

ION<athon>



team

Technocrats

Aayushi Mittal

MAIT

Geetika Thakran

GGSIPU

Simran Wadhwan

PCE

The Problem

REINVENTING LENDING



Problem 1

For a huge section of the Indian middle- and lower-income salaried segment, the borrowing options are few. They are forced to borrow from friends, relatives, or moneylenders at very high-interest rates as banks typically don't cater to this segment. There is a need for an instant loan platform for the financially underserved which serves MSMEs, unbanked, underbanked, lower- and-middle income segments, etc. So far, traditional data has been being used to determine a borrower's risk appetite.



Alternative data is slowly picking up pace in lending industry but lenders are yet to explore it to its full extent. There is a need to fasten the entire digital lending process and offer tailor-made solutions while mitigating risk, by leveraging different data sources and insights.

Problem 2

Consumers will need to have a higher level of financial sophistication to make effective use of financial technology (fintech) products and services, and avoid fraud and costly mistakes.



Meet Sarita,



A god-fearing lady of 32, who works as a part-time maid at multiple houses in a certain neighbourhood. A mother of two, Sarita is devoted to providing her children with the opportunities she never had, including an education that will help them achieve a successful future. With no formal banking history and her children's fees to pay, Sarita is forced to head to a pawnshop and pledge her jewellery as security for a loan that comes at a staggering interest rate of 30-35%.

Meet Aman,

A college-going 21-year-old boy from Bhilai. He wants to improve his family's standard of living by opening a business. He opened a paper bag manufacturing unit. He sells paper bags to nearby malls and various shopkeepers. He wants to expand his business, so, he needs around 20,000 rupees. He owns a bank account but due to a lack of collateral, he is unable to get a loan from a bank. After a few days, he borrowed the amount from a local moneylender with an interest rate of about 42%. His business eventually saw a downfall due to extreme debt, and he had to shut it down.



The Solution



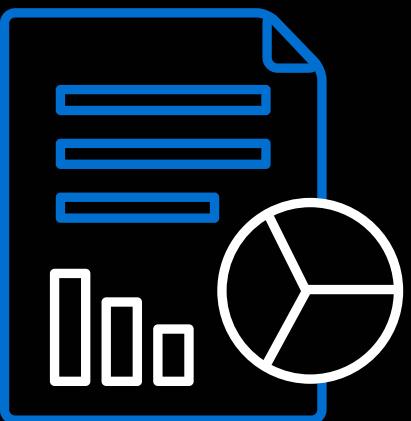
Like Sarita and Aman, there are many hardworking small merchants out there who are denied loans , due to their lack of credit history, that could help them in numerous ways .

Alternative data like Aman's business idea and Qualification , Sarita's working hours ,Their social media profiles,Rent Payments etc can help them get loans .

Alternative data is slowly picking up pace in lending industry .In today's digitally native world, lenders can fasten the entire digital lending process and offer tailor-made solutions while mitigating risk, by leveraging different data sources and insights

Our model basically rely on data points that aren't traditionally considered while giving loans, but that fill in important details about a borrower's financial behavior. Examples of alternative credit data include:

- Utility bill payment history
- Mobile phone payment history
- Cable TV bills
- Rent payments
- Bank account withdrawal and deposit patterns etc



1. Loan for everyone!

Each and everyone who can complete the 2-step process will be eligible to apply for the loan.

Step 1:-Complete the KYC Process

This can easily be done with the help of an AADHAR Card in India without any additional documents.

Step 2:-Mobile number verification through OTP

A unique OTP will be sent to the mobile number for verification purposes. The loan amount will be transferred to the user's bank account. If a user doesn't hold a bank account, money will be sent to their mobile wallet (KYC and mobile verification done).

90% of people use mobile phones more than any other device. So, we aim to develop a mobile application. For the best user experience, it will be available in different languages.

2. Credit Score

It is a personal loan score given to every user. If a user repays a loan on time, his credit score will increase and he will be able to claim a loan of a higher amount in the future.

