

# **MRCard**

## **Machine Reasoning Credit Card Recommendation System**

### **USER MANUAL**

Sunday 10<sup>th</sup> March, 2019

# 1 System Overview

MRCard is a web based **Credit Card Recommender System**. The target users would be divided into two groups, consumers and businesses. To consumers, it would be a good system to learn what credit card is most suitable base on their spending habits and preferences. To businesses, i.e. banks, it would be a professional system to learn how their credit cards are compared with the market competitors. The system would be run with a web UI and is device-friendly. The users could connect it through Internet and answer some survey question to get the recommendations on credit cards.

## 2 Supported browsers

### 2.1 Mobile devices

It supports the latest versions of each major platform's default browsers. Note that proxy browsers (such as Opera Mini, Opera Mobile's Turbo mode, UC Browser Mini, Amazon Silk) are not supported.

	Chrome	Firefox	Safari	Android Browser & WebView	Microsoft Edge
<b>Android</b>	Supported	Supported	N/A	Android v5.0+ supported	Supported
<b>iOS</b>	Supported	Supported	Supported	N/A	Supported
<b>Windows 10 Mobile</b>	N/A	N/A	N/A	N/A	Supported

Table 1: Mobile Devices Support

### 2.2 Desktop browsers

The latest versions of most desktop browsers are supported.

	Chrome	Firefox	Internet Explorer	Microsoft Edge	Opera	Safari
<b>Mac</b>	Supported	Supported	N/A	N/A	Supported	Supported
<b>Windows</b>	Supported	Supported	Supported, IE10+	Supported	Supported	Not supported

Table 2: Desktop Browser Support

## 3 Deployment

Our system is deployed by Django, which is a Python-based free and open-source web framework. To run the system successfully, some basic packages are required with the

latest version of Python 3 (i.e. Python 3.7.2).

### Packages:

- PyKnow
- Pandas
- Django

Once the running environment is ready, please open the system folder in terminal, and run the command `python3 manage.py runserver`. You should see the following output on the command line:

```
Performing system checks...

System check identified no issues (0 silenced).

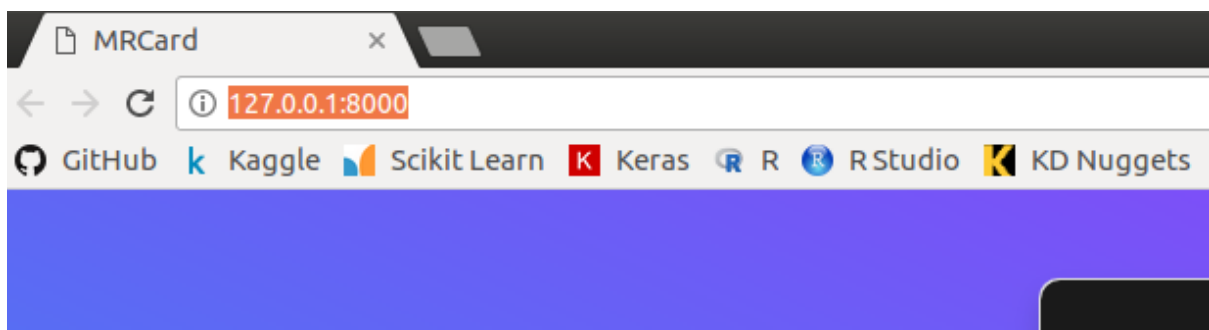
You have unapplied migrations; your app may not work properly
until they are applied.
Run 'python manage.py migrate' to apply them.

February 28, 2019 - 15:50:53
Django version 2.1, using settings 'mysite.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.
```

Then you can go to the web browser and input URL "`http://127.0.0.1:8000/`" to use MRCard.

## 4 Procedure

Open up your preferred browser and go to the URL "`http://127.0.0.1:8000/`" as shown below:



Input your Annual Income (best guess), Age, Gender and Citizenship, they are all required fields. We use this to calculate which Credit Cards you are eligible for.

