Profile

Here you can view the details of your profile, click on Edit in the top right to edit your profile ([Fig 1.2.4](#))

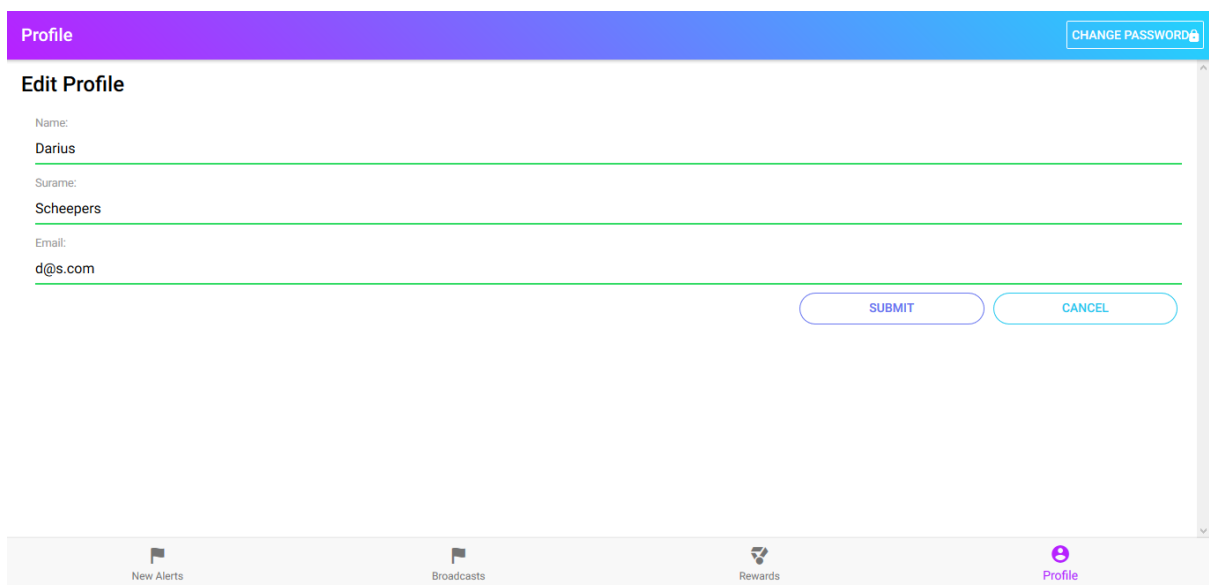


Figure 1.2.4 Edit Profile

Change the information you like and click submit. If you would like to change your password, click on Change Password, type in your old and your new password and confirm your new password by retyping it in the specified field. Click Submit.

You will be redirected to the View Profile Screen ([Fig 1.2.3](#)) with updated information.

### Logout

To log out, tap on the popover button in the top right on any screen while logged in ([Fig 1.2.5](#)) and tap Log Out.

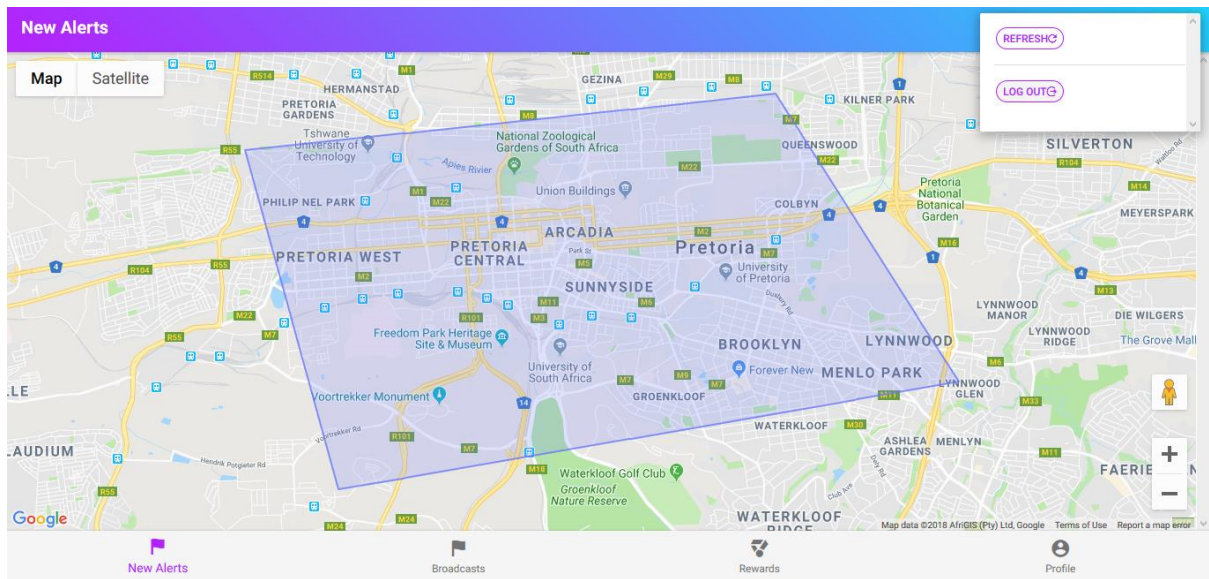


Figure 1.2.5 Popover Opened

## ERP Administrator Web Portal

### Login

To login to your account, first launch the application



Figure 1.3.1 Login Screen

You will see the Login Screen ([Fig 1.3.1](#))

Enter your Username and password as an ERP admin and tap Log In. If your details are correct then you are logged in! You will be redirected to the Home Screen / Conservation Areas Screen ([Fig 1.3.2](#)).

