

SMEiily :)

is a global lending and payments platform tailored to small and medium sized enterprises (SMEs). We leverage blockchain, stablecoins, and real-time credit scoring to unlock connections of underserved businesses with investors around the world — offering **fast, transparent, and borderless financial access** in one user-friendly app.



Next



Programming Language and Main Framework



Programming Language	Python 3.9
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Frameworks	FastAPI (Backend) + Streamlit (Frontend)
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Paradigm	Modular & API Driven Development
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Deployment	Uvicorn / Local host
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```

  ✓ backend
    > __pycache__
    🐍 main.py
  ✓ frontend
    🐍 app.py
    > venv
    💡 .gitignore
    📄 MVP_code.ipynb
    ⓘ README.md
    ≡ requirements.txt
```

Main Features Implementation in Code

Feature	Realized as
SME Loan Form	Streamlit GUI in app
Real-time Credit Scoring	FastAPI endpoint <code>/score</code>
KYC Checks	Pattern check on <code>national_id</code> , placeholder for Trulioo
Blockchain Repayment	Simulated <code>/pay</code> endpoint
Stablecoin Payment	Mocked USDC transaction output
Deployment	Uvicorn for API, Streamlit CLI for GUI



Mapping Innovation to Code

BP Compnent	Realized as
Replace Manual Underwriting	Automated /score API using income logic
KYC/AML	Mock Trulioo style ID validation
Borderless Payments	Mock stablecoin POST /pay transaciton
Instant Approvals	Instant feedback through Streamlit
Open Banking Scoring	Simulated Open Banking JSON or API



Instructions

1. Activate Virtual Environment

