Misa

Lets make the world bloom!

Product Summary

Product Name	Misa
Product Description	A sustainability-focused, modern and AI-driven platform to disrupt the office equipment market ✓ Electronics (Computer, Server, Networking, Phone) ✓ Furniture (Tables, Chairs, Drawers, Shelve) ✓ Bags (Laptop bag, bag pack, handbag) ✓ Accessories (Writing materials, Office Bags, Utensils)
Target Segment	B2B and B2C market
Business Model	✓ Commissions from transactions closed on the platform ✓ Ad revenue ✓ Freemium (Subscribe for extended features like transaction data, marketing leads, machine learning) ✓ Market making
Target Problem	Energy saving & emission reduction

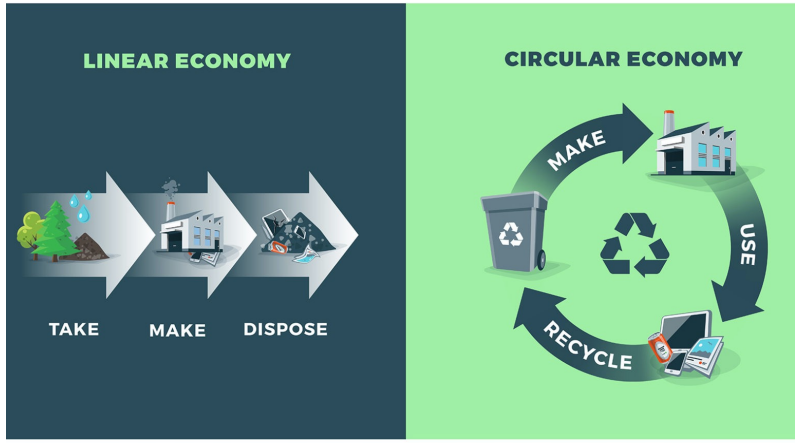
Context

Rising Office Furniture and Electronic Waste

- Up to 8.5 million tons or 17 billion pounds of office assets end up in US landfills annually
- 1 complete cubicle represents about 300 to 700 pounds of waste, the majority of which is ferrous metal, wood, and plastic while an office chair
- In addition, many companies have accumulated tons of ICT equipment due to product upgrades, shift from on-premise to public cloud and additional purchases for employees to work from home during the lockdown period exacerbating the growing e-waste problem
- Diverting these reusable equipment from landfill protects the environment by reducing the demand for timber, metals, plastics, and fabrics and reducing carbon emissions produced during the manufacturing process

Source: United States EPA 2018

Circular Economy not being promoted in Office Equipment Market



- Linear economy model is prevalent. According to the Business and Institutional Furniture Manufacturer's Association (BIFMA), more $10.2 billion worth of commercial furniture and equipment was produced, sold and used in the U.S. alone.
- While there are used goods platforms in the market for items such as cars and clothing, there is no modern platform dedicated to exclusively serving the used office equipment market despite the massive waste problem it creates

Problem

Massive inefficiencies in office equipment market

Unused office equipment is either stored in warehouses, left unattended or disposed entirely. This is only exacerbated by the growing trend of remote and flexible working where employees are utilizing office resources and space less

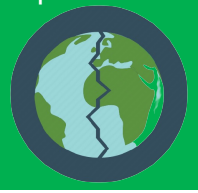
- ✓ **Poor resource allocation.** Working assets are left idle when they can be monetised and utilised by other businesses and consumers in more productive ways
- ✓ **Unnecessary production.** Users that demand for assets are going to manufactures for reproduction when they can acquire or lease them at an environmentally and financially cheaper cost

No modern platform to simplify transactions

Few platform exists today dedicated exclusively to serving the used office equipment market. Traditional brick-and-mortar sellers dominate this market. However, they lack the modern tools and features to facilitate transactions

- ✓ **Pricing is not addressed.** Sellers are not given guidance on how to optimally price their used goods despite pricing decision being a complex and “make or break” factor in a transaction
- ✓ **Lack of personalization of products.** Platforms not capturing relevant and sufficient data to match the right buyer and seller together to close transactions swiftly
- ✓ **No Trust facilitation**. Problems such as product misrepresentations and lack of recourse for defective goods are not addressed. This stymies transactions

Lack of a sustainability-focused market platform



B2C and B2B Platforms today lack a sustainability-driven agenda. They are simply just a marketplace