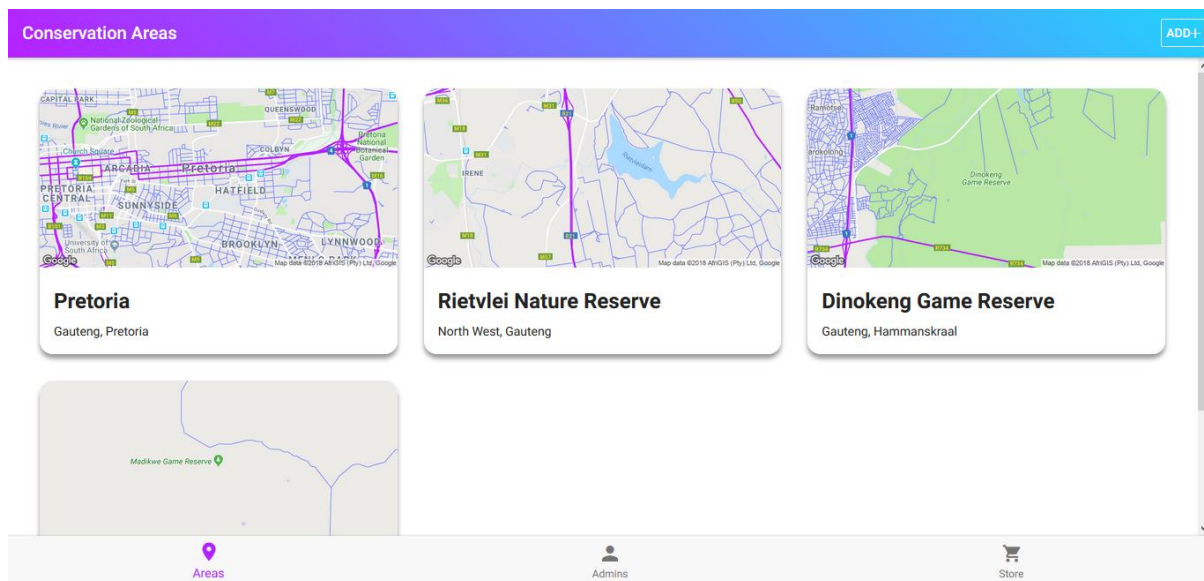


Figure 1.3.2 Conservation Areas Screen

## Using The System

### ERP Coin User

#### Start Patrolling

From the Home Screen ([Fig 1.1.4](#)) tap on Start Patrolling.

You are now on the Conservation Areas Screen ([Fig 2.1.1](#)) Select the conservation area you are currently in and you will see a map of the conservation areas ([Fig 2.1.2](#)).



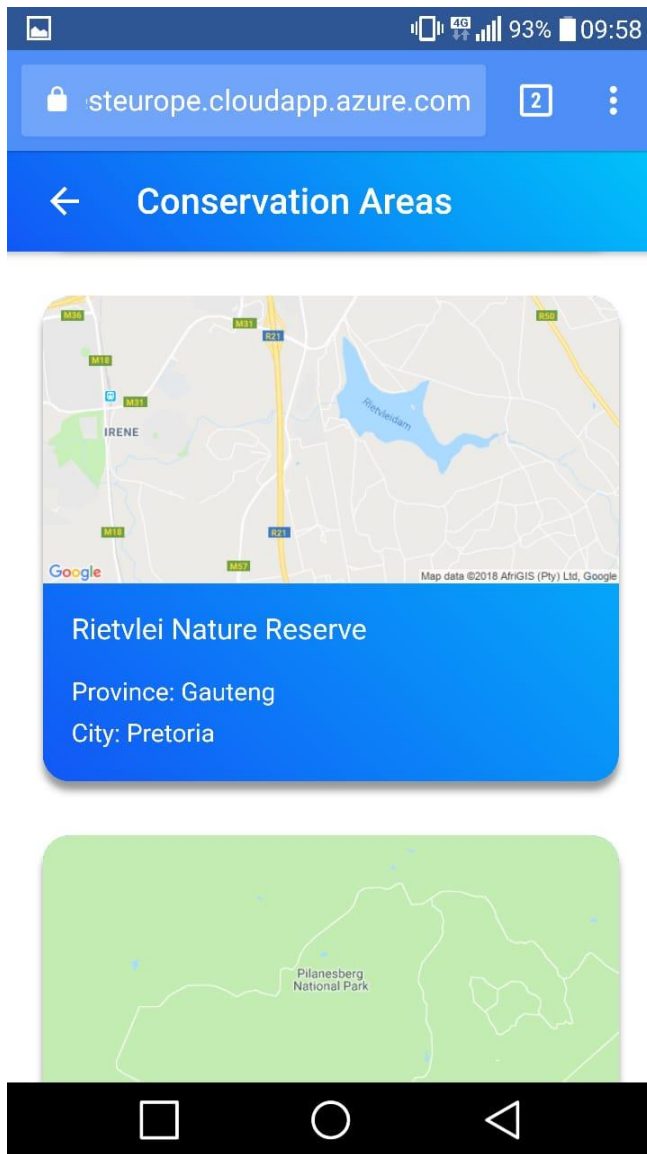
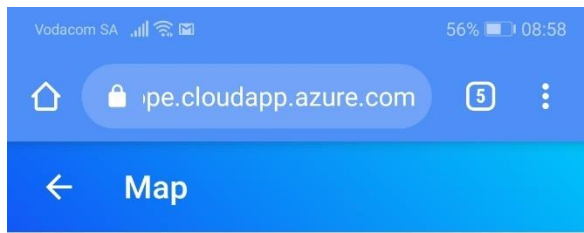


Figure 2.1.1 Conservation Areas Screen





You have found 1 ERP Coins this patrol.

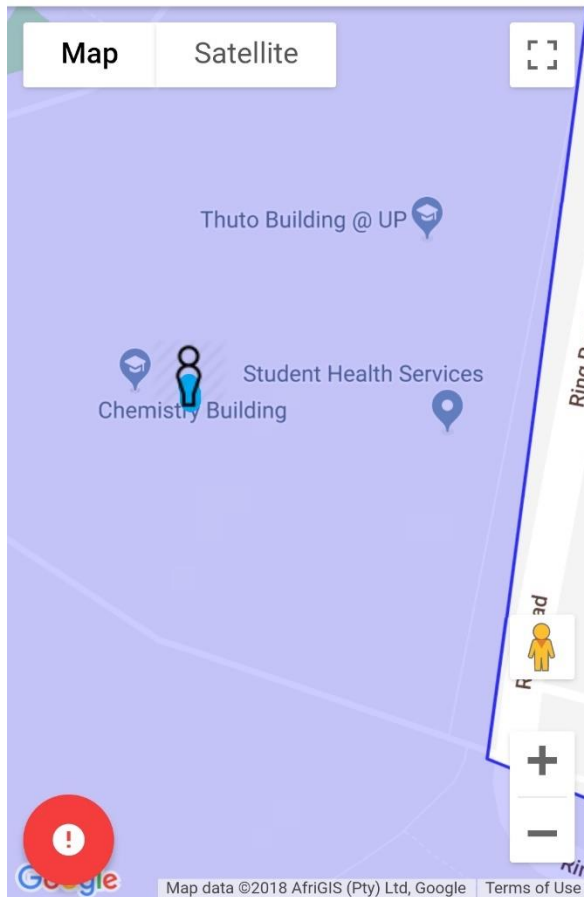


Figure 2.1.2 Map

### Send Alert

On the Map Screen ([Fig 2.1.2](#)) Tap on the red Alert button on the bottom left of the screen.

