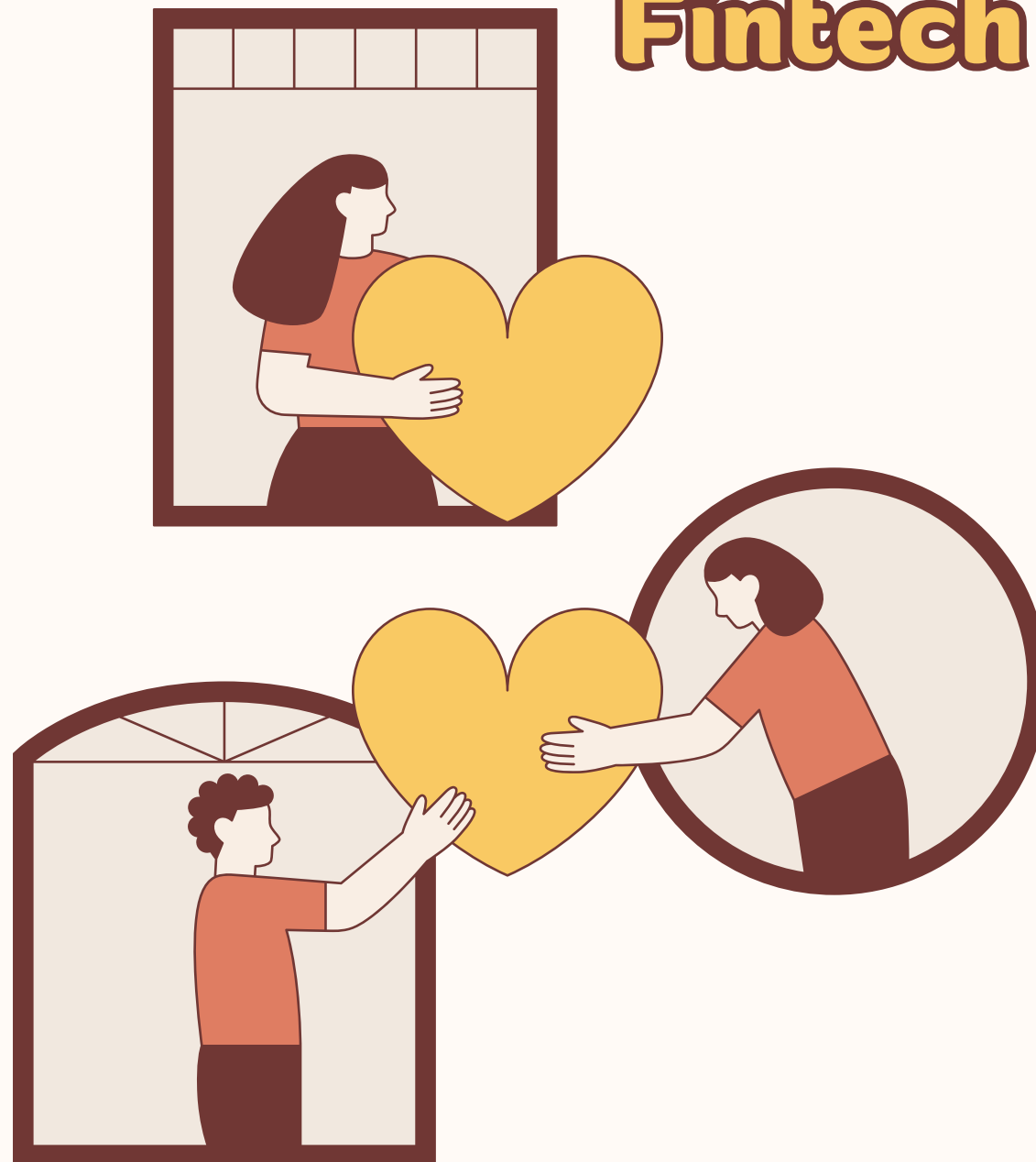


The Bugged Sleepwalker

Team member:
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Problem Statement : Enhancing Charity & Donations through Fintech & Technology



The Challenge:

Develop innovative and scalable solutions (plus point: Shariah-compliant) that can be adopted by authorities (such as Waqf and Zakat institutions) and non-profits organisations to enhance governance, optimize fund utilization, and create sustainable social impact.

Problem:

- lack of transparency
- inefficiency in distribution
- limited accessibility



Based on our prototype, our group is focusing on the Zakat to solving the problem statement as Zakat is one of the five pillars of Islam and is inherently Shariah - compliant (based on the challenge stated).



Calculating the zakat

1. Efficiency

- **Automatically calculation** speed up the process and minimize the human error
- Can use the **blockchain technology** - more transparent and auditable

2. Accessibility

- **User - Friendly Interface** as it lets the user easily enter their financial data and automatically knowing the zakat computed and understanding the obligation
- The donation process more accessible and engaging
- Increase the scalability - can handle large volumes of data and donations

Formula of calculation

- Total assets = cash + gold + investment + business inventory + other assets
- Total Liabilities = short term debts + bills due + other liabilities
- Zakat = (total assets - total liabilities) x 2.5%



Step 2

Data Analytics & Visualization

Enhance Comprehensive

- Provide meaningful insights about the distribution of fund collected
- Show impact

How?