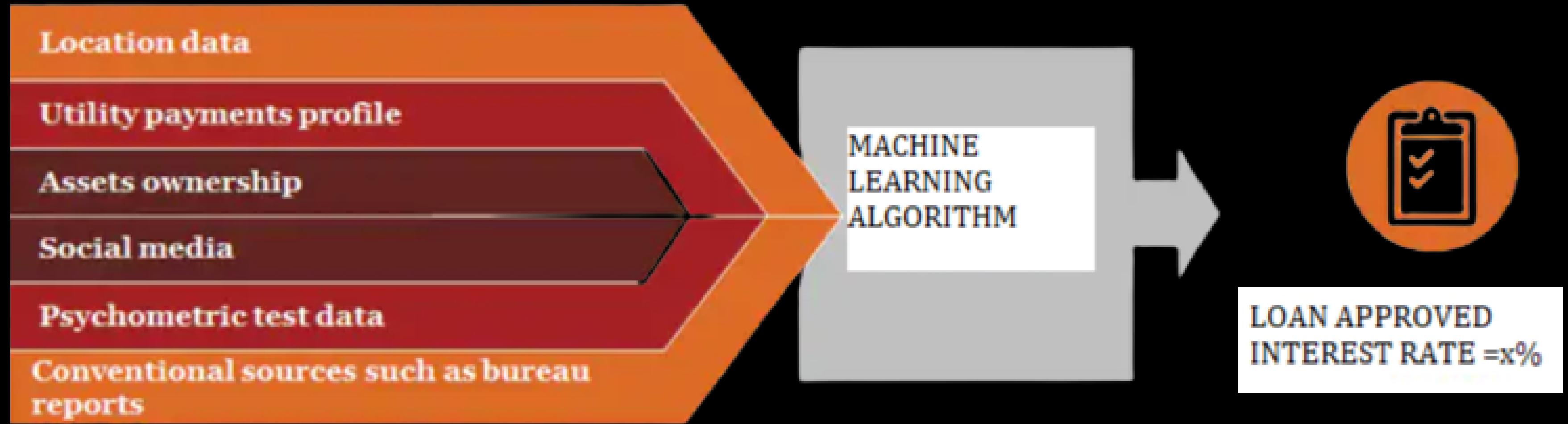
3. Alternative Data

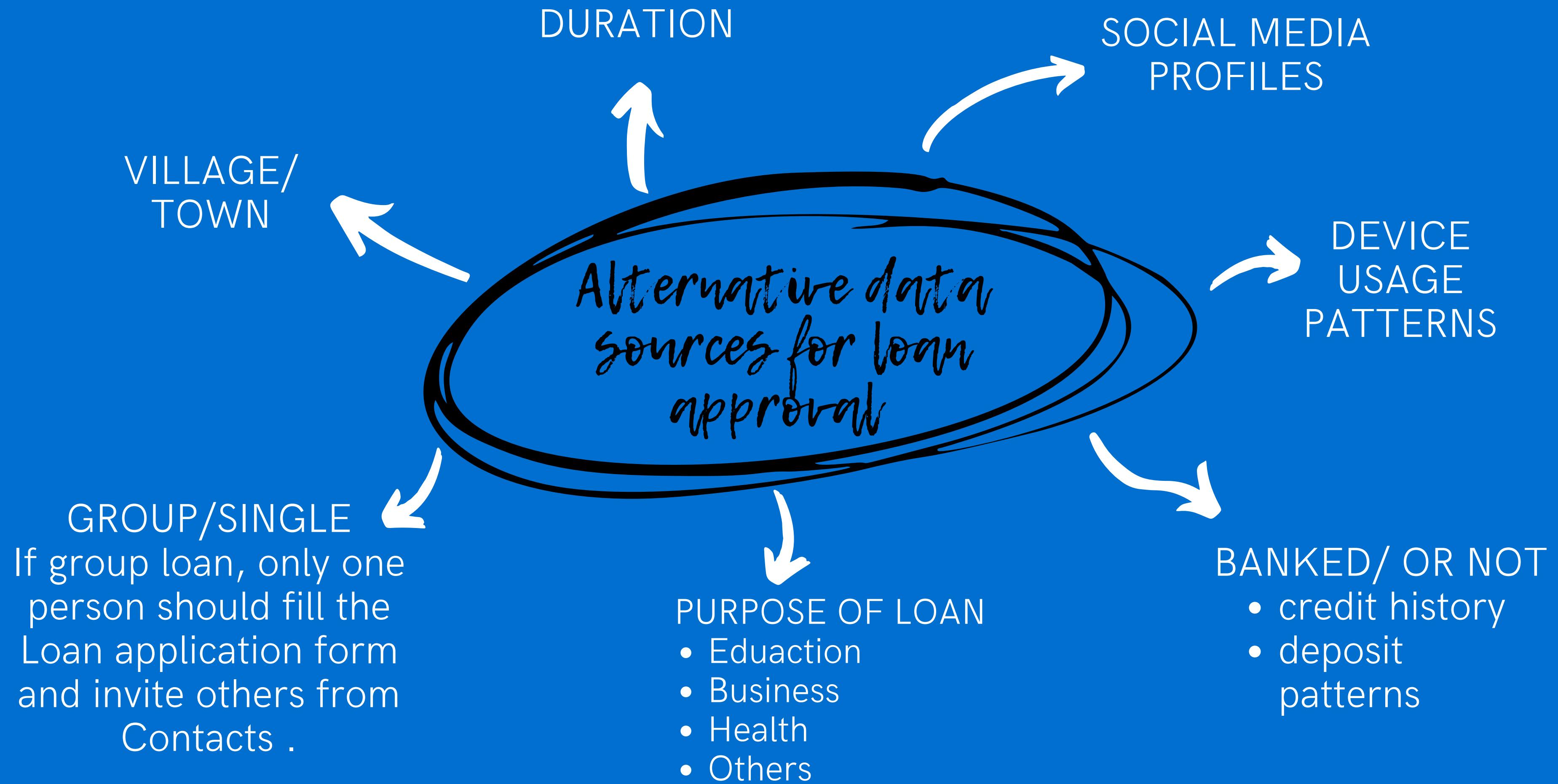
Our aim is to Utilize unconventional sources of information to analyze the repayment capacity can make affordable credit accessible to the underserved.

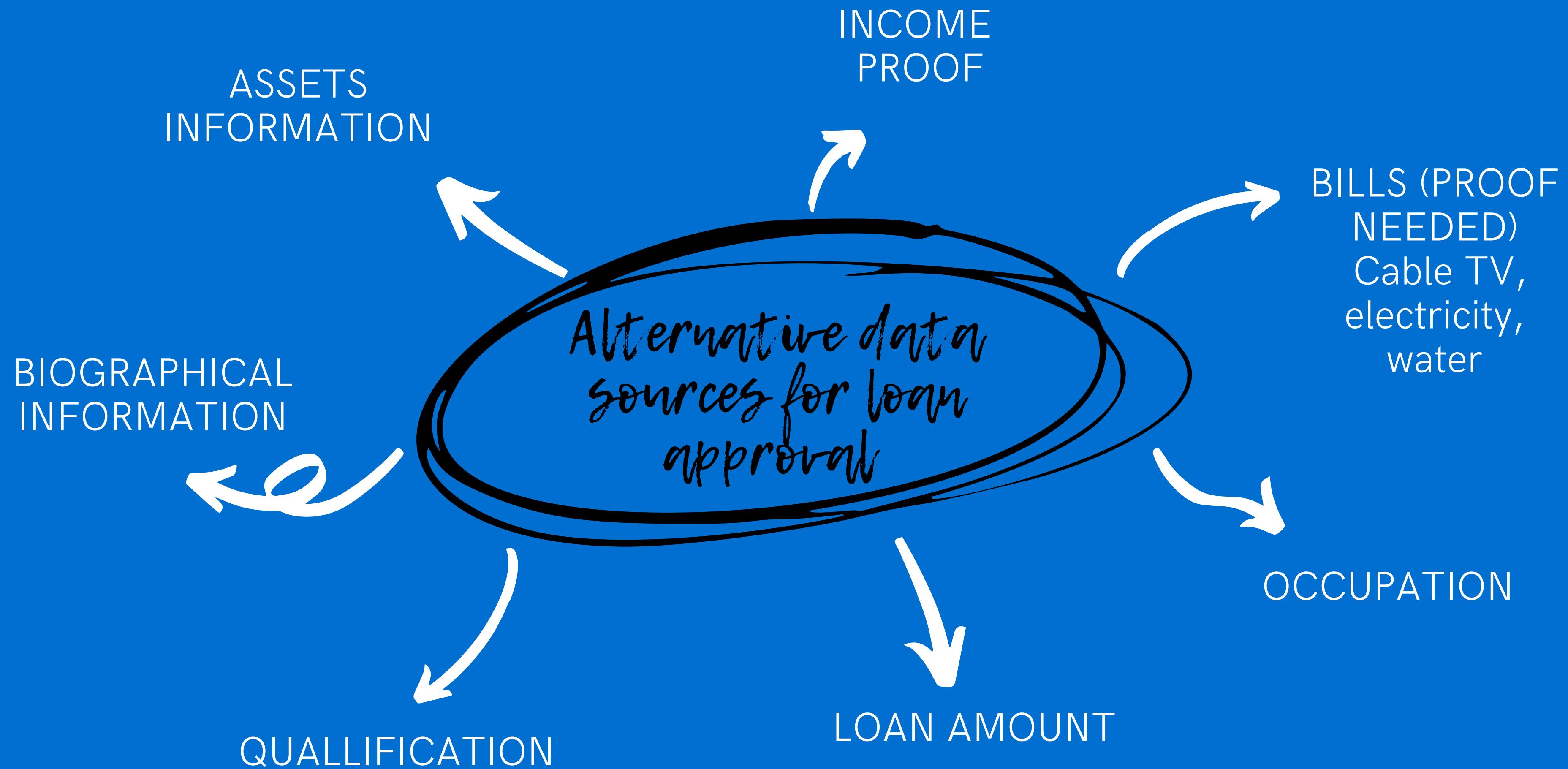
Eg:- In the MSME category, alternative sources like PoS information, utility bill records and other fixed business expenses can offer an all-inclusive credit risk assessment and ability to curate loans.