You will see a form to fill in describing the alert ([Fig 2.1.3](#)) Fill it in and tap send. On your map your alert will appear. If the Conservation administrator of the conservation area you are patrolling decide to broadcast the alert, then other users will also see your alert.

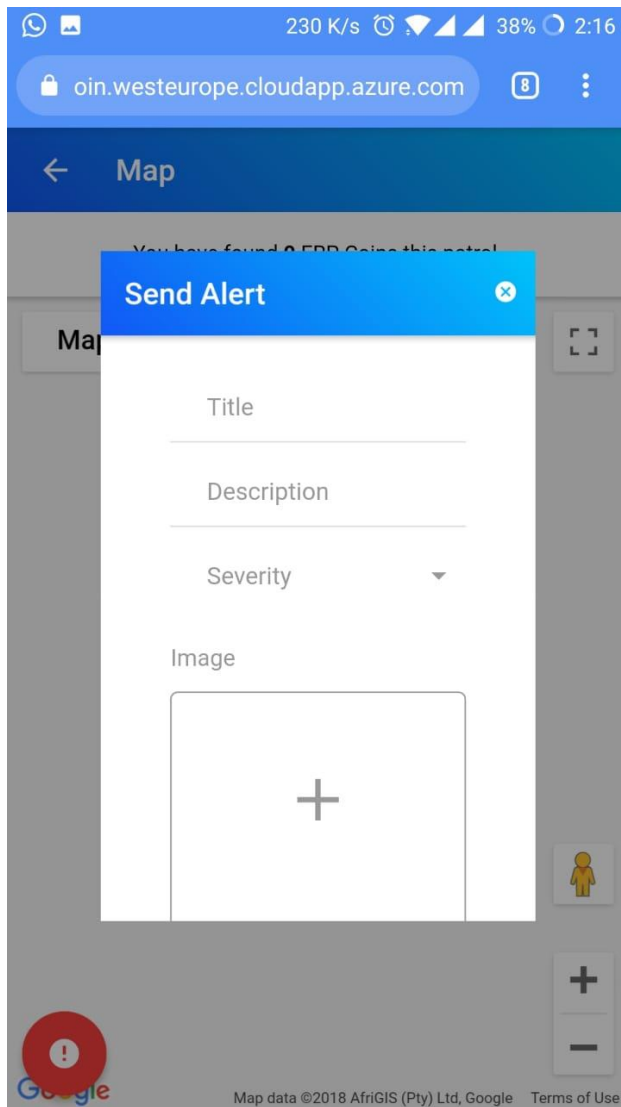


Figure 2.1.3 Send Alert Screen

#### Buy a Reward

On the Home screen ([Fig 1.1.4](#)) Tap on View Available Rewards. You will see the store screen ([Fig 2.1.4](#)).

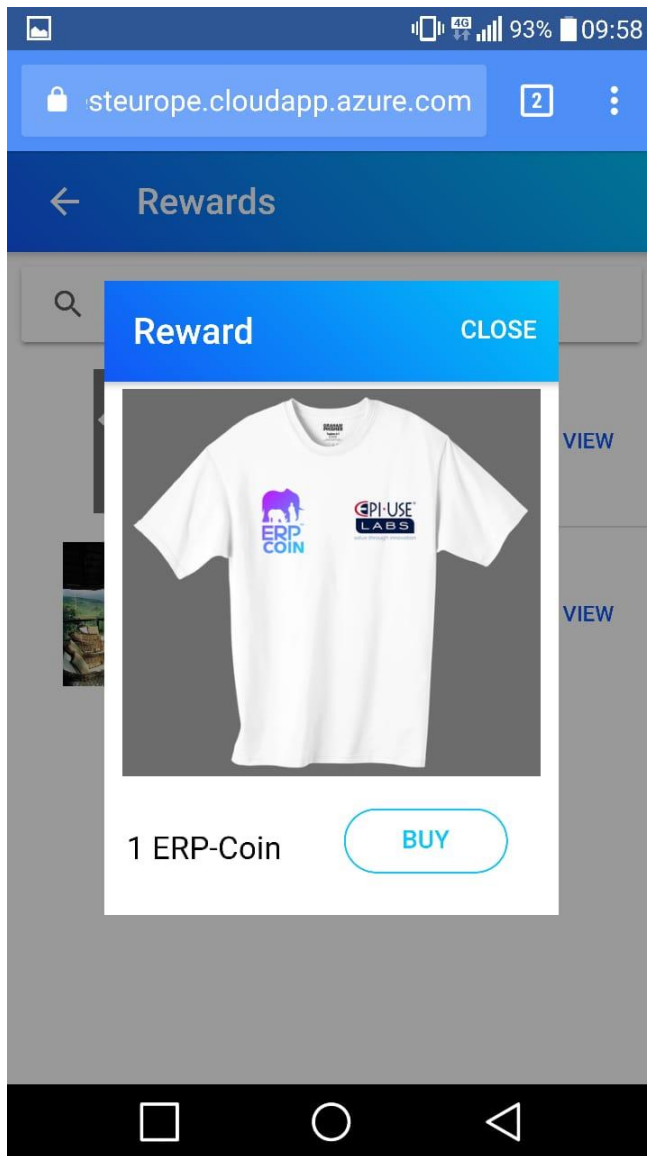


Figure 2.1.4 Store Screen

Tap on Buy on your chosen reward. If you have enough ERP Coins you will receive a notification and an email to confirm your purchase.

#### Link Wallet

From the Side Menu Screen ([Fig 1.1.5](#)) Tap on Link Wallet.

You will see the link wallet screen ([Fig 2.1.5](#)). Enter your wallet address in the specified field and tap Link.

