OYU API

Ndovu Nine N9

OVERVIEW
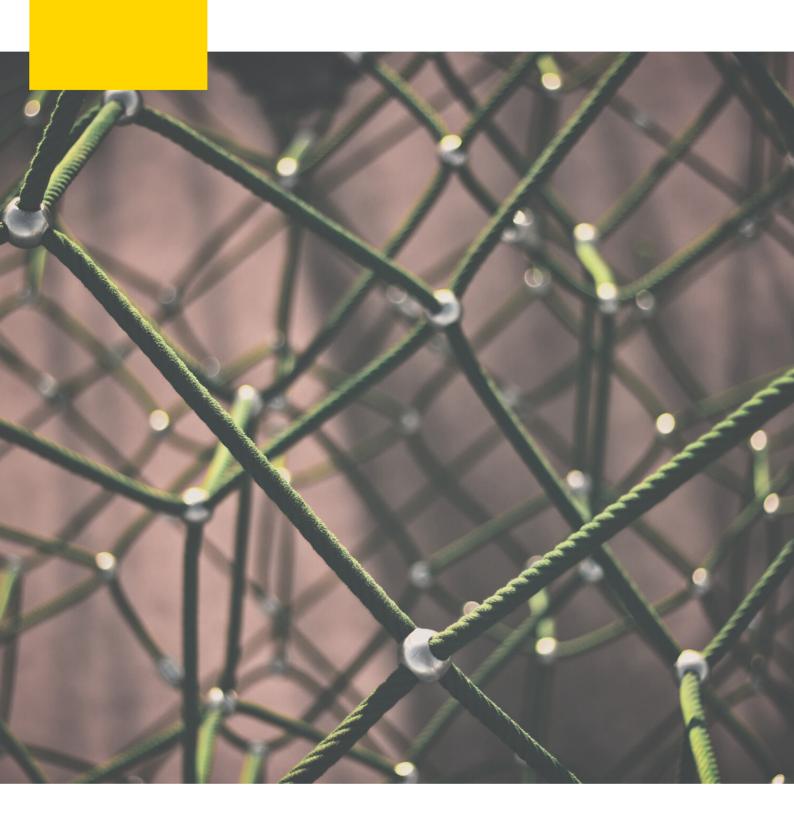
OYU api is an M-Pesa wrapper that allows you to have additional functionalities to your m-pesa account. It also abstracts the complexities of the default api implementation (https://developer.safaricom.co.ke/Documentation) making it easier and quicker to start up a new project.

We provide a full set of endpoints which will allow you to
- Create a wallet for your users
- Set up validation and confirmation endpoints for Mpesa
- Trigger an automatic payment commonly referred to as StkPush
- Provide you apps with Escrow capabilities
- Deposit money to wallet
- Withdraw money from wallet
- Track app & business commissions
- ability to link multiple apps and businesses to a single paybill

HOW TO START

For starters you will need an **APPID.** An appId is a token representing an application registered to use OYU api. To register an application send a request to info@ndovunine.com to get the requirements.

CREATING A WALLET

To create a wallet for your user use the **POST** method and send a request to *register* at
/api/auth/register

The fields *phoneNumber, email, password* and *userType* are required.

userType is a string and the default for customers is "user"

phoneNumber is the customers phone number and must contain a country code i.e.
254705000000 instead of 0705000000

sample request:
```
curl -X POST "https://oyu.ndovunine.com/api/auth/register?
appId=4C8AF5D288A2AD40D0
&phoneNumber=254705000000
&email=bossman%40gmail.com
&firstName=Harley
&middleName=Quinn
&password=6%24gotham6
&userType=user"
-H "accept: text/plain"
-d ""
```

sample response:
```
{
 "profile": {
 "sysid": 2,
 "profileTypeSYSID": 1,
 "profileStatusSYSID": 1,
 "firstName": "Harley",
 "middleName": "Quinn",
 "lastName": null,
 "nationalId": null,
 "mobileNumber": "254705000000",
 "email": "bossman@gmail.com",
 "homeAddress": null,
 "localPicPath": null,
 "webPicPath": null,
 "ccEmail": null,
 "ccPhone": null,
 "dateCreated": "2021-06-16T07:48:23.28",
 "lastUpdate": "2021-06-16T07:48:23.28"
 },
 "account": {
 "sysid": 0,
 "accountId": "Y820862223",
 "profileSYSID": 2,
 "accountBalance": 0,
 "dateCreated": "2021-06-16T07:48:23.28",
 "lastUpdate": "2021-06-16T07:48:23.28"
 },
 "credentials": {
 "sysid": 0,
 "profileSYSID": 2,
 "mobileNumber": "254705000000",
 "email": "bossman@gmail.com",
 "password": null,
 "masterPassword": null,
 "dateCreated": "2021-06-16T07:48:23.28",
 "lastUpdate": "2021-06-16T07:48:23.28"
 }
}
```

