Can we do BETTER?

Team I

Yes!

We can use Blockchain Technology

Mint an NFT

Host
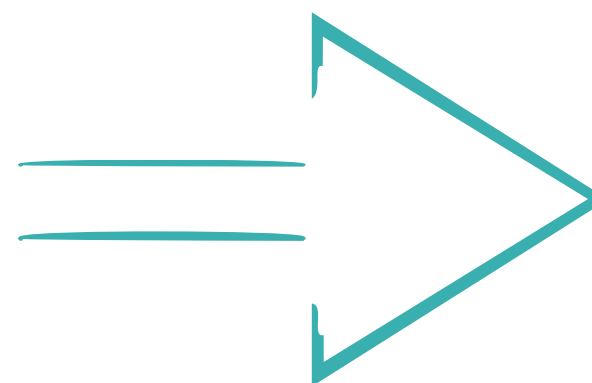
Send

Guest

*NFT is non transferable.

Public Key

Guest

+

Signed(block time)

Host's Device

Guest's Device

- sends his Public Key
- signs the timestamp of the last block and sends the signature to the Host's Device (NFC or QR code)

Host's Device

Checks that:

The signature is valid

Guest owns a NFT where:
- issuer = host address
- valid date
- valid service accessed

Team I

Let's show a demo!

Register

Open Palace

Host: rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb

Guest:

Service 1

Service 2

Service 3

GUI Example

Host: rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb

Guest: r448b5VNRbKaLzRPnGpEShwxfG2YXKemm2

Registered Guest: r448b5VNRbKaLzRPnGpEShwxfG2YXKemm2
NFT: {
    "Flags": 0,
    "Issuer": "rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb",
    "NFTokenID": "00000000BB4C5FFC3EE342B64655080C43D820DF94824E8B2D88A22200266187",
    "NFTokenTaxon": 0,
    "URI": "7B22636865636B5F696E223A20223230323032342D31312D32312031343A30303A30302B30303A3030222C20226368
65636B5F6F7574223A20223230323032342D31312D32342031303A30303A30302B30303A3030222C2022736572766963657322
3A207B2231223A20747275652C202232223A2066616C73652C202233223A2066616C73657D7D",
    "nft_serial": 2515335
}
URI: {
    "check_in": "2024-11-21 14:00:00+00:00",
    "check_out": "2024-11-24 10:00:00+00:00",
    "services": {
        "1": true,
        "2": false,
        "3": false
    }
}

You are now registered!

Register

Open Palace

Service 1

Service 2

Service 3

GUI Example

Host: rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb
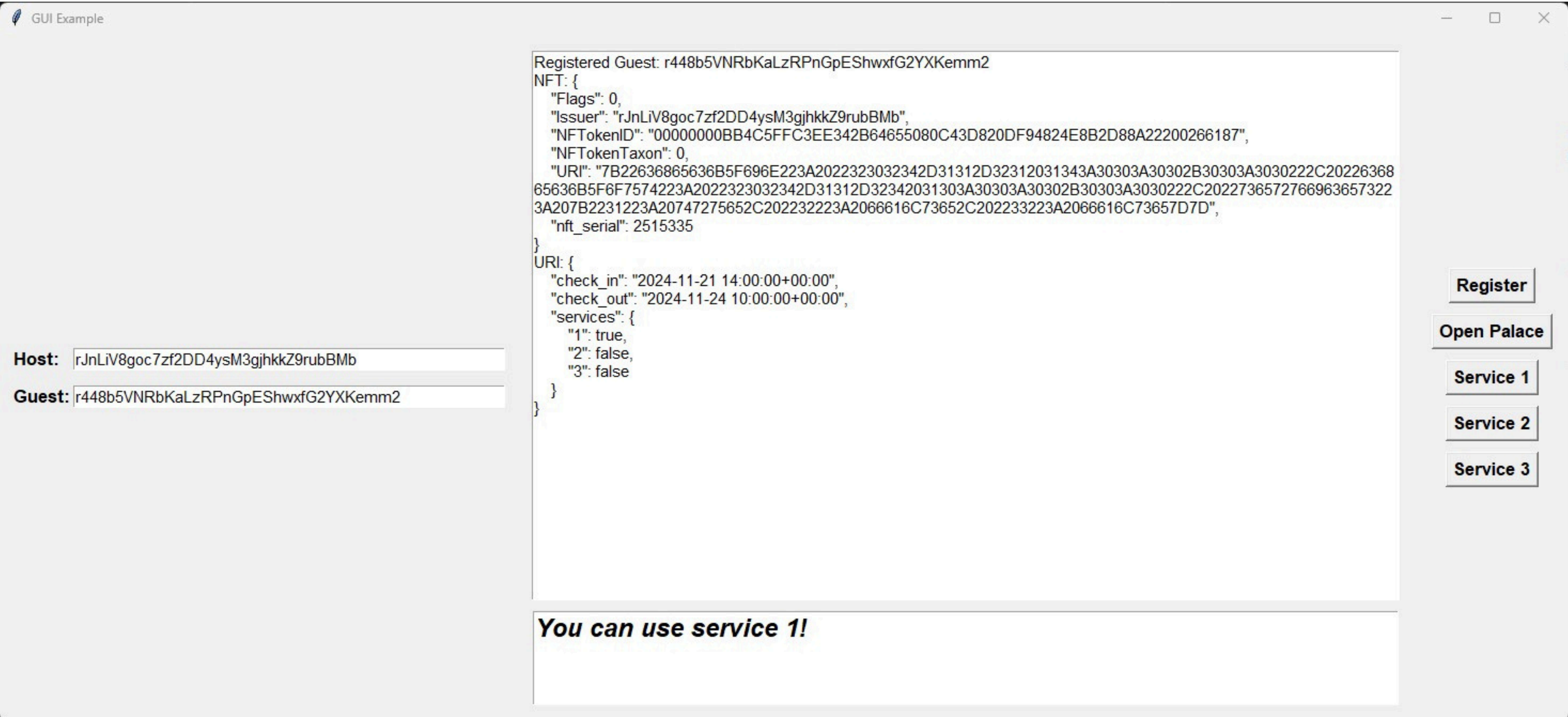
Guest: r448b5VNRbKaLzRPnGpEShwxfG2YXKemm2