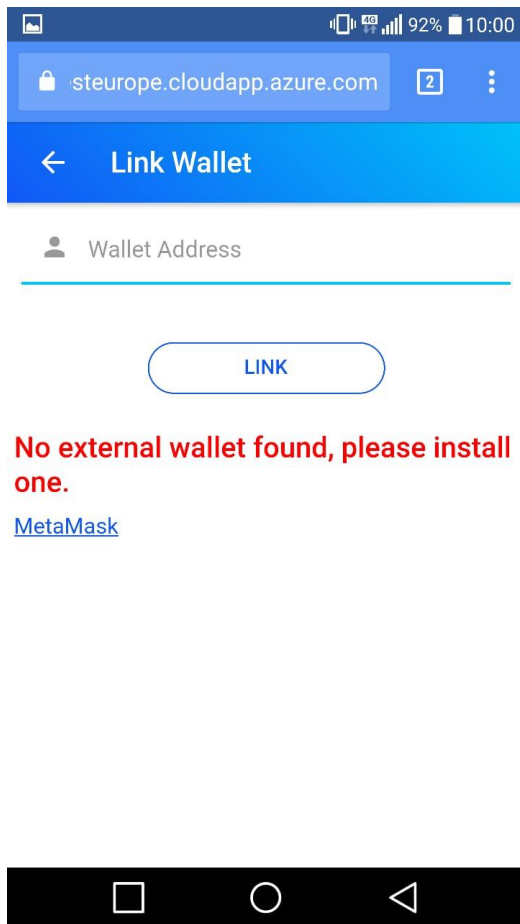


Figure 2.1.5 Link Wallet Screen (without a linked wallet)

You can view your wallet by tapping on the MetaMask link at the bottom.

#### Send ERP Coin

From the Main Screen ([Fig 1.1.4](#)) tap on the red SEND button. You will see the Send ERP Coin Box ([Fig 2.1.6](#)). Enter the wallet address of the recipient and the amount. Tap Send. You will receive a notification if the transfer was successful. You can also scan the QR Code of the recipient by tapping on the scan button at the top of the box.

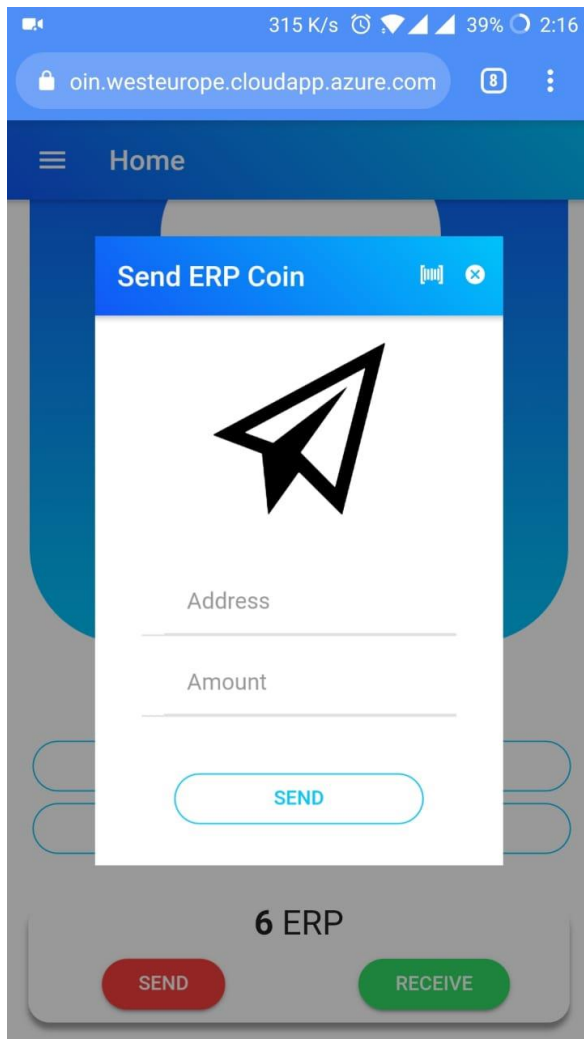


Figure 2.1.6 Send ERP Coin Box

### Receive ERP Coins

To view Your wallet address and its QR Code, from the Home Screen ([Fig 1.1.4](#)) Tap on the green RECEIVE button. You will see the Receive ERP Coin Box ([Fig 2.1.7](#)). Here your wallet address (if already linked) and QR Code will be displayed.



Figure 2.1.7 Receive ERP Coin Box

## Conservation Area Administrator

### View and Select a New Alert To Broadcast

**Short Description:** Users will send alerts to you of an event on the conservation area such as an animal sighting or a type of warning, like for example a flooded road. You will select an alert worth sharing to other users and adjust the description and severity of the alert before having it broadcasted. All broadcasted alerts are shown in the Broadcasts Screen.

After you have logged in, you will be immediately directed to the New Alerts screen ([Fig 1.2.2](#)). Select an alert you wish to broadcast ([Fig 2.2.1](#)), modify the information you wish and select Broadcast.

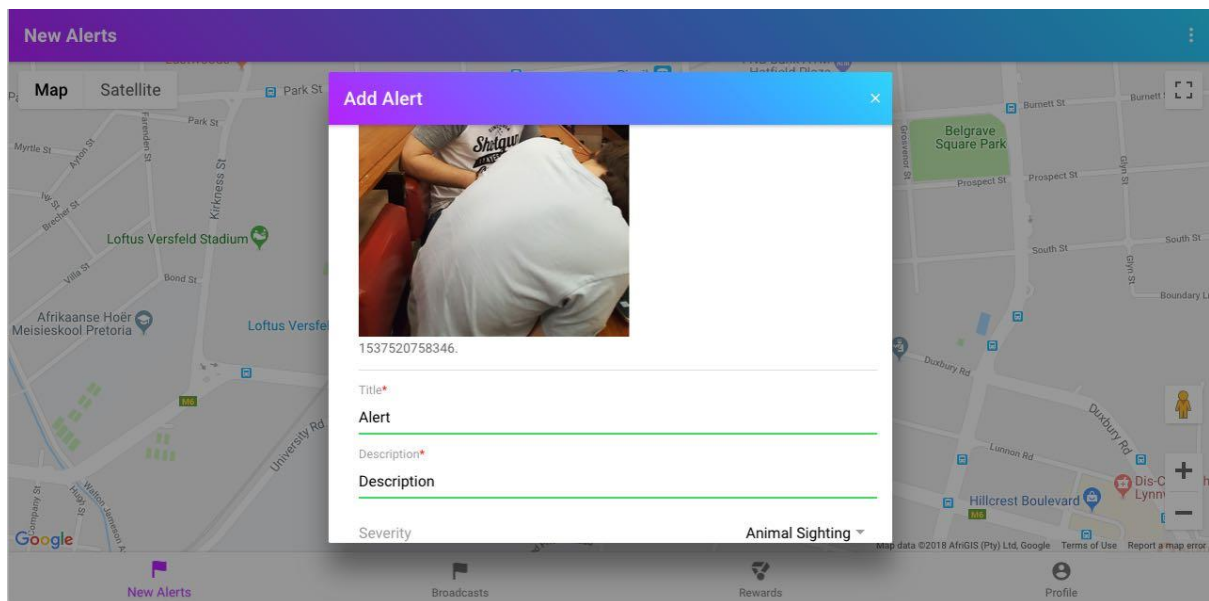


Figure 2.2.1 View Alert (Viewing an alert gives you the option to add the alert as broadcasted)

