

smartTAP App

Android™ smartphone application for Water Sellers

Introduction

LORENTZ smartTAP App is used to transfer water credits to Customer NFC tags as part of the smartTAP system

Commercial information

- LORENTZ smartTAP is a free to use application. The app is downloaded from LORENTZ extranet service - partnerNET
- Use is limited to users who have a registered Water Seller or Water Operator account on LORENTZ partnerNET
- Access to LORENTZ smartTAP functions are via login and authentication, once logged-in the application will operate offline

Hardware requirements

- An Android™ device
- Minimum operating systems Android 6.0 or above
- NFC (Near Field Communication) hardware included
- https://en.wikipedia.org/wiki/List_of_NFC-enabled_mobile_devices
- Wifi or cellular data to allow for application authentication / login and to request and receive water credits

Security

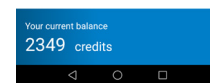
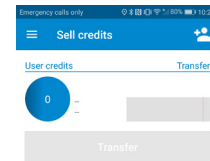
- User authentication by user name and password
- Secure key exchange of NFC keys
- 256bit encryption of NFC tags
- Secure storage of water credits on the Android™ device

Language

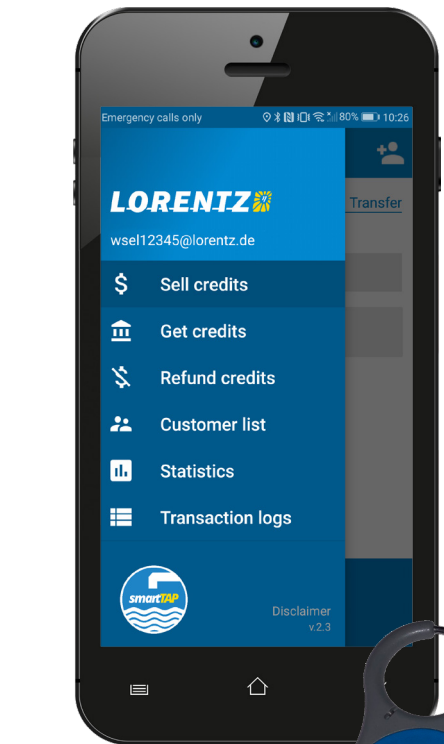
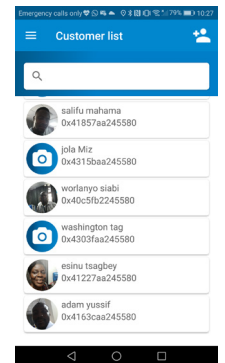
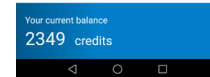
- The app is currently available in English and French language
- More languages will be added on demand

Features

- Customer and tag registration - New tags are formatted by the app and Customer credentials are written to them. Customer details are also stored for synchronizing to the LORENTZ Global management system.
- Sell credits - Move credits from the Water Sellers account to the Customer tag. Payment can be by cash or by local mobile money payment to the Water Seller. Sell credits function operates offline
- Get credits - Request more water credits from the Water Operator. Credit requests are made online. The Water Operator is alerted to the request and can accept for reject the request. This allows for the request to be linked to a payment or to work more flexibly to fit the local business model.
- Refund credits - Allows credits to be transferred from a tag to the Water Seller. This feature can be used to correct transaction errors or to refund Customers. This feature can be used to add credits to a Water Sellers account where no internet connection is possible.
- Transaction logs - stores all transactions that are made by the Water Seller. The Water Seller can refer to these and they can be synchronized to the LORENTZ Global management system



| Date | Amount | State |
|------------------|--------|-------|
| 2018-11-30 16:40 | 100 | ✗ |
| 2018-11-30 16:33 | 1000 | ✓ |
| 2018-11-30 15:26 | 100 | ✓ |
| 2018-11-30 15:16 | 1000 | ✓ |
| 2018-11-30 15:15 | 100 | ✓ |



| Date | Time | Customer | Amount |
|------------|-------|----------------|--------|
| 2018-11-30 | 15:42 | adrian | 25 |
| 2018-11-30 | 15:40 | salifu mahama | 20 |
| 2018-11-30 | 14:58 | Adrian Honey | 50 |
| 2018-11-29 | 16:42 | test | 20 |
| 2018-11-28 | 12:59 | worlanyo siabi | 20 |
| 2018-11-27 | 15:10 | esinu tsagbey | 25 |
| 2018-11-27 | 14:55 | Adrian Honey | 10 |
| 2018-11-27 | 08:19 | Adrian Honey | 52 |
| 2018-11-26 | 13:34 | kgj | |

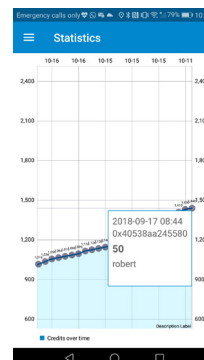


photo may differ from actual product



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