```
source venv/bin/activate
```

2. Install Dependencies

```
pip install -r requirements.txt
```

3. Start Backend

```
uvicorn backend.main:app --reload
```

4. Start Frontend in another Terminal

```
streamlit run frontend/app.py
```



SMEily Lending Platform

Empowering SMEs with fast, borderless, and transparent funding.



SME Loan Application

Full Name

Chloe Youn

Monthly Revenue (\$)

3700,00

- +

Business Type

Service



Loan Request (\$)

300,00

- +

Country

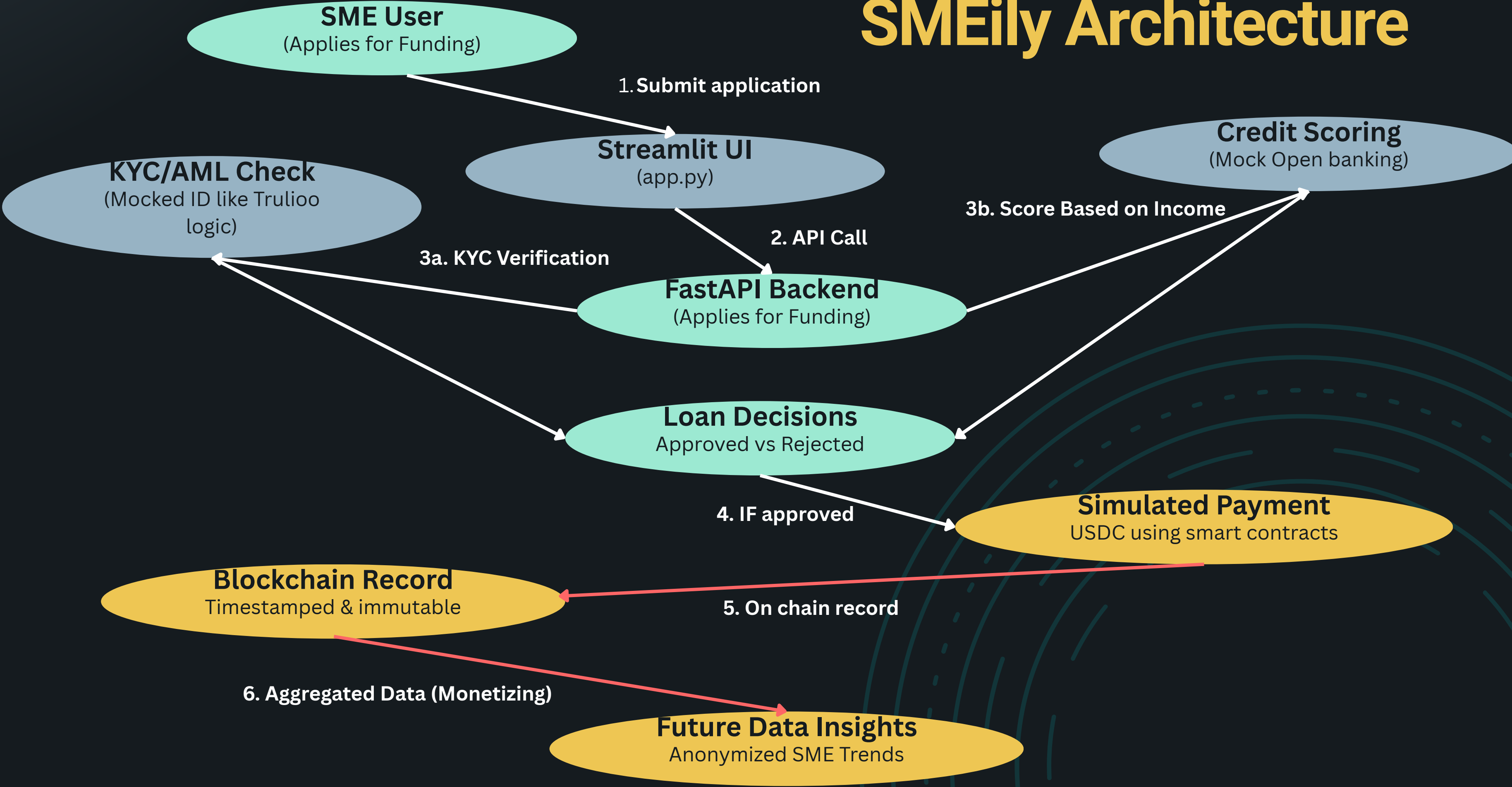
The Netherlands

National ID (starts with 'ID')

Submit Application 



SMEily Architecture



Incorporating Feedbacks at MVP stage

KYC / AML Compliance	KYC checks will be implemented using national ID validation architecture allows integration with real providers like Trulioo or Chainalysis.
Default collection strategy	Planned smart contract enforcement and potential credit insurance integration for high-risk loans
Real-time credit scoring	Enabled via the /score FastAPI endpoint using Open Banking-style logic
Reliable data sourcing	Uses Open Banking APIs known for quick data updates, reliability, and regulatory compliance
Licensing concerns	Designed for deployment via regulatory sandboxes, with modular architecture for jurisdiction-specific compliance
Data availability	Relies on sandboxed Open Banking datasets and synthetic SME financial profiles during MVP stage
Rationale for blockchain/stablecoins	Supports instant, cross-border payments with low fees and full on-chain transparency

Crucial Prerequisites for **Scale** & **Technological** Risks

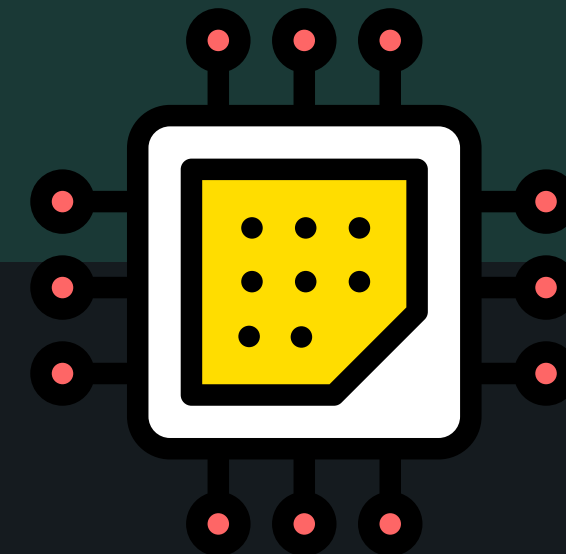
Prerequisites for Scale

- Regulatory sandbox approval
- Partnerships with Open Banking API Providers
- Cloud-native deployment
- Automated smart contract deployment and audit pipeline



Technological Risks

- Smart contract vulnerabilities
- Stablecoin dependency
- API failures



Operational & Maintenance Challenges



Challenges

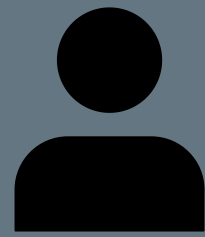
- **Liquidity mismatch:** Not enough investors when there are demand spikes in SME
- **Data recency & compliance:** Ensuring open banking data is up to date and regionally compliant to laws
- **Manual KYC fallback:** In emerging markets with weak digital identity, automated KYC could be a challenge



Mitigations

- Build **liquidity buffers** and **onboard institutional investors early**
- Set up **data sync alerts** and fallback to most recent highest score or manual review
- Integrate with **multiple KYC providers** or **verification tools**

Security Risks for Operator & Users



USER

Phishing

Fake or scam SMEily links could trick users into sharing sensitive info

Impersonation

Fraudulent SMEs could fake credentials without strong KYC



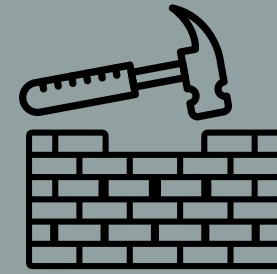
OPERATOR

Backend API abuse

Attackers might flood pay endpoints with bots

Data leakage

Improper access control might expose SME financial records



MITIGATION STRATEGIES

CAPTCHAs + rate limiting on key endpoints

Role-based access control for admin/investor functions

End-to-end encryption + audit logs for all PII access

Use chain analytics tools for wallet and transaction monitoring

**Thank You For
Watching**

