

**LoanScraper**

# A Group Project Submitted for Undergraduate Project Lab (BCA581) 2022 -2023

**By**

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**SYSTEM REQUIREMENTS SPECIFICATION**

**DOMAIN:** Reddit scraper and analytics

**TITLE:** LoanScraper

# PROBLEM STATEMENT:

# In the current economic and political state of the world, liquidity is a major problem. Combine that with wide spread poverty and you get a mix of people starved for a little extra money, whether it be for additional medicines, buying a simple dinner, money for filling gas, buying toys for a child’s birthday.

# These are human beings who live paycheck to paycheck and cannot afford to take loans from banks at atrocious interest rates which they are unlikely to pay back and humanity has time and time again proved (highlighting the 2009 financial market crash) lending crazy amounts of money at extremely high interest rates to people who cannot pay it back is not going to do any good.

# This opened an avenue to the r/borrow subreddit, a platform for microloans in a P2P form, these microloans are generally between amounts of $10-$1000 depending on the borrower’s request. A potential lender can of course negotiate on interest rates and payback period if he/she wishes to.

# But even this is not fast enough as these loan requests keep coming in at random intervals and throughout the day, a lender cannot sit on the website the entire day and refresh the page every 5 seconds waiting for a new loan request to come.

# SOLUTION:

# LoanScraper is a multifunction tool which scans the entire above-mentioned subreddit every few seconds for a new post, notifying the user instantly.

# It also comes with a data analysis and visualization tool for showing visual representation of previous data recorded. This visual tool is updated in real-time and provides various statistical data for filtering out the loan requests and getting a better understanding of overall demand.

# FUNCTIONAL REQUIREMENTS:

# Scraper

This is built using python. This will scrape through the subreddit every time there is a new post, excluding those posts that are duplicates. It collects the data and stores them in a MongoDB DB.

# Analysis bot

Uses python to perform analytics on the data collected and stores them in another table. These analytics are then displayed on discord using the messaging bot that displays the information every time there is a new entry.

1. **Messaging bot**

This bot, built with python which uses the python discord libraries accesses MongoDB and sends an alert to whichever server it is a member of.

NON-FUNCTIONAL REQUIREMENTS:

The software runs at all times making API calls every 20-30 seconds to gain real-time information for message to the user.

The data analysis feature is also updated in real-time to account for new loan requests as they happen.

The application is hosted on a public domain to be accessed by anyone who wishes to use its services

# PROPOSED TOOLS:

# Frontend – ReactJS

# Backend – NodeJS, Express API

# Discord - Discord.py

# Data Parsing –Regex, Datefinder, Gspread

# Database - MongoDB