MRCARD FORM

Annual Income

Your Annual Income

Age

Your Age

Gender

☒ Female

☐ Male

Subject

Choose option ▾

NEXT

If you do not fill in a given field, a prompt will be exposed to remind you.

MRCARD FORM

Annual Income

Your Annual Income

Age

Your Age

Gender

☒ Female

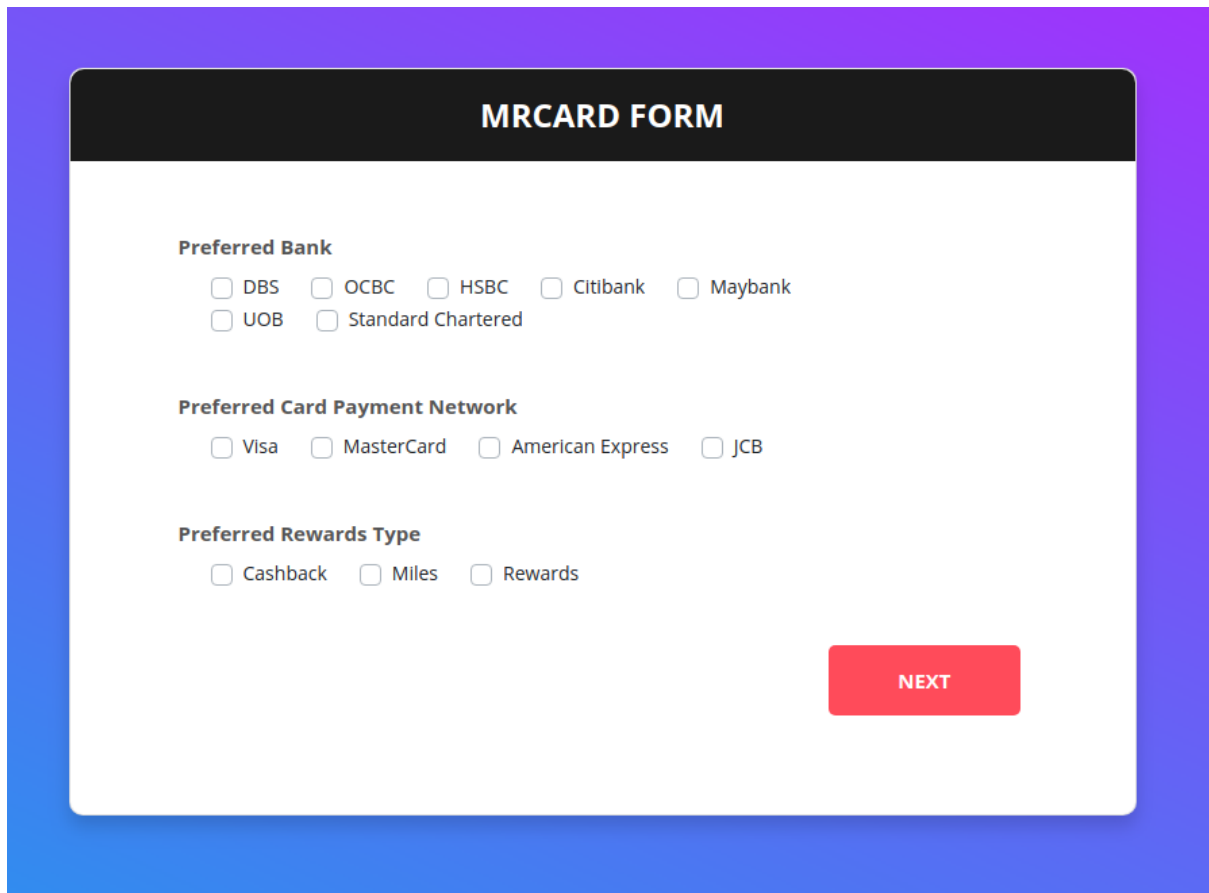
☐ Male

Subject

Choose option

NEXT

Next, you get to choose which Bank/ Payment Network and Rewards type you prefer. We will include this as part of the recommendation for preferred cards, together with the ideal Credit Card. From the set of eligible Cards, we recommend an ideal card. And from the set of eligible and preferred Credit Cards, we recommend a preferred card.