- ✓ **Green consumption is not promoted.** Platforms allow anyone to sell their goods. However, to make significant difference to the environment, platforms must encourage participants to consume used goods too
- ✓ **No transparency.** Buyers and sellers are kept in the dark about their counterparty’s sustainability profile. This information should be accessible and made public when parties engage in business transactions similar to how banks require companies to declare carbon emissions when lending

Solution

- ✓ A **sustainability-focused** B2B and B2C modern platform that facilitates transactions in used-office equipment by making the process seamless, transparent and fair for all
- ✓ The ultimate goal is **reduce** production and emissions by **enabling** the circular and sharing economy to flourish

MISA Platform will handle

Business

Reseller

- ✓ Register for a corporate account on platform
- ✓ Provide relevant business documents

- Furniture
- Electronic Goods
- Bags
- Office Accessories

List unused goods on app platform

- Product Categorization and Search
- Pricing, Tracking, Logistics
- Sustainability Profiling
- Authentication & Fraud

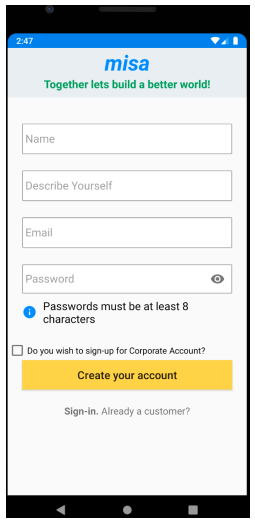
- Seamless Transaction
- Transparent and Fair Market

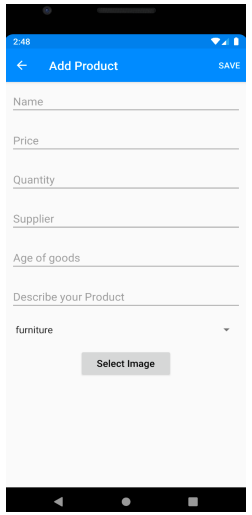
Business

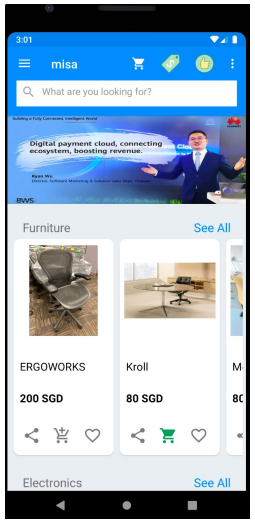
Reseller

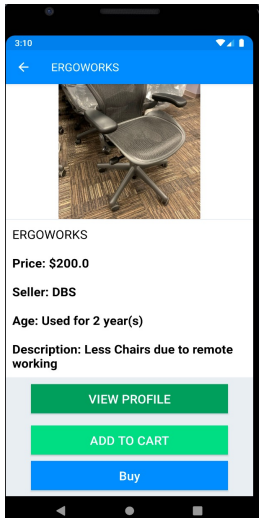
Consumer

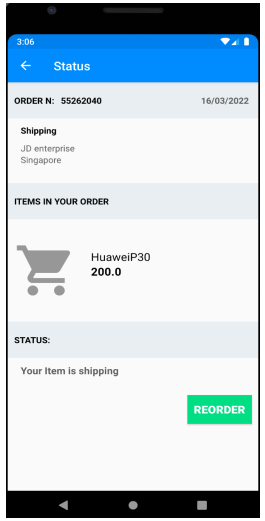
- ✓ Browse and Search on the Platform
- ✓ Purchase goods

