Multi Card Problem

Which card do I use when I am at a point of sale to maximize rewards?

Choose Randomly?

Build & Solve a complex equation to choose the best?
Multi-card Problem

- Different cards offer different rewards on different kind of purchases
  - Often it is difficult to remember which card offers benefit on which product.
  - Foreign transaction fees vary from card to card
  - How can my cards communicate within themselves and choose the one among them that is best for me for the current transaction?

- On average an American card holder has 5 different credit cards
  - It is good to have multiple cards to have better credit history & higher credit limits.
  - At the same time, the multiplicity of cards should not make it difficult for me to shop.
Multi-card Problem

- Why has it not been solved?
  - **Challenge:** How do you get these cards to interact with each other to work in the best interest of user?
    - **Business:** Since cards are from different banks, they compete instead of co-operating to divide profits instead of sharing
    - **Technology:** Choosing the best card among the cards a user holds requires knowledge gathering and inference mechanisms using based on hand crafted rules.
      - The technology component can be made cost-effective with the use of Artificial Intelligence and Language Technologies.
MetaCard- A multi-card unification mechanism which allows you to register all your cards to a single MetaCard account.

At the time of purchase (online or onsite) you simply use your MetaCard like any other credit card.

The MetaCard transaction processing system identifies the best card among the registered cards based on type of purchase, card contract & rewards, account balance, etc.
Getting a Meta Card

- **User with multiple cards**
- **MetaCard website**
- **MetaCard Business Expert System**
  - Check’s user history
  - Sanity checks
  - Verifications
- **MetaCard signup**
  - Name, Address, etc.
  - List of cards
  - Type, Contract link, Account info., etc.
- **MetaCard AI Agent**
  - Read and understand contract
  - Read previous statement
  - Construct credit model
  - Construct user model
Using a Meta Card

User with MetaCard

Store (Website/Physical) Checkout

Transaction processing using common infrastructure

Transaction billed to

MetaCard account

MetaCard AI Agent
- Uses credit model & user model to find best card to put the transaction on

Effective indirect transaction

Best card account

Transaction processing using common infrastructure
Specific Problem Addressed

- User does not need to remember credit card contract terms and conditions to make best choice of card for each transaction

- User experiences confident shopping knowing that he/she made the best choice possible to maximize return (or minimize cost)
The MetaCard system is based largely on existing credit card transaction processing infrastructure. This infrastructure is well established and widely accepted around the globe.

On the transaction processing side, significant computational infrastructure would be required to process 1000s of transactions simultaneously and update user/credit models.

Computational infrastructure is becoming cheaper and common everyday.
Effort & Scale

- Designing mechanism to extract information from contracts and monthly statements and combine with knowledge to create good user models and credit models.

- Mechanism to apply above models to transactions to achieve highly accurate recommendations.

- Mechanism to update user models and credit models efficiently after each transaction.

- Website that provides user interface to let the user sign up for MetaCard and monitor its use.

- **Development Scale:** I think a team of less than 10 experts from different areas (like language technologies, machine learning, finance, user interfaces, developers, etc.) can work together and bring up a system in 6 months to an year.
Many other intelligent services can be provided as an expansion on the basic MetaCard system. I discuss only a few.

**Theft Handling**
- Incase the wallet gets stolen, the thief can use each of your cards to get money
- Since MetaCard is the only card you carry, it can block scrupulous activity after one erratic transaction

**Personal Finance Management**
- Since this single card observe all kinds of transaction of a person, it can give comprehensive visualization of expenditures to help the user manage budget effectively
Outline

- **Problem**
  - Description
  - Importance
  - Why not solved (favorable if it is a technological problem)

- **Proposed Solution**
  - Mock up Demo
  - What does it solve?
  - Architecture
  - Off-the Shelf vs. Develop
  - Infrastructure - existing, to be created, emerging
  - How big the effort?

- **Future Vision**
  - Expansion
  - Other Apps on the Same platform
  - Benefits