### View or Delete a Broadcasted Alert

From the New Alerts Screen or any screen while logged in, click on the Broadcasts tab. You will see the Broadcasts Screen ([Fig 2.2.2](#))

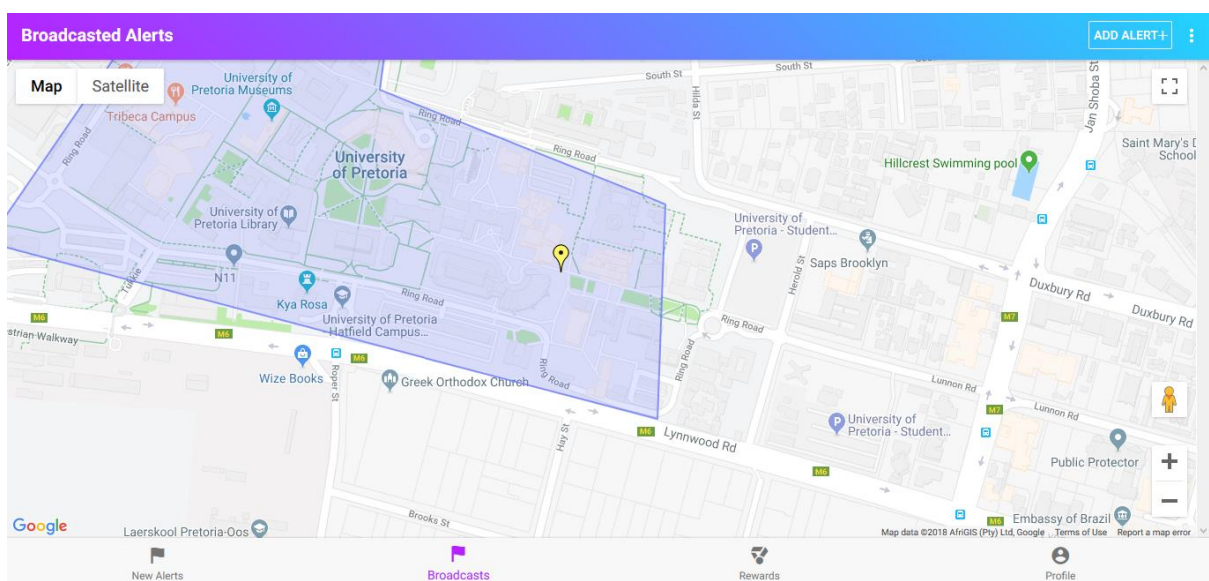


Fig 2.2.2 Broadcasts Screen

Select any marker you want. You may edit or delete the marker.

View list of current Rewards.

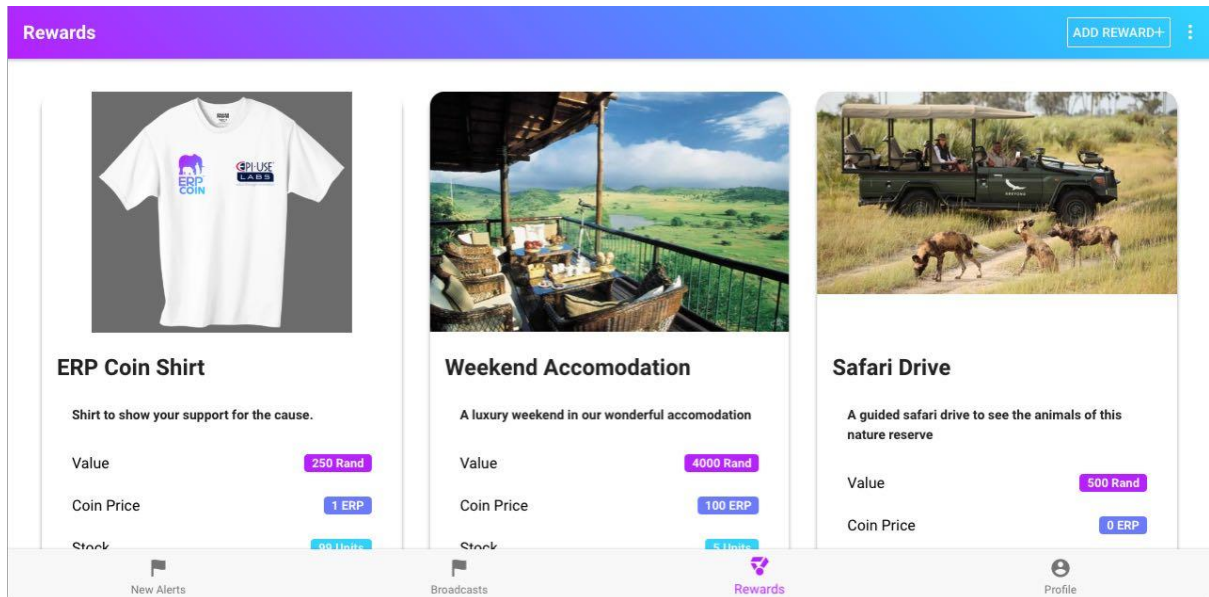


Figure 2.2.3 Rewards Screen

Click on the Rewards Tab while logged in at the bottom right of the screen. You will see the Rewards Screen ([Fig 2.2.3](#))



