

Institute of Systems Science, National University of Singapore

MASTER OF TECHNOLOGY USER GUIDE

Project MerchantOboarding

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INTELLIGENT REASONING SYSTEMS (IRS) - MACHINE REASONING (MR)

User Guide

Merchant Onboarding System Institute

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REQUIREMENTS:**RECOMMENDED BROWSERS**

Merchant Onboarding supports the following Web Browsers:

- ☐ Internet Explorer 11
- ☐ Microsoft Edge 39 and above
- ☐ Firefox 53 and 52 ESR and above
- ☐ Google Chrome Version 59 and above
- ☐ Safari Version 10 and above

SYSTEM OVERVIEW

The Merchant Onboarding system is an integrated web based system. Our main target users are financial institutions who need to make critical assessment on their potential business partners. Moreover, our system provides their potential partners with accessibility to the assessment submission platform. The web platform will require users (potential business partners) to input several key characteristics of their business.

USER INTERFACE

The front-end system hosts HTML5 on Python Django framework.

DEPLOYMENT

Our system is capable of running on both Windows or Linus Systems. To demonstrate, we will only deploy in ISS Virtual Machine.

[1] To prepare the Virtual Machine Environment:

- download pre-built virtual machine from <http://bit.ly/iss-vm>
- start iss-vm
- open terminal in iss-vm
- start the Tool KIE 7.12 on desktop
- wait until KIE server successfully started up

[2] To run the back-end JBPM project on KIE server:

- Go to URL using web browser <http://localhost:8080/jbpm-console>
- Login using username/password: wbadmin/wbadmin
- import project using git import from URL:https://github.com/gu-lijian/mr_groupproject.git
- Deploy the MerchantOnborading Project, and make sure it is running with version 1.0.0

[3] To run the front-end Python Project:

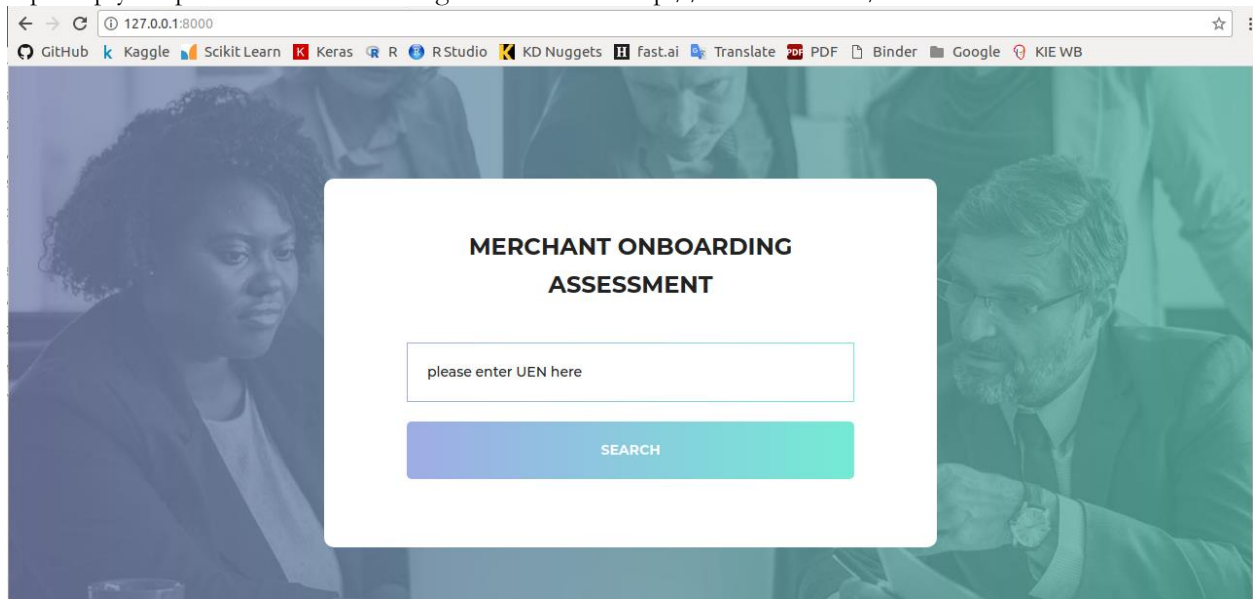
- make sure django framework is available (pip install django)
- make a new directory, and start a command prompt at this directory
- clone project from git clone URL:https://github.com/gu-lijian/mr_groupproject_web.git
- use cd command to go to /mr_groupproject_web/merchantapp
- run command: \$ python manage.py runserver