Tasks that were earlier utterly dependent on human labour have now been assigned to computers that weed out errors and speedup processes.

All the user data will be fed to a machine learning algorithm which will predict whether user will get loan or not also it will calculate the interest rate for a particular user .







4. Lender's Side

On the lender's side platform is not selling the entire loan to a single investor instead it does a little bit of quote-unquote securitization where it breaks up the loan into little chunks so that idiosyncratic risks could be diluted and reduced from an investor perspective

Eg:-10,00 Rs loan will be broken up into 4 notes of 250 Rs each . Investors/Lenders can choose to invest in different increments of 250 Rs

5. No Harrasement

In many cases, the apps indulge in online harassment in the form of threatening calls and messages to the person's friends and family.

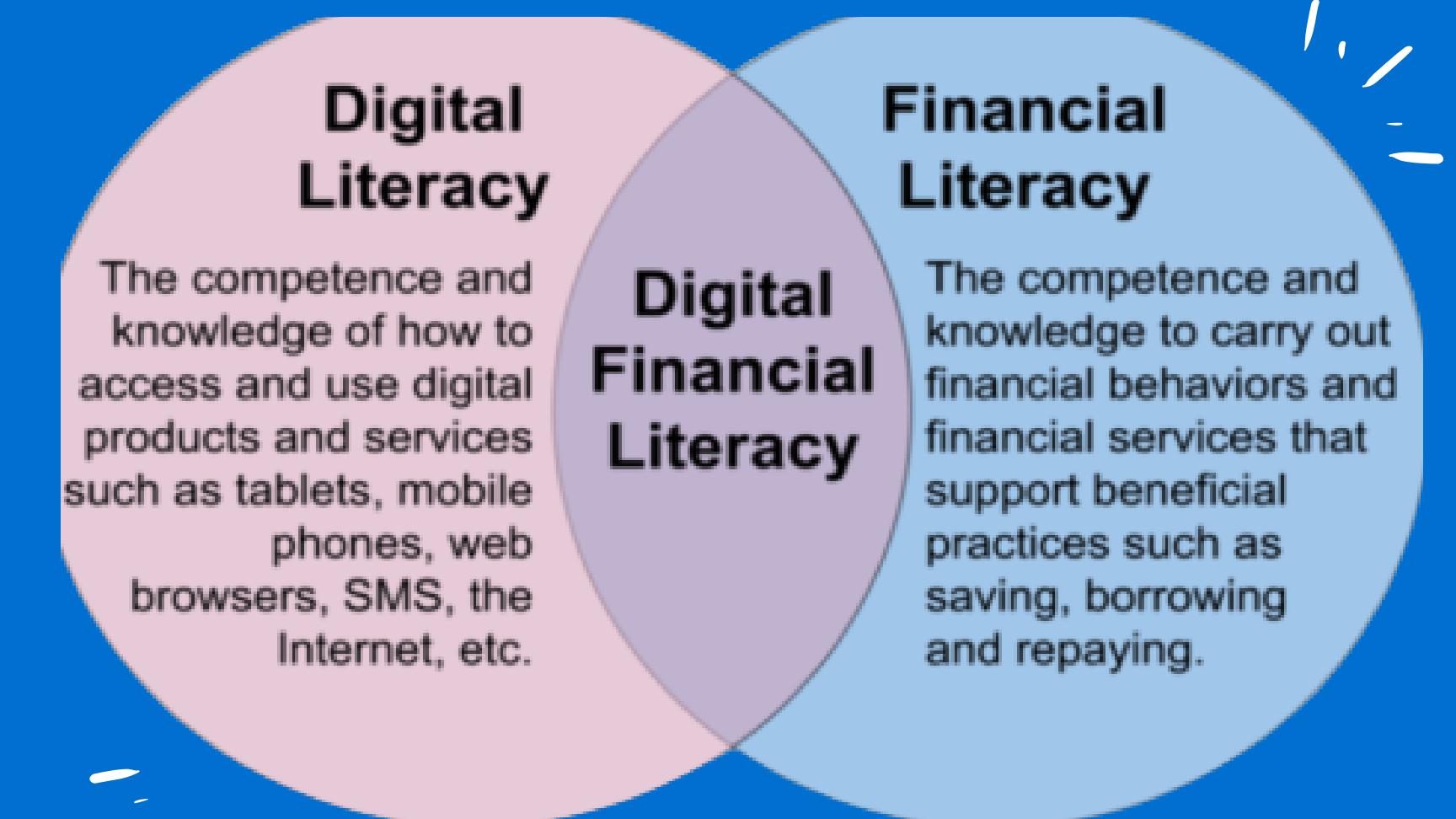
Our application prevents this in two ways:

1. Not disclosing the user's personal information to lenders
2. By dividing the loan amount into notes as discussed in the previous step, the idiosyncratic risk will be diluted.