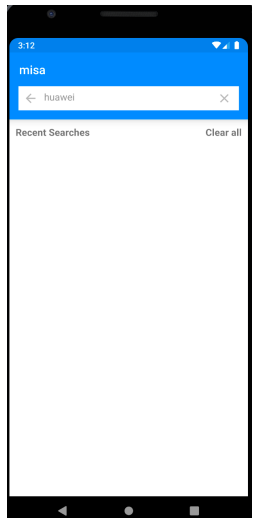


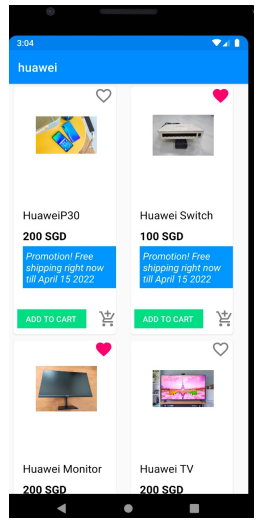






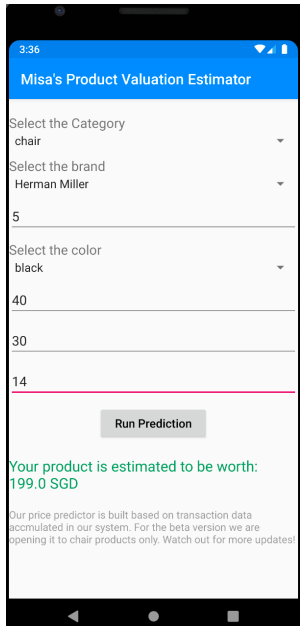






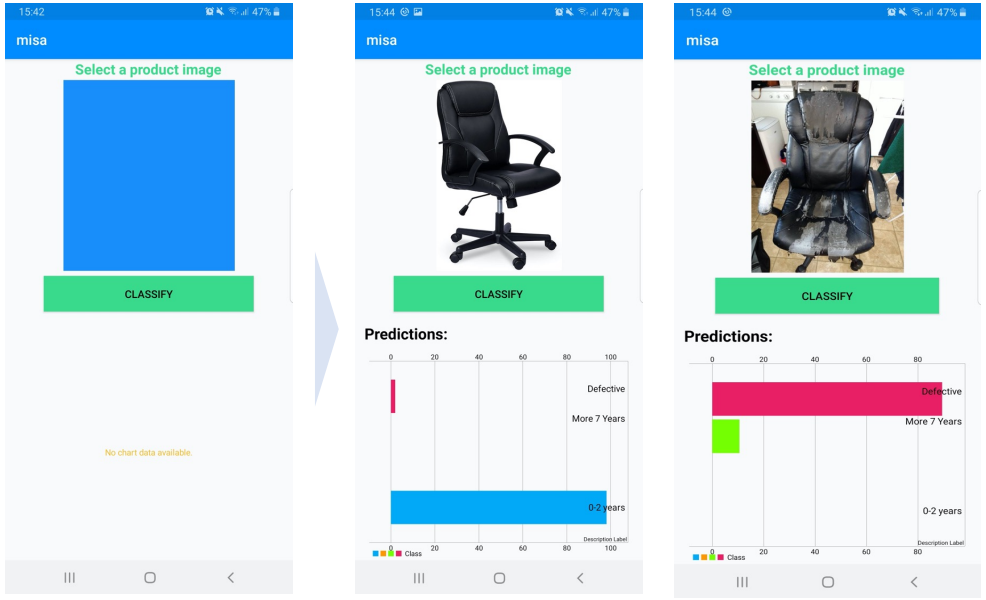
Solution – Some Key Platform Features

Valuation of Goods based on past transaction data



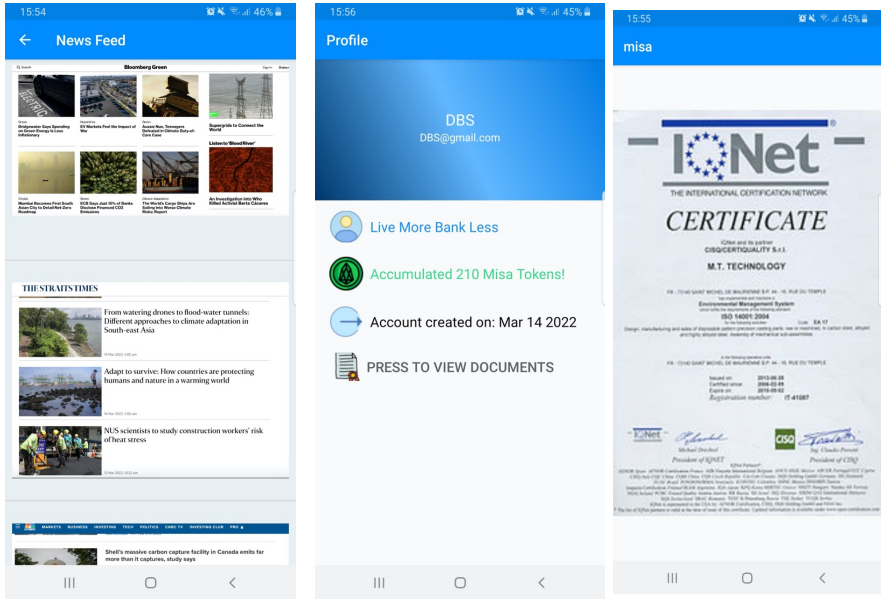
- ✓ For users who have difficulty finding an optimal price for their product
- ✓ Machine learning feature built based on past transaction data on the platform is available
- ✓ This can allow them to know if they are over-paying, under-paying or if it is at a fair value