## Add Reward

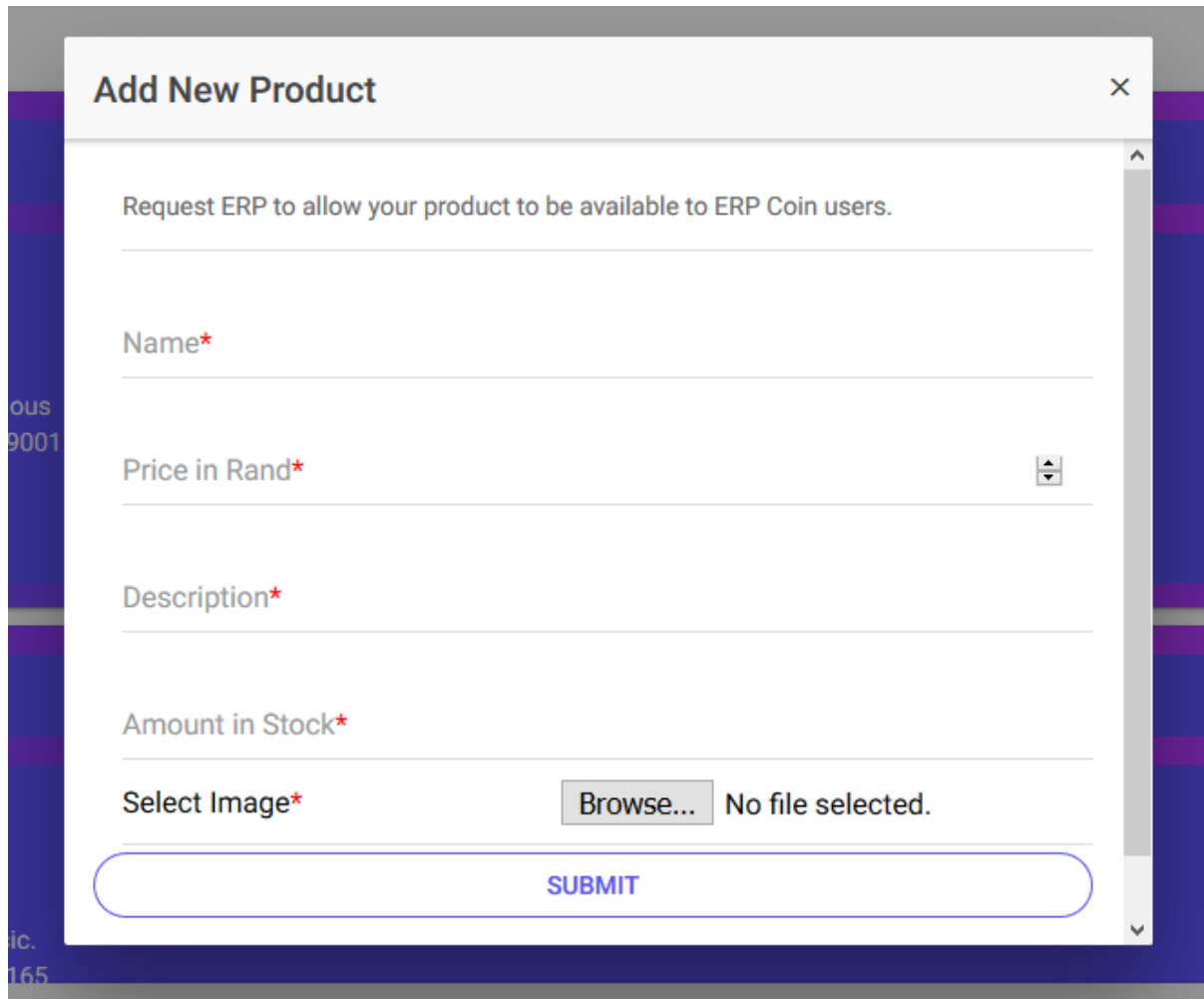
The image shows a web application window titled "Add New Product" with a close button (X) in the top right corner. Inside the window, there is a text instruction: "Request ERP to allow your product to be available to ERP Coin users." Below this, there are several input fields: "Name\*" (required), "Price in Rand\*" (required, with a currency symbol icon), "Description\*" (required), and "Amount in Stock\*" (required). There is also a "Select Image\*" field with a "Browse..." button and the text "No file selected." At the bottom of the form is a large, rounded "SUBMIT" button. The window is set against a dark blue background with some faint text visible on the left side.

Figure 2.2.4 Add Reward Screen

When on the Rewards Screen ([Fig 2.2.3](#)), click on Add Reward in the top right.

Fill in the details ([Fig 2.2.4](#)) and click submit.

Your reward will then be listed on the Rewards Screen ([Fig 2.2.3](#)) after it is successfully submitted.

If your reward has not shown in the list then you can click the refresh button ([Fig 2.2.3](#)).

## Delete Reward

To delete your reward, click on the Delete button next to your chosen reward ([Fig 2.2.3](#)). A Confirmation window will appear.

Your reward will be immediately removed when your request is successfully submitted.

## Edit Reward

**Edit Product** X

Edit your product. Any new configurations will have to be verified by ERP Admin first, before being set available to public. Image will remain unchanged if no image is selected

Name\*

Oom Gert se Plek Voucher

Price in Rand\*

30

Description\*

Classic.

Amount in Stock\*

165

Change Image Browse... No file selected.

**SUBMIT**

Figure 2.2.5 Edit Reward

To change certain details of a chosen reward, click on the Edit button next to the reward ([Fig 2.2.3](#)).

Enter your desired details and click submit ([Fig 2.2.5](#)). If no image is selected, then the image won't be changed.

After successful submission, your reward will appear updated.

Click on the refresh button if the changes have not yet been reflected.

## ERP Administrator Management Portal

### Create a Conservation Area

To Create a conservation area, from the Conservation Area Screen ([Fig 1.3.2](#)) tap on Add at the top right of the screen.

Search for your conservation area in the search bar and tap Get Border ([Fig 1.2.1](#)).

The borders for the conservation area will be automatically created.