6. Digital Financial Literacy

It's often observed that people learn by asking questions, so we will use AI Chatbot in our application so that people can ask questions about the things in which they have a doubt.

Eg:- How can I apply for a loan?
Chatbot's answer: Simply click on the "apply for loan" button after logging in.
Apart from this, the user will be informed about the interest rates, time duration, etc properly.





Tech Stack

TECH STACK

90% of people use mobile phone more than any other device. So, through app this project will be more accessible to people.

Android

JAVA , Kotlin

Machine Learning

Numpy ,Pandas,Matplotlib,Scikit-Learn

Database

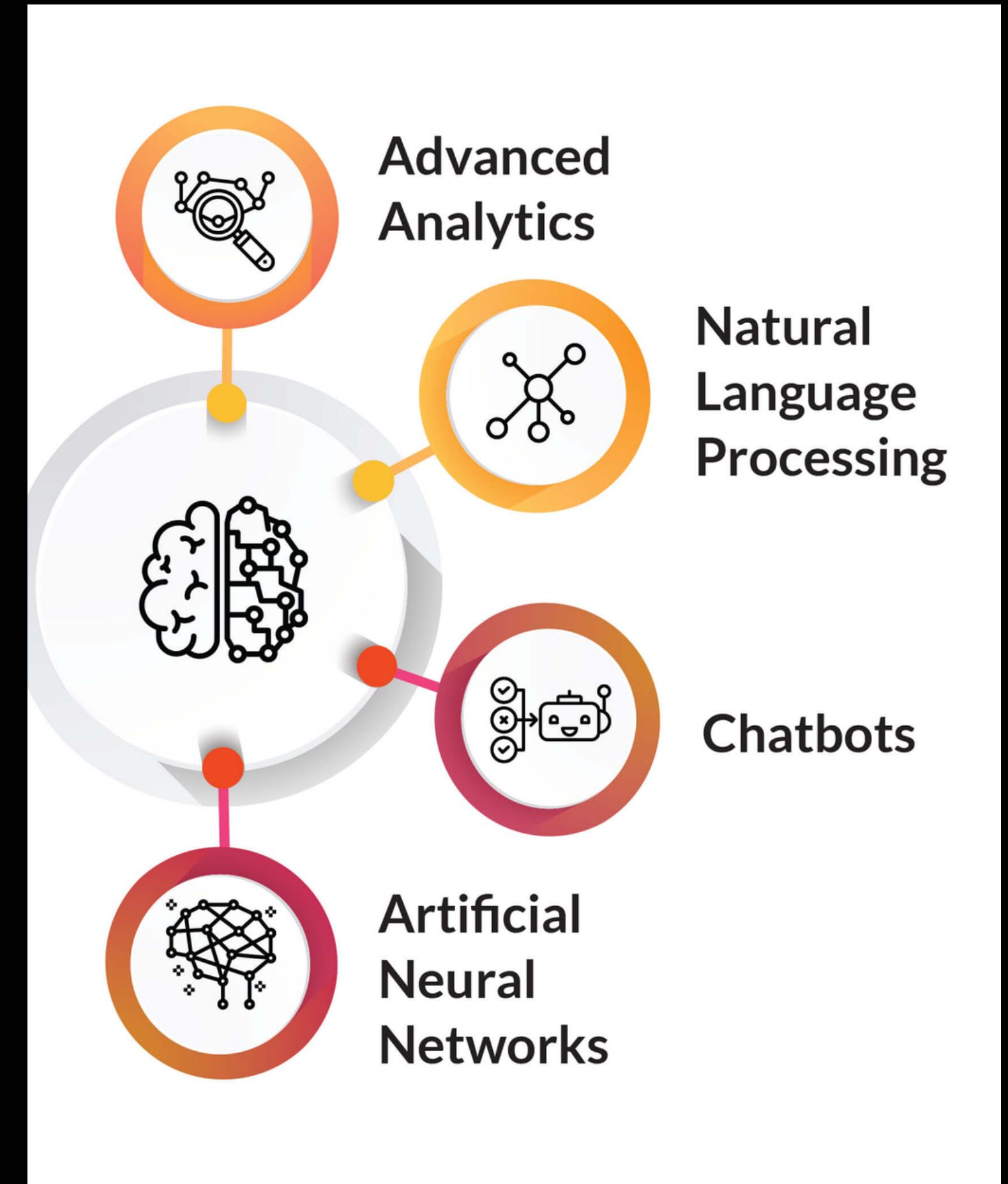
Firebase, SQL

Authentication

Firebase

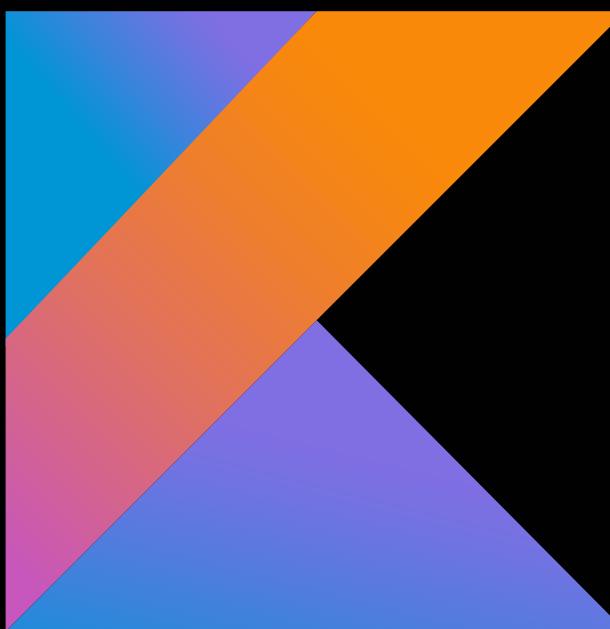
Why Machine Learning?

- Easily identifies trends and patterns
- No human intervention needed (automation)
- Continuous Improvement-ML Algorithm gain experience, they keep improving in accuracy and efficiency



Why JAVA and Kotlin?

- Reduced Source Code
- Highly secure and flexible, Independent and Compatible Platform.
- Open Source Development platform.
- Kotlin is compatible with JAVA
Builds Robust and Secure Mobile Applications.