Registered Guest: r448b5VNRbKaLzRPnGpEShwxfG2YXKemm2
NFT: {
    "Flags": 0,
    "Issuer": "rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb",
    "NFTokenID": "00000000BB4C5FFC3EE342B64655080C43D820DF94824E8B2D88A22200266187",
    "NFTokenTaxon": 0,
    "URI": "7B22636865636B5F696E223A2022323032342D31312D32312031343A30303A30302B30303A3030222C20226368
65636B5F6F7574223A2022323032342D31312D32342031303A30303A30302B30303A3030222C2022736572766963657322
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    "check_out": "2024-11-24 10:00:00+00:00",
    "services": {
        "1": true,
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        "3": false
    }
}

You can enter the palace!

Register

Open Palace

Service 1

Service 2

Service 3

GUI Example

Registered Guest: r448b5VNRbKaLzRPnGpEShwxfG2YXKemm2
NFT: {
    "Flags": 0,
    "Issuer": "rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb",
    "NFTokenID": "00000000BB4C5FFC3EE342B64655080C43D820DF94824E8B2D88A22200266187",
    "NFTokenTaxon": 0,
    "URI": "7B22636865636B5F696E223A2022323032342D31312D32312031343A30303A30302B30303A3030222C20226368
65636B5F6F7574223A2022323032342D31312D32342031303A30303A30302B30303A3030222C202273657276696365732
3A207B2231223A20747275652C202232223A2066616C73652C202233223A2066616C73657D7D",
    "nft_serial": 2515335
}
URI: {
    "check_in": "2024-11-21 14:00:00+00:00",
    "check_out": "2024-11-24 10:00:00+00:00",
    "services": {
        "1": true,
        "2": false,
        "3": false
    }
}

Host: rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb

Guest: r448b5VNRbKaLzRPnGpEShwxfG2YXKemm2

Register

Open Palace

Service 1

Service 2

Service 3

You can use service 1!

GUI Example — □ ×

Registered Guest: r448b5VNRbKaLzRPnGpEShwxfG2YXKemm2
NFT: {
    "Flags": 0,
    "Issuer": "rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb",
    "NFTokenID": "00000000BB4C5FFC3EE342B64655080C43D820DF94824E8B2D88A22200266187",
    "NFTokenTaxon": 0,
    "URI": "7B22636865636B5F696E223A2022323032342D31312D32312031343A30303A30302B30303A3030222C20226368
65636B5F6F7574223A2022323032342D31312D32342031303A30303A30302B30303A3030222C202273657276696365732
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    "nft_serial": 2515335
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URI: {
    "check_in": "2024-11-21 14:00:00+00:00",
    "check_out": "2024-11-24 10:00:00+00:00",
    "services": {
        "1": true,
        "2": false,
        "3": false
    }
}

Host: rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb

Guest: r448b5VNRbKaLzRPnGpEShwxfG2YXKemm2

Register

Open Palace

Service 1

Service 2

Service 3

You cannot use service 2!

GUI Example

Registered Guest: r448b5VNRbKaLzRPnGpEShwxfG2YXKemm2
NFT: {
    "Flags": 0,
    "Issuer": "rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb",
    "NFTokenID": "00000000BB4C5FFC3EE342B64655080C43D820DF94824E8B2D88A22200266187",
    "NFTokenTaxon": 0,
    "URI": "7B22636865636B5F696E223A2022323032342D31312D32312031343A30303A30302B30303A3030222C20226368
65636B5F6F7574223A2022323032342D31312D32342031303A30303A30302B30303A3030222C202273657276696365732
3A207B2231223A20747275652C202232223A2066616C73652C202233223A2066616C73657D7D",
    "nft_serial": 2515335
}
URI: {
    "check_in": "2024-11-21 14:00:00+00:00",
    "check_out": "2024-11-24 10:00:00+00:00",
    "services": {
        "1": true,
        "2": false,
        "3": false
    }
}

Host: rJnLiV8goc7zf2DD4ysM3gjhkkZ9rubBMb

Guest: r448b5VNRbKaLzRPnGpEShwxfG2YXKemm2

Register

Open Palace

Service 1

Service 2

Service 3

You cannot use service 3!

Pros and Cons

Pros	Cons
Security	Response time
Easy to manage	Blockchain downtime
Cheap	Non User Friendly

Conclusions

This application can be used for various use cases. For example:

- Arcade
- Gym membership
- Web services

Thank you for attention!