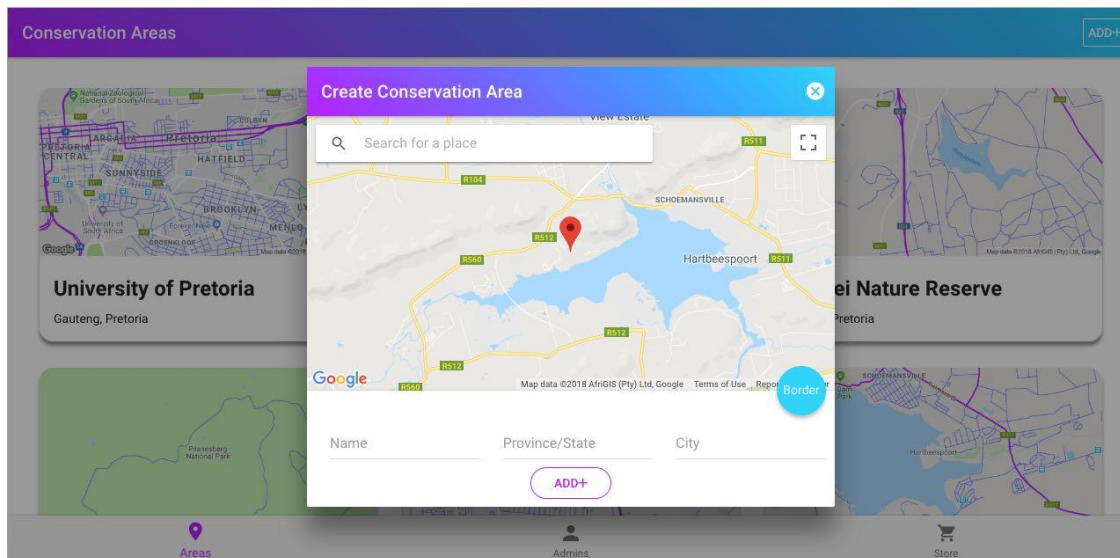


Figure 2.3.1. Create Conservation Area

If the borders cannot be automatically found, you will have to add the borders on the conservation area manually, by tapping on the polygraph button on the map at the middle right.

Enter the Province/State and City.

Press Add.

Assign or Remove Conservation Administrators

From the Conservation Areas Screen ([Fig 1.3.2](#)) or any screen while logged in, tap on the Admins Tab. You will see the Admins Screen ([Fig 2.3.2](#)).

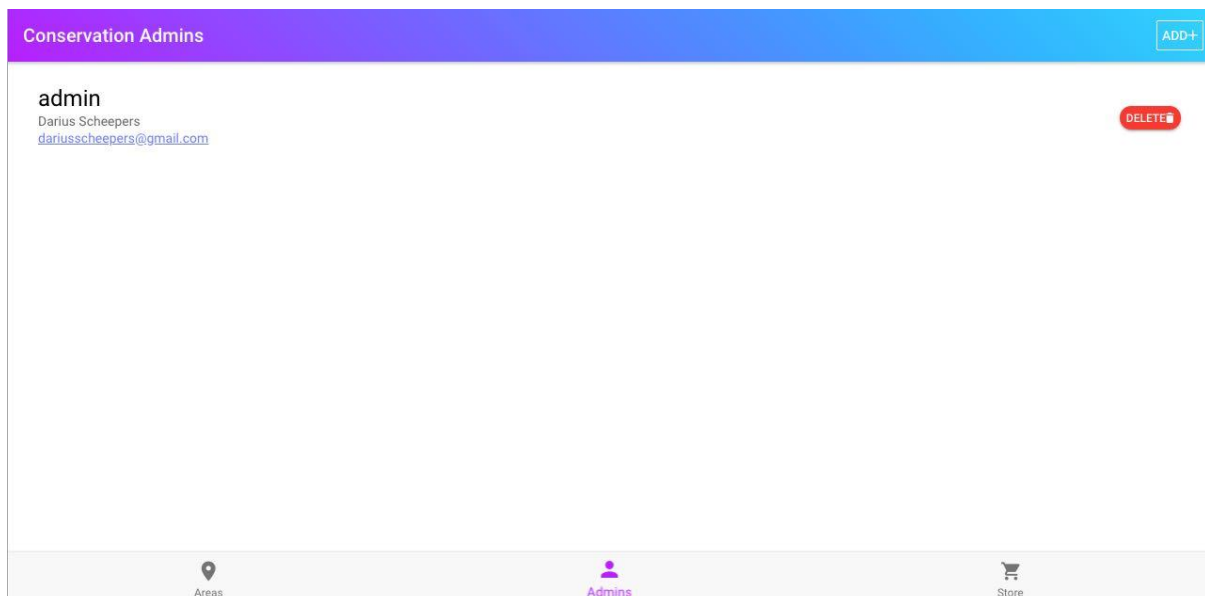


Figure 2.3.2 Admins Screen

Tap on Add.

You will see the Add Conservation Admin Screen ([Fig 2.3.3](#)) Enter the new admin's details, assign him to an already created Conservation Area and press add.

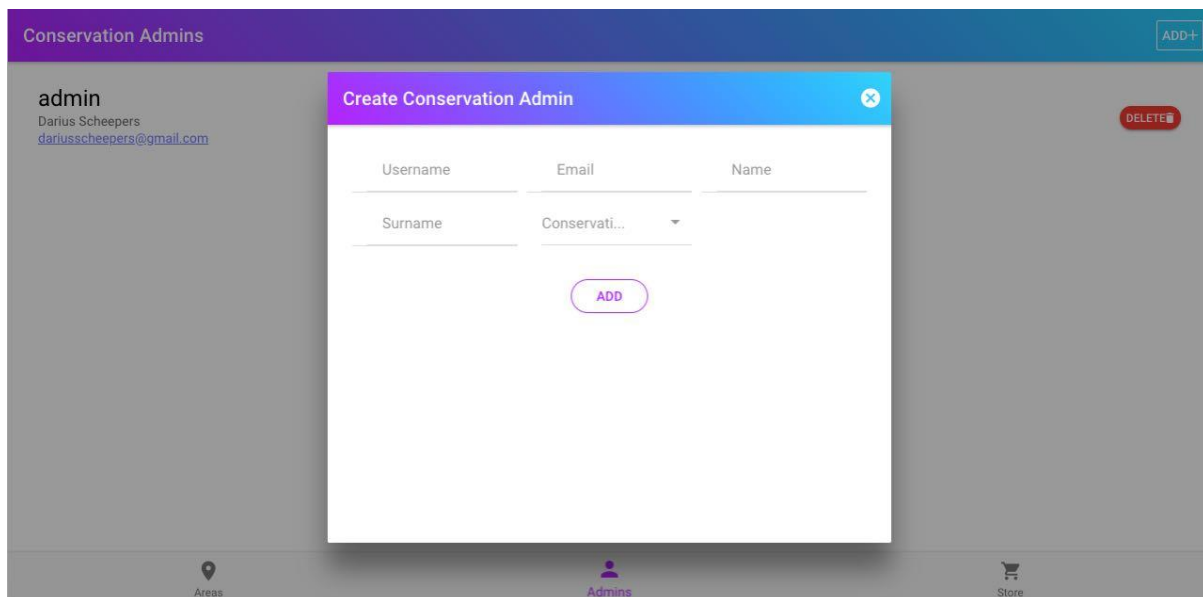


Figure 2.3.3 Add Conservation Admin Screen

From here you can also remove already listed conservation administrators.