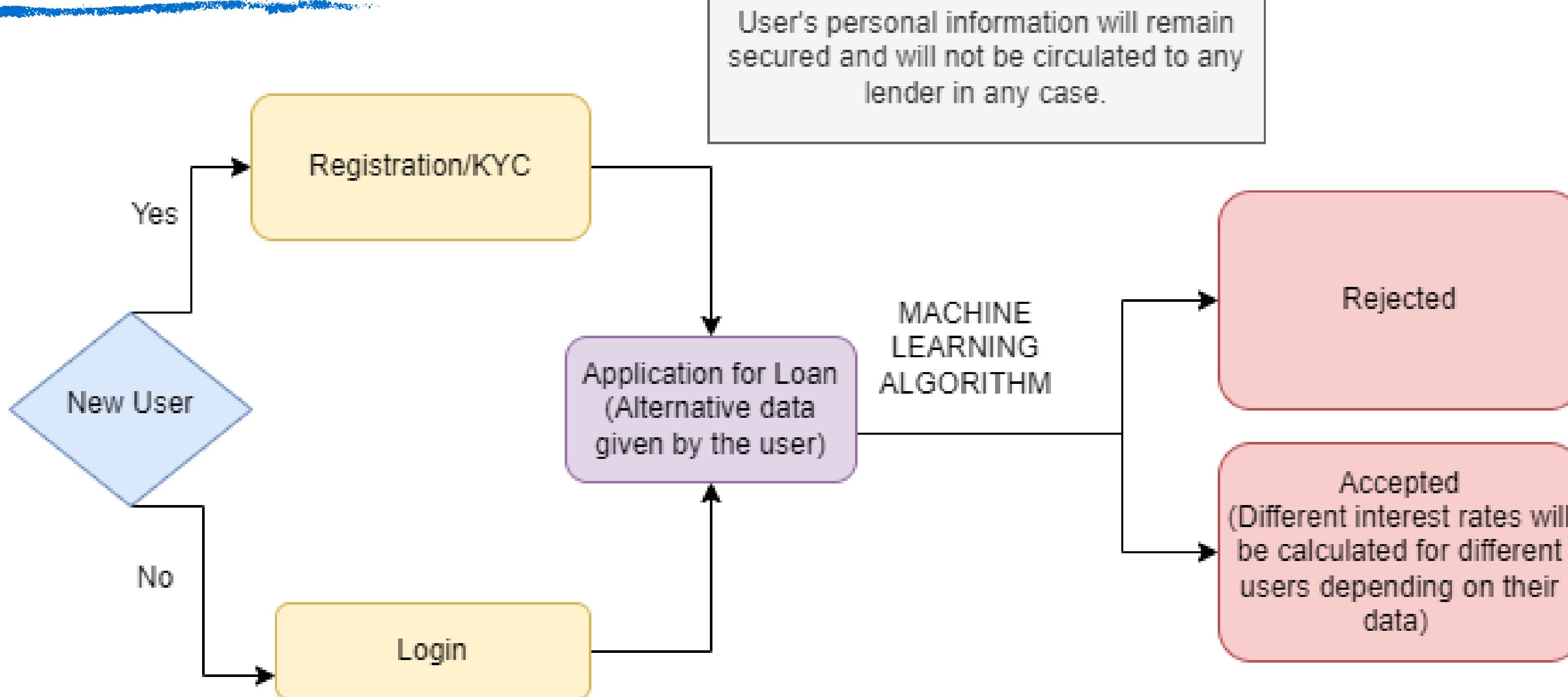
android 

The word "android" in a large, white, lowercase sans-serif font, followed by the green Android robot head icon.