GETTING AUTHORIZATION

Once you have created a wallet you will need to authorize all other actions on the api. You authorize using a token which you will get by sending a **POST** request to *login* at **/api/auth/login**

sample request:

```
curl -X POST "https://oyu.ndovunine.com/api/auth/login?
appId=4C8AF5D288A2AD40D0
&phoneNumber=254705000000
&password=6%24gotham6"
-H "accept: text/plain"
-d ""
```

sample response:

```
{
  "sysid": 0,
  "profileSYSID": 2,
  "token":
"1495C0F8A54A0F86D77812ED4A0BB89C1D7DB631A0B17F7CFDD7228C3F6D41076E9C1E5
90D8F3AD53241647A325167C018DDBF2F6A42805AA467079F58320CC9",
  "expiry": "2021-06-30T08:02:55.7621513+03:00",
  "dateCreated": "2021-06-16T08:02:55.7620973+03:00",
  "lastUpdate": "2021-06-16T08:02:55.7622376+03:00"
}
```

The login response is a session object which contains an *expiry time*, keep track of that.

VIEWING AN ACCOUNT

For some functions in the api you will find a field called **accountNumber**. You can get the users account number and more by viewing the account. Send a **POST** request to *view* at **/api/account/view**

sample request:

```
curl -X POST "https://oyu.ndovunine.com/api/account/view?
appId=4C8AF5D288A2AD40D0
&token=1495C0F8A54A0F86D77812ED4A0BB89C1D7DB631A0B17F7CFDD7228C3F6D41076E
9C1E590D8F3AD53241647A325167C018DDBF2F6A42805AA467079F58320CC9"
-H "accept: text/plain"
-d ""
```

sample response:

```
{
  "sysid": 2,
  "accountId": "Y820862223",
  "profileSYSID": 2,
  "accountBalance": 0,
  "dateCreated": "2021-06-16T07:48:23.28",
  "lastUpdate": "2021-06-16T07:48:23.28"
}
```

AUTOMATIC PAYMENTS

Say you have a transaction between 2 users who have an OYU wallet on your platform. Instead of depositing money first to the buyers (user 1) wallet you can deposit directly to the sellers wallet (user 2) wallet by sending a **POST** request to *payWithMpesa* at **/api/b3l1d2FsbGV0TXBlc2E/payWithMpesa** by using user 2's **accountNumber**. Remember accountNumber?

sample request:
```
curl -X POST "https://oyu.ndovunine.com/api/b3l1d2FsbGV0TXBlc2E/payWithMpesa?
appId=4C8AF5D288A2AD40D0
&token=5C960F4A6D62D6E5F065F0485A261B13D6DD2980CDDFA795979F87A06B239B3762
B69EA8EE769DDDC2E06A9F5A85BF72F2E555EB966EC5A95CE4AEE134981660
&accountNumber=Y820862223
&amount=10
&narrative=Test%20Transaction"
-H "accept: */*"
-d ""
```

sample response:
```
{}
```

Since this request takes place in M-pesa network it would be imprudent to wait for a response. So we return empty OK (200) while we wait for a response in form of a failed or successful transaction. On success the buyer and seller will get an sms confirmation of the transaction. You can also use the *account/view* endpoint to refresh the buyers balance.

DEPOSITING TO WALLET

In order to use escrow capabilities you need to first deposit money to a users wallet. Send a **POST** request to *deposit* at **/api/wallet/deposit**

sample request:
```
curl -X POST "https://oyu.ndovunine.com/api/wallet/deposit?
appId=4C8AF5D288A2AD40D0
&token=5C960F4A6D62D6E5F065F0485A261B13D6DD2980CDDFA795979F87A06B239B3762
B69EA8EE769DDDC2E06A9F5A85BF72F2E555EB966EC5A95CE4AEE134981660
&amount=10
&narrative=First%20deopo"
-H "accept: */*"
-d ""
```

sample response:
```
{}
```

Again since this request takes place in M-pesa network it would be imprudent to wait for a response. So we return empty OK (200) while we wait for a response in form of a failed or successful transaction. On success the user will get an sms confirmation of the transaction. You can also use the *account/view* endpoint to refresh the users balance.

HOLDING ESCROW

When you have a transaction between 2 people who do not trust each other OYU api can act as a third party and hold the amount on behalf of the seller and allow the buyer to 'release' the amount to the sellers wallet after receiving the product.