The image shows a digital form titled "MRCARD FORM" set against a blue-to-purple gradient background. The form itself is white with a black header bar containing the title in white text. It is divided into three sections, each with a bold heading. The first section, "Preferred Bank", lists seven banks with checkboxes: DBS, OCBC, HSBC, Citibank, Maybank, UOB, and Standard Chartered. The second section, "Preferred Card Payment Network", lists four networks: Visa, MasterCard, American Express, and JCB. The third section, "Preferred Rewards Type", lists three options: Cashback, Miles, and Rewards. A red button with the word "NEXT" in white capital letters is positioned at the bottom right of the form area.

**MRCARD FORM**

**Preferred Bank**

☐ DBS   ☐ OCBC   ☐ HSBC   ☐ Citibank   ☐ Maybank  
☐ UOB   ☐ Standard Chartered

**Preferred Card Payment Network**

☐ Visa   ☐ MasterCard   ☐ American Express   ☐ JCB

**Preferred Rewards Type**

☐ Cashback   ☐ Miles   ☐ Rewards

**NEXT**

Following which, click on which categories you spend on with a Credit Card. We use this internally so that we don't need to ask you unnecessary questions for categories that you don't spend on. (e.g. If you select Groceries, we will ask you how much you spend on it) We also have a more granular breakdown for certain categories because the breakdown matters when calculating Cashback/ Miles/ Rewards.

The image shows a digital form titled "MRCARD FORM" in a black header bar. Below the header, the text "What do you pay by credit cards" is followed by a list of nine categories, each with an unchecked checkbox: Bill, Dining, Entertainment, Foreign Spending, Groceries, Online, Petrol, Retail, and Transport. A red button labeled "NEXT" is positioned in the bottom right corner of the form area. The entire form is set against a blue-to-purple gradient background.

**MRCARD FORM**

**What do you pay by credit cards**

- ☐ Bill
- ☐ Dining
- ☐ Entertainment
- ☐ Foreign Spending
- ☐ Groceries
- ☐ Online
- ☐ Petrol
- ☐ Retail
- ☐ Transport

**NEXT**

Next, please input your spending amounts for each category. You can choose to be as granular as you want or just give a rough estimate (but our calculation will be less accurate then!)

## MRCARD FORM

**Bill**

Amount you spent every month

**Dining**

Amount you spent every month

**Entertainment**

Amount you spent every month

**Foreign  
Currency  
Spending  
(converted to  
SGD)**

Amount you spent every month

**Groceries**

Amount you spent every month

NTUC

Amount you spent every month

Sheng Siong

Amount you spent every month

Cold Storage

Amount you spent every month

Giant

Amount you spent every month

Others

**Online Shopping**

Amount you spent every month

Hotel And Flight

Amount you spent every month

Others

**Petrol**

Amount you spent every month

Esso

Amount you spent every month

Caltex

Amount you spent every month

Shell

Amount you spent every month

Others

**Retail Shopping**

Amount you spent every month

**Transport**

Amount you spent every month

**NEXT**



And finally based on your eligibility, preferences, spending categories and spending amount, we calculate and give you your recommend ideal and preferred credit card. Click on the Apply button for a link to the official website to sign up! Cheers!

MRCARD FORM

Recommendation

Here are the credit cards we recommend to you based on your spending habits.

Based on Your Preferences

Maybank  
Family &  
Friends Card

Cashback earned: 82.7  
Miles earned: 1,100.0  
Points earned: 0

Apply

Ideal Card

Ocbc/Ntuc  
Plus! Visa  
Credit Card

Cashback earned: 120.0  
Miles earned: 1,100.0  
Points earned: 0

Apply

8