### Verify an Award

**Short Description:** In the process of verifying an award you will have to make sure the reward specified by a conservation admin is something worth showing to users, otherwise it has to be discarded. When you validate an award you will assign it an ERP Coin value based on its rand value and the value of an ERP Coin.

From any Screen while logged in, click on the Store Tab in the bottom right of the Screen. You are now on the Store Screen ([Fig 2.3.4](#))

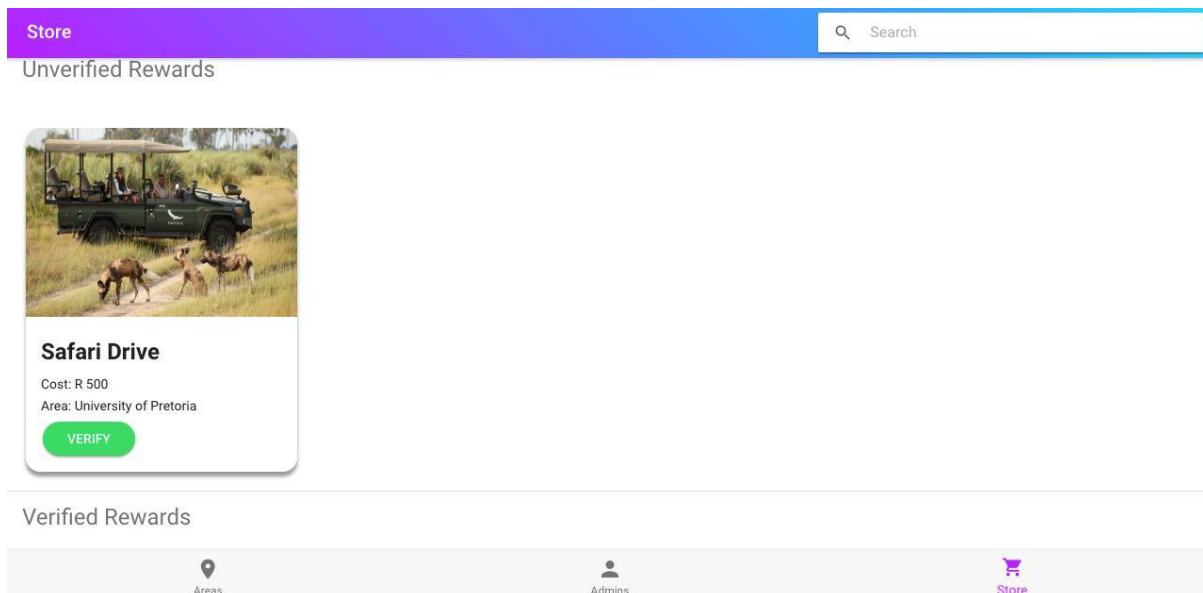


Figure 2.3.4 Store Screen

Select any reward by clicking verify or delete if you want to discard the reward. If you click Verify you will see the Verify Screen. Assign it an ERP Coin Value and press enter.

## Troubleshooting

In the ERP Coin system any incorrect input will be given a clear error message either presented as a toast or a dialogue box, such as incorrect login details or loss of internet connection. These errors are quite general and easy to solve. This section focus on more special cases of what certain errors mean.

### ERP Coin User

#### Cannot start Patrolling

When a user wants to start patrolling a conservation area, he/she has to be within the borders of the conservation area. The user may try to:

- Make sure he/she is within the borders of the conservation area by not being outside of the main gate for example.
- Make sure their phone GPS is enabled for the app.
- Calibrate their phone for a more accurate GPS location by swinging the phone around.

#### Cannot send an alert

A user will be denied sending an alert if he/she are outside the conservation area borders. The user may try to:

- Make sure he/she is within the borders of the conservation area by not going outside a perimeter gate.
- Make sure their phone GPS is enabled for the app.
- Calibrate their phone for a more accurate GPS location by swinging the phone around.

#### Denied purchase of a reward or cannot send ERP Coins

A user will be denied the purchase of a reward or sending ERP Coins solely by having inefficient funds. The user may try to:

- Patrol a conservation area to earn ERP Coins
- Have a fellow ERP Coin user transfer ERP Coins to your wallet.

#### Cannot receive ERP Coins

A user may wish to receive ERP Coins, but is denied a wallet address. He/she has to first link their wallet ([Fig 1.1.5](#)).

#### Not receiving confirmation of purchase/ERP transfer/received

Make sure your email address is correct. You can check and update it in the Edit profile Screen ([Fig 1.1.6](#)).

#### Not Receiving ERP Coins

You receive ERP Coins by patrolling areas that require attention such as areas that hasn't been recently patrolled. You have periodically a chance to win a ERP Coin when patrolling. You can't receive ERP Coins when you are

- Not within borders of a Conservation Area.
- Not logged in and have the app running in the foreground (opened in front of you and screen not locked).

## Conservation Area Administrator

### Have no credentials to log in

Login details for your first login will be emailed to you by the ERP Admin to your specified email address. You may contact the ERP admin to give you an account and email the login details to you.

### Admin of the wrong conservation area

If you find yourself as an admin of a conservation area you don't work in, then please contact the ERP admin to assign you to the correct conservation area.

### Reward not shown to public

Your reward first has to be verified by the ERP admin before it may be placed on the store. A verified reward has green right mark on its details. You may contact the ERP admin if your reward has not yet been verified in a while (+- 1 week).

### Reward disappeared from list of rewards

The ERP admin has find your reward ineligible to be placed on the store and has removed your reward from the database. You may want to put on a different reward on the store.

## ERP Admin

### Cannot find conservation area

Your conservation area might not be listed on Google Map's locations. Go to the location of your conservation area on the map and use the polygon tool to create borders. You can create as much polygon nodes as you like.

### Conservation Area Admins not receiving login details email

Make sure the user has their email information correctly specified. Create a new account for the admin with the correct email address. The admin might also look within his spam folder for the login details.