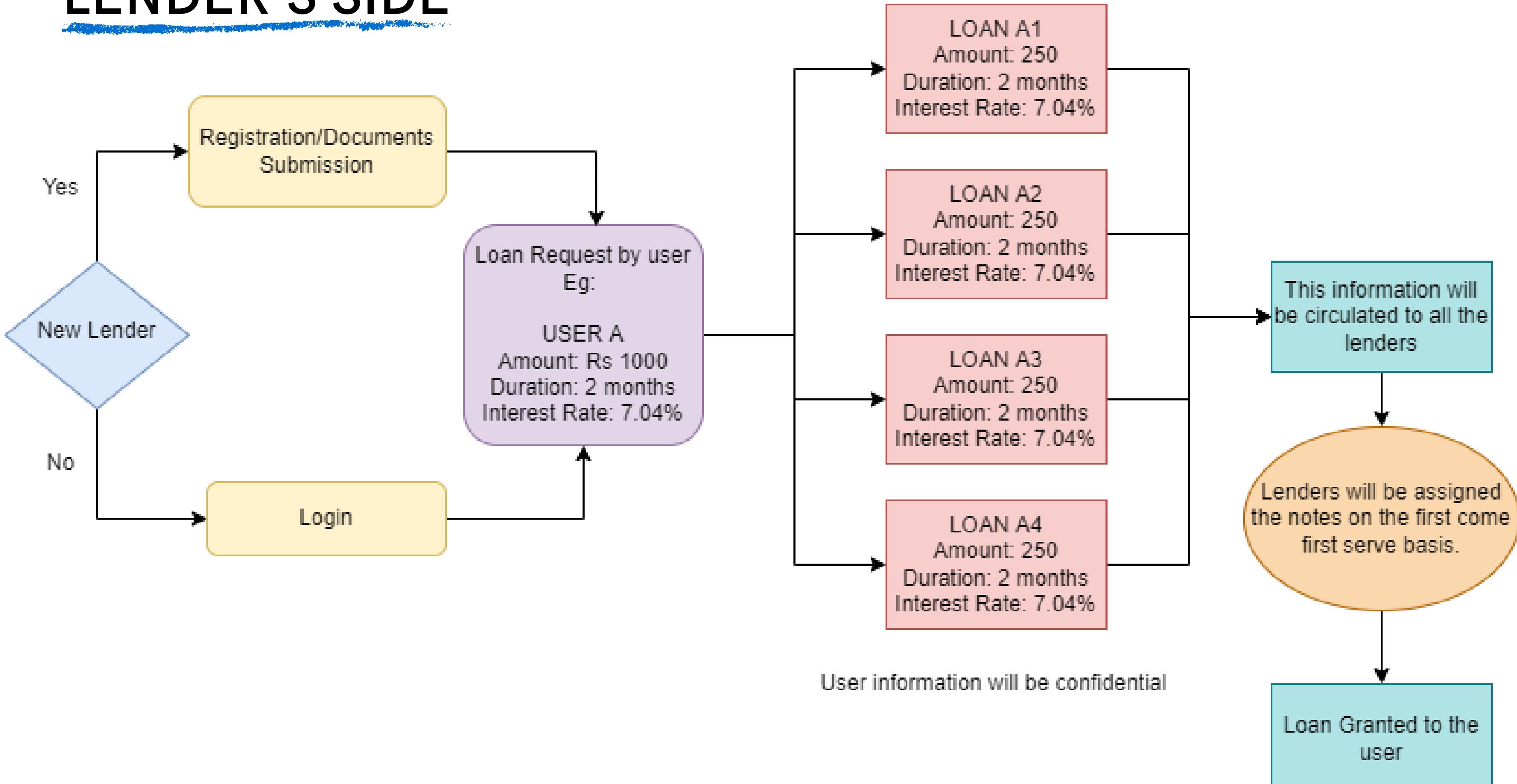
Methodology

UNDERSTANDING THE FLOW
OF OUR APPLICATION

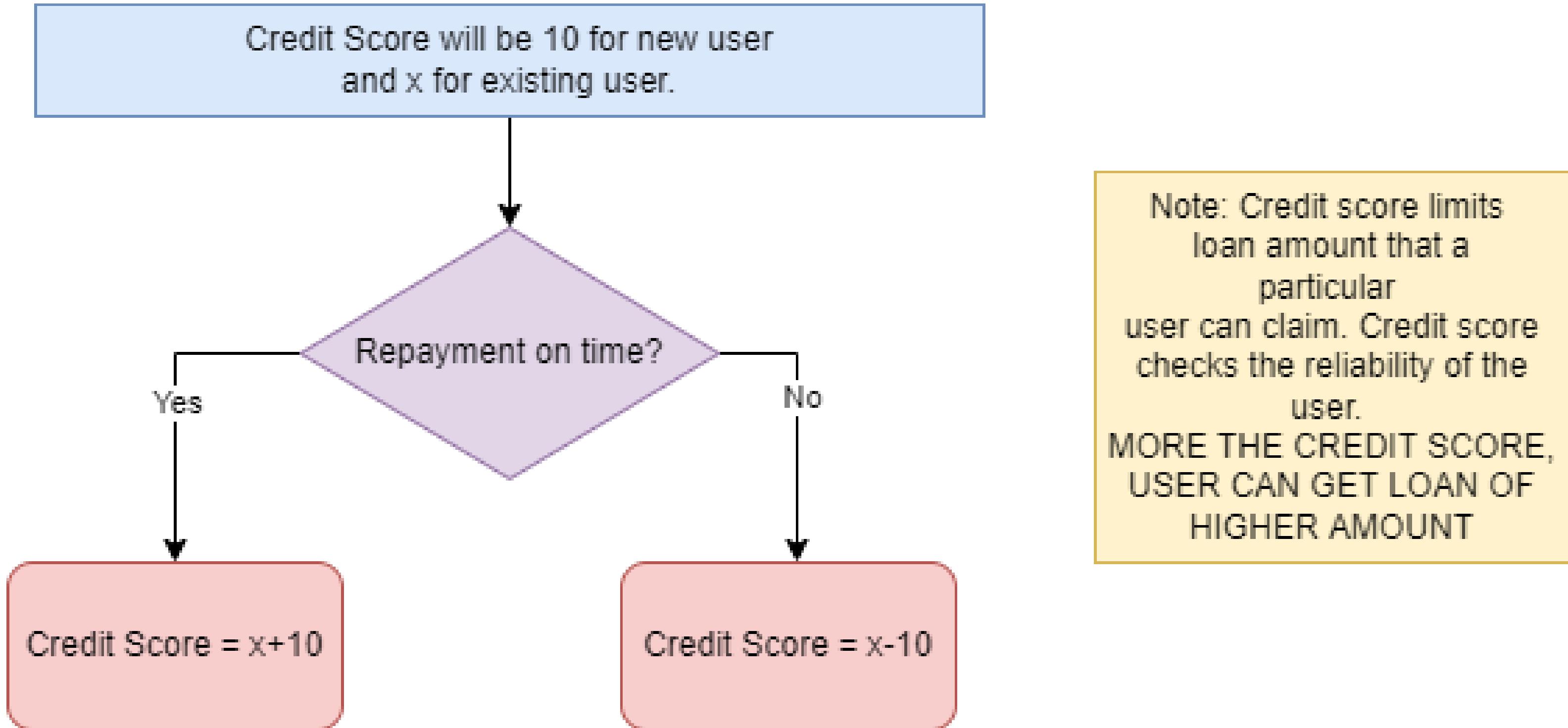
BORROWER'S SIDE



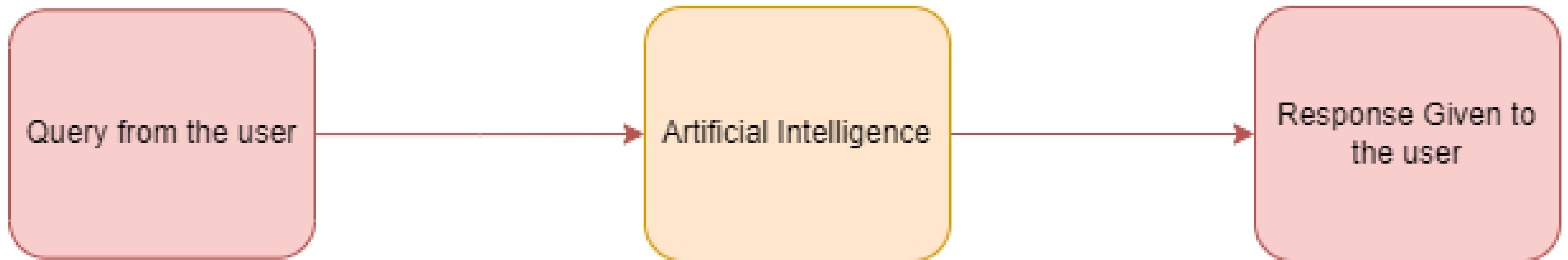
LENDER'S SIDE



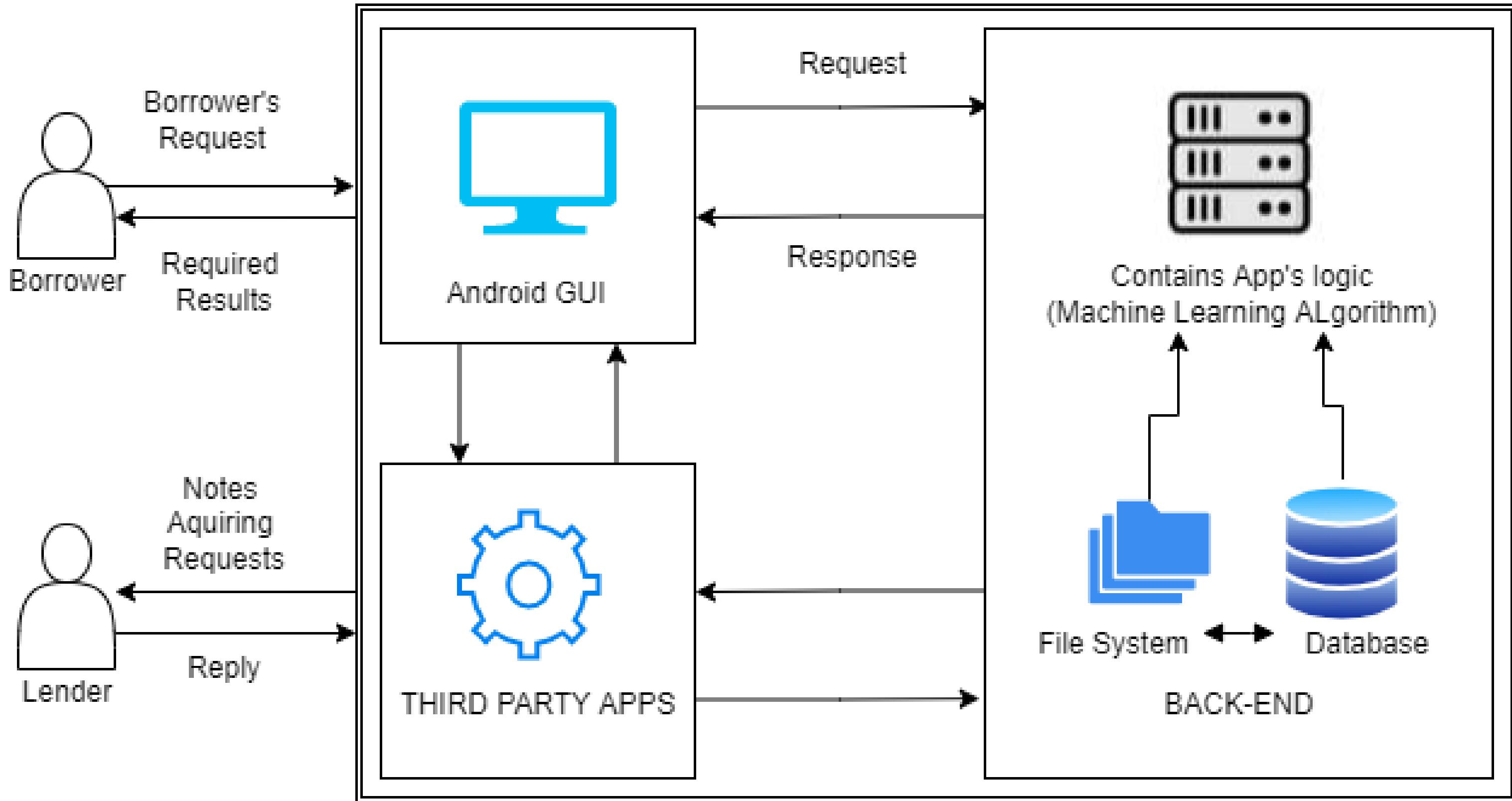
REPAYMENT OF LOAN



CHATBOT FLOWCHART



Architecture Diagram



Scalability

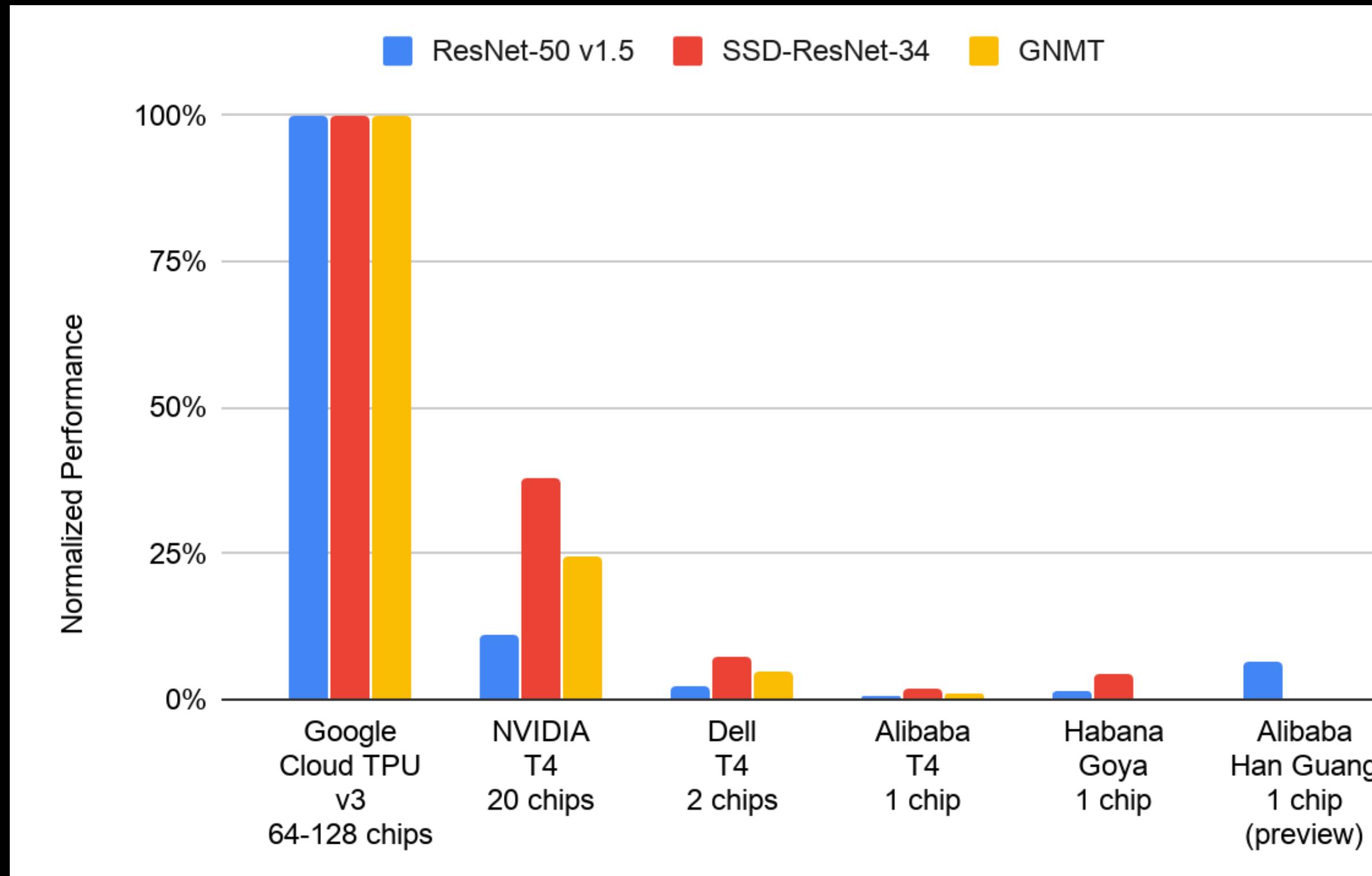
Scalability / Usability

Scalable Machine Learning aims to combine statistics, systems, machine learning, and data mining .

In the real world, where amount of data is so large, scalability of machine learning models becomes a primary concern.

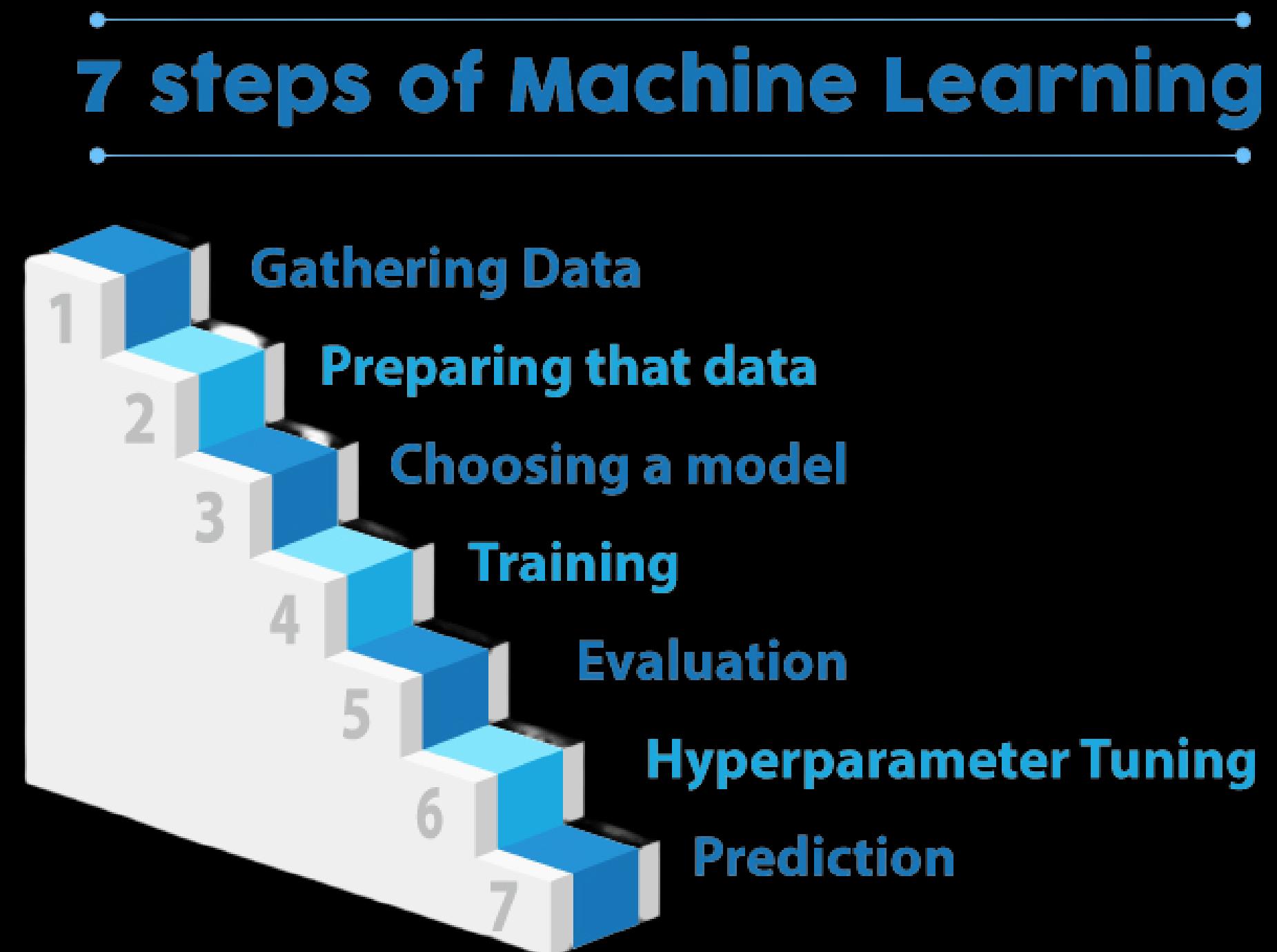
For our application we will be using GOOGLE COLLAB.
Google TPU is specially designed for the distributed memory model which provides separate IP addresses and communication protocols. And also using it saves our time from dealing with the communication layer which is taken care of by the provided accelerated Linear Algebra Layer(XLA) .It can work on large amount of Data very easily ,with fast spped.

TPU - FASTEST OUT OF ALL!



Ease of Implementing and effectiveness

If all these steps are followed in proper order then, effective Machine learning model is created. Gathering Data might be challenging in initial stages but as more data will arrive the app will perform even better



Social Impact / Novelty

1

Giving loans to unbanked and underbanked population helps them to fulfill their basic needs like education ,health, food, etc

2

MSME's can take loans and expand their buisnesses

3

"Less interest rates and no collateral "
Ultimately Borrower will be benefitted !

4

Assisting the most vulnerable, uneducated, low income segments of society.

Future Scope

WEBSITE

Building a website

MORE ALTERNATIVE DATA

More factors could be identified with time
The amount of data is also increased

MORE CREDIT LIMIT

Increasing the credit limit

MORE USER FRIENDLY

By incorporating more languages etc

THANKYOU !!