To accomplish this send a **POST** request to *holdEscrow* at **/api/wallet/holdEscrow**

sample request:

```
curl -X POST "https://oyu.ndovunine.com/api/wallet/holdEscrow?
appId=4C8AF5D288A2AD40D0
&token=5C960F4A6D62D6E5F065F0485A261B13D6DD2980CDDFA795979F87A06B239B3762
B69EA8EE769DDDC2E06A9F5A85BF72F2E555EB966EC5A95CE4AEE134981660
&sellerPhoneNumber=254705000000
&amount=300&narrative=fare%20to%20kitui"
-H  "accept: text/plain"
-d ""
```

sample response:

```
{
  "sysid": 1,
  "holdingProfileSYSID": 1,
  "receivingProfileSYSID": 2,
  "transactionSYSID": 1,
  "escrowStatusSYSID": 3,
  "description": "Fare to kitui",
  "amount": 300,
  "balance": 700,
  "dateCreated": "2021-06-16T10:37:07.6980993+03:00",
  "lastUpdate": "2021-06-16T10:37:07.6981392+03:00"
}
```

The response is an escrow object which you **MUST** save. It contains key fields which you will need to *release* or *reverse* the transaction.

RELEASING ESCROW

From our example above, if the buyer receives the product and they now want to pay the seller you release the escrow from the api.

Send a **POST** request to *releaseEscrow* at **/api/wallet/releaseEscrow**

escrowSYSID this is the SYSID attribute from the *holdEscrow* response. Since every escrow is unique careful not to release the wrong one when you have multiple from the same user in your application.

sample request:

```
curl -X POST "https://oyu.ndovunine.com/api/wallet/releaseEscrow?
appId=4C8AF5D288A2AD40D0
&token=5C960F4A6D62D6E5F065F0485A261B13D6DD2980CDDFA795979F87A06B239B3762
B69EA8EE769DDDC2E06A9F5A85BF72F2E555EB966EC5A95CE4AEE134981660
&escrowSYSID=1"
-H "accept: text/plain"
-d ""
```

RELEASING ESCROW

sample response:

```json
{
  "sysid": 0,
  "appSYSID": 2,
  "profileAccountSYSYID": 1,
  "transactionTypeSYSID": 3,
  "narrative": "Releasing Escrow 1",
  "amount": 300,
  "balance": 700,
  "dateCreated": "2021-06-16T10:48:41.6068227+03:00",
  "lastUpdate": "2021-06-16T10:48:41.6068234+03:00"
}
```

The sellers account has been credited and the transaction is now complete with both parties happy.

REFUNDING ESCROW

From our example above, if the buyer did not receive the product and they now want to cancel the transaction you refund the escrow from the api.

Send a **POST** request to *refundEscrow* at **/api/wallet/refundEscrow**

escrowSYSID this is the SYSID attribute from the *holdEscrow* response. Since every escrow is unique careful not to refund the wrong one when you have multiple from the same user in your application.

sample request:

```
curl -X POST "https://oyu.ndovunine.com/api/wallet/refundEscrow?
appId=4C8AF5D288A2AD40D0
&token=5C960F4A6D62D6E5F065F0485A261B13D6DD2980CDDFA795979F87A06B239B3762
B69EA8EE769DDDC2E06A9F5A85BF72F2E555EB966EC5A95CE4AEE134981660
&escrowSYSID=2"
-H "accept: text/plain"
-d ""
```

sample response:

```json
{
  "sysid": 0,
  "appSYSID": 2,
  "profileAccountSYSYID": 1,
  "transactionTypeSYSID": 4,
  "narrative": "Refunding Escrow 2",
  "amount": 300,
  "balance": 700,
  "dateCreated": "2021-06-16T10:55:02.7134277+03:00",
  "lastUpdate": "2021-06-16T10:55:02.7134311+03:00"
}
```

The money has been returned to the buyers account and they are now very happy they did not loose the money.

TRANSACTION HISTORY

Now that we've done a few things on the api how does the user track their history? Easy.