- Go to URL using web browser <http://127.0.0.1:8000/>

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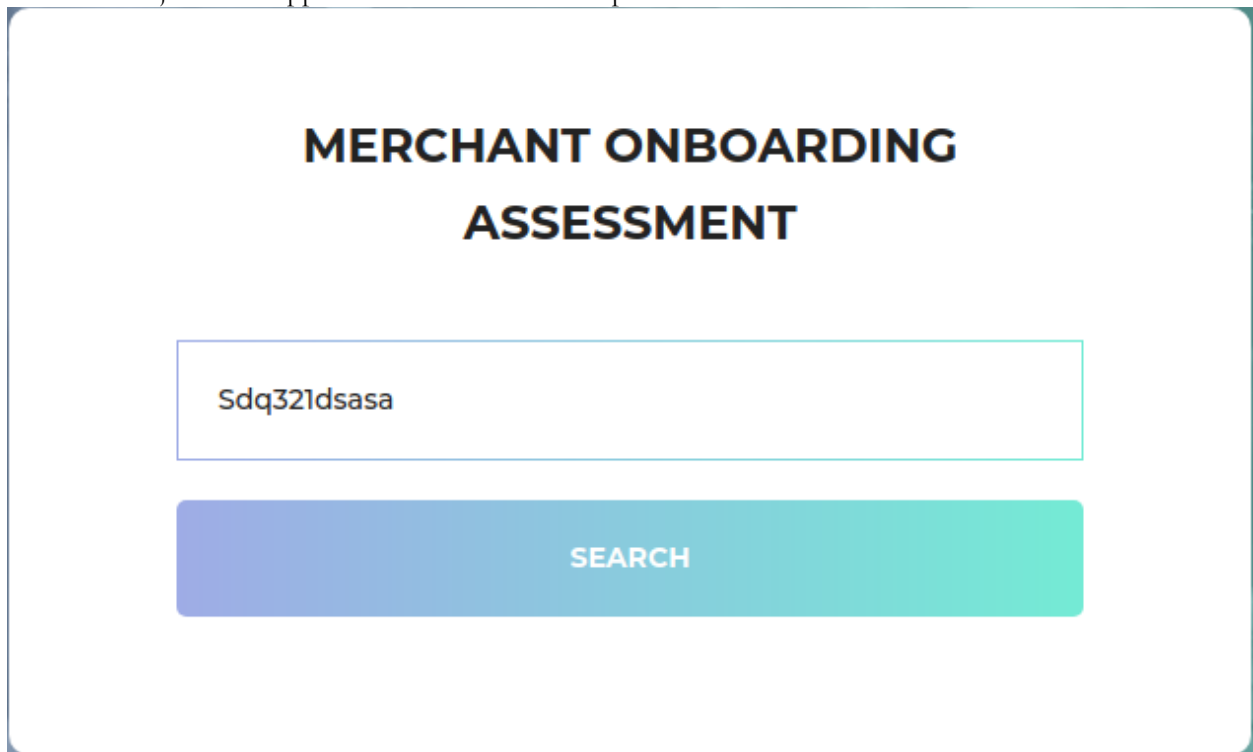
START

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



The screenshot shows a web browser window with the address bar displaying "127.0.0.1:8000". The browser's tab bar includes links to GitHub, Kaggle, Scikit Learn, Keras, R, R Studio, KD Nuggets, fast.ai, Translate, PDF, Binder, Google, and KIE WB. The main content area features a background image of two people in a meeting. Overlaid on this is a white card with the title "MERCHANT ONBOARDING ASSESSMENT". Below the title is a text input field containing the placeholder text "please enter UEN here". Underneath the input field is a blue button with the text "SEARCH".

Key in your Unique Entity Number (UEN: e.g. 53272992K) and Click on the Search button. Please note this queries real life ACRA API which returns actual data related to this UEN. Failure of providing correct UEN will lead to rejection of application. Below is an example:



This screenshot shows the same "MERCHANT ONBOARDING ASSESSMENT" form. The text input field now contains the sample UEN "Sdq321dsasa". The blue "SEARCH" button remains below the input field.

UEN VERIFICATION

UEN not found from ACRA! Assessment result: Rejected.

You may verify again [here](#)

Upon successfully validate UEN, the system will display corresponding business entity information. Shown below:

UEN VERIFICATION

UEN: 53272992K
Business Activity: WHOLESALE AND DISTRIBUTOR OF PETS AND PETS RELATED PRODUCTS
Street Name: WOODLANDS INDUSTRIAL PARK E1
Building Name: ADMIRALTY INDUSTRIAL PARK
Block: 25
Unit No: 04
Postal Code: 757743
Registration Date: 2014-09-03T17:26:48
Entity Name: 316 PET SUPPLIES
Entity Status: Live

PROCESS TO ASSESS

Once user clicks “Process To Assess” button. The system will prompt 7 fields for user to key in. After all the critical information have been obtained, the web platform will kick start assessment process on back-end system. Using our back-end rule engine, the system will then output back-end process id and certainty factors that describe user’s business entity from 3 perspectives and an overall final certainty factor. Below shows one such example of the output:

INITIAL ASSESSMENT RESULT

Your Process ID: 4
Operational Certainty Factor: 0.6
Credibility Certainty Factor: 0.0
Financial Certainty Factor: 0.2
Combined Factor: 0.68

CHECK STATUS

Now that application has been submitted to back-end user (bank: wbadmin in this case) for final approval. System will display final result once back-end user completes the process. Shown below:

ASSESSMENT RESULT

You Assessment Result is not out yet.

CHECK AGAIN

[Return Home](#)

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Financial Assessment Certainty Factor

0.2

Operational Assessment Certainty Factor

0.6

Credibility Assessment Certainty Factor

Credibility Assessment Certainty Factor

Outputs:

Final Assessment Result

Final Assessment Result

Claim

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Financial Assessment Certainty Factor

0.2

Operational Assessment Certainty Factor

0.6

Credibility Assessment Certainty Factor

Credibility Assessment Certainty Factor

Outputs:

Final Assessment Result

Approved

Save

Release

Complete

ASSESSMENT RESULT

Your Assessment Result: Approved

[Return Home](#)

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BUSINESS SCENARIOS: SAMPLE INPUT & SYSTEM OUTPUT
<To-Be-Done>

Figure 6: Outline of System Flow Institute of Systems Science, National University of Singapore

2.1 SCENARIO 1 Characteristic of user (Standard Case) <To-Be-Done>

Questions:

<To-Be-Done>