- Collects donation data and the results
- Use chart to visualize
- User can filter data by timeframe, category or region

Tool can be used

- Python libraries: pandas, matplotlib

Step 2

Artificial Intelligence & Machine Learning

Efficient Fund Allocation

- Optimize the allocation of Zakat funds

How?

- Identify the most in-need project or individual by training ML model
- Training data might be: income level, region, family size, health status, etc.

Tools can be used:

- ML model: Decision Tree, Random Forest

Step 2

Artificial Intelligence & Machine Learning

Fraud Detection Alerts

- Prevent malicious actors
- Ensure the fund does not be misused

How?

- Detect suspicious activities by applying detection algorithms
- Flag unusual patterns or unauthorized fund usage

Tools can be used:

- Python library: scikit-learn
- ML algorithm: Support Vector Machine (SVM)

Step 3



Zakat Donation E-Wallet



- For doners who are unbanked
- pay through different types of E-wallet (ex: Touch N Go, GrabPay, Boost)

How?

- Doners scan the QR Code given
- Enter the amount to donate

Tools can be used

- Python library: Django



Step 3

Zakat Donation Donation History

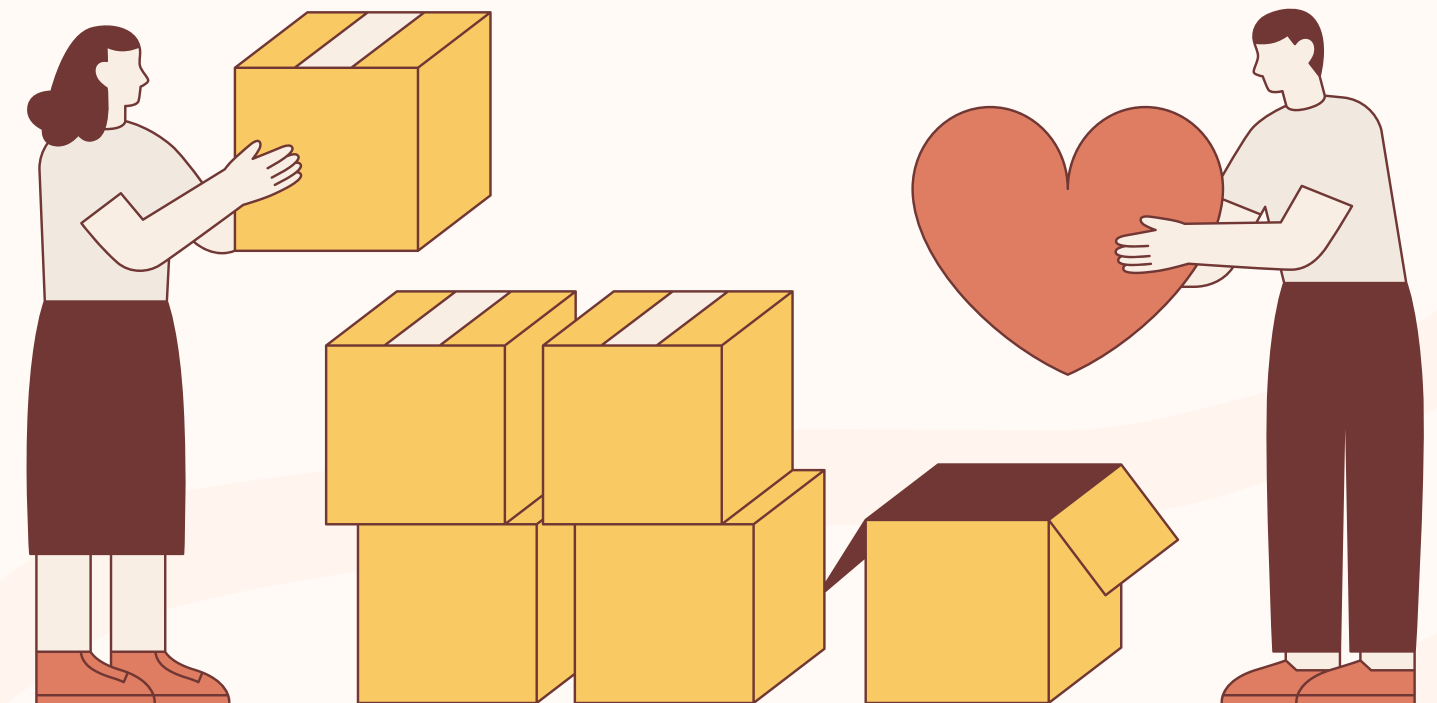
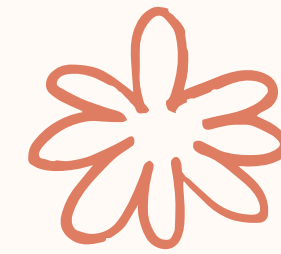
- Doners can check their donation history

How?

- list total amount donated
- specific amount donated per donation
- causes supported for each donation

Tools can be used

- Python library: Django





Conclusion

We aimed to create using smart contracts, to help the users to calculate their zakat easily. Also, we have implement AI to detect any fraud to ensure the donation reach to those people who truly need help. Moreover, make donation easier to pay using e-wallets and review their past donations to see if the donation has really helped.





That's all for our presentation!

Thank You