Send a **POST** request to *recent* at **/api/transaction/recent**
from is a date string which **MUST BE** in the following format **dd/MM/yyyy** and older that the current time

sample request:

```
curl -X POST "https://oyu.ndovunine.com/api/transaction/recent?
appId=4C8AF5D288A2AD40D0
&token=5C960F4A6D62D6E5F065F0485A261B13D6DD2980CDDFA795979F87A06B239B3762
B69EA8EE769DDDC2E06A9F5A85BF72F2E555EB966EC5A95CE4AEE134981660
&from=01%2F01%2F2021"
-H "accept: text/plain"
-d ""
```

sample response:

```
[
  {
    "sysid": 1,
    "appSYSID": 2,
    "profileAccountSYSYID": 1,
    "transactionTypeSYSID": 2,
    "narrative": "Holding Escrow",
    "amount": 300,
    "balance": 700,
    "dateCreated": "2021-06-16T10:37:07.67",
    "lastUpdate": "2021-06-16T10:37:07.67"
  },
  {
    "sysid": 3,
    "appSYSID": 2,
    "profileAccountSYSYID": 1,
    "transactionTypeSYSID": 3,
    "narrative": "Releasing Escrow 1",
    "amount": 300,
    "balance": 700,
    "dateCreated": "2021-06-16T10:48:41.607",
    "lastUpdate": "2021-06-16T10:48:41.607"
  },
  {
    "sysid": 6,
    "appSYSID": 2,
    "profileAccountSYSYID": 1,
    "transactionTypeSYSID": 2,
    "narrative": "Holding Escrow",
    "amount": 300,
    "balance": 400,
    "dateCreated": "2021-06-16T10:54:49.91",
    "lastUpdate": "2021-06-16T10:54:49.91"
  },
  {
    "sysid": 7,
    "appSYSID": 2,
    "profileAccountSYSYID": 1,
    "transactionTypeSYSID": 4,
    "narrative": "Refunding Escrow 2",
    "amount": 300,
    "balance": 700,
    "dateCreated": "2021-06-16T10:55:02.713",
    "lastUpdate": "2021-06-16T10:55:02.713"
  }
]
```

WITHDRAWING MONEY FROM WALLET

Since M-pesa supports B2C (Business to Customer) transactions users can withdraw the money in their wallet to their mobile phones.
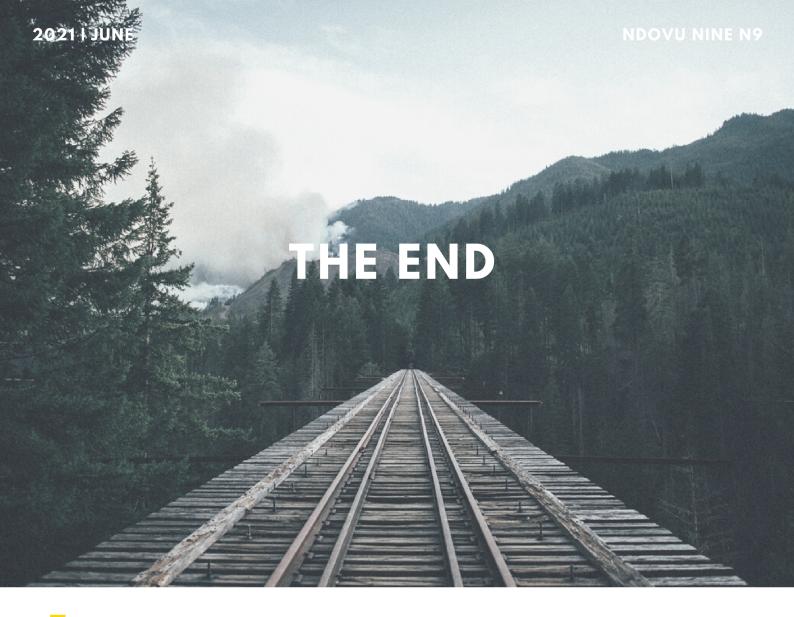
Send a **POST** request to *withdraw* at **/api/wallet/withdraw**

commission as transactions are happening within the wallet some apps say for example a carpooling app that takes 10% of what the drivers earn will have the value as 10. If there is no commission then the value is 0.

sample request:

```
curl -X POST "https://oyu.ndovunine.com/api/wallet/withdraw?
appId=4C8AF5D288A2AD40D0
&token=5C960F4A6D62D6E5F065F0485A261B13D6DD2980CDDFA795979F87A06B239B3762
B69EA8EE769DDDC2E06A9F5A85BF72F2E555EB966EC5A95CE4AEE134981660
&amount=200
&commission=10"
-H "accept: text/plain"
-d ""
```

sample response:

```
{
    "sysid": 1,
    "appSYSID": 2,
    "profileAccountSYSYID": 1,
    "transactionTypeSYSID": 2,
    "narrative": "Withdraw to 254705593689",
    "amount": 200,
    "balance": 500,
    "dateCreated": "2021-06-16T10:37:07.67",
    "lastUpdate": "2021-06-16T10:37:07.67"
}
```

This will credit the uses phoneNumber with KES 180 and add KES 20 to the app revenue as the commission on this request is 10%.

THE END

You are now set. Build a beast.

To request for additional functionalities send us a request at info@ndovunine.com