Goods defect detection and age estimation using Convolutional Neural Network



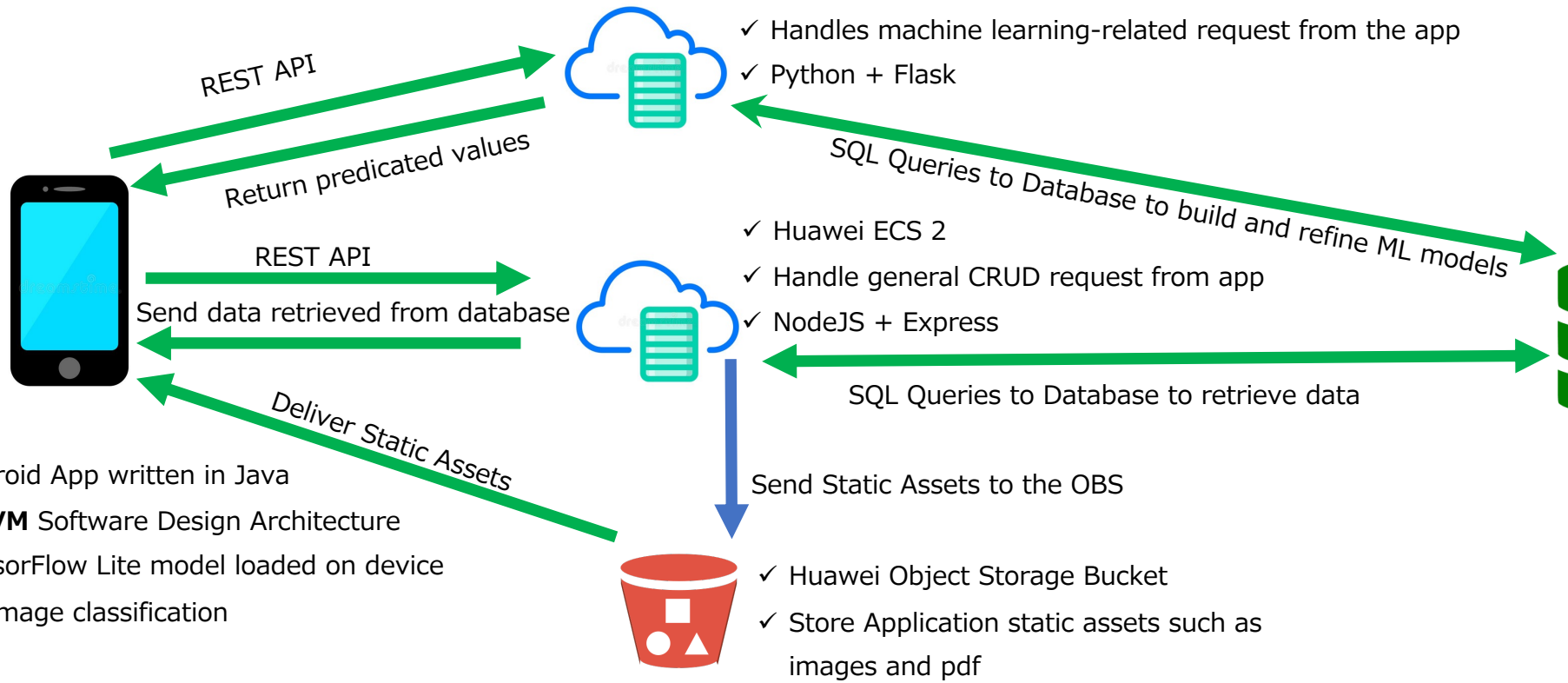
- ✓ For authentication, fraud and potential misrepresentation
- ✓ Upload product images to our CNN model for image classification
- ✓ Model will output confidence levels to indicate their classification region

Sustainability-based Platform



- ✓ Curated news feed on the environment and sustainability issues for our users
- ✓ Green profile auditing where Misa will ask corporate users to submit environmental certifications attained which is accessible by public
- ✓ Misa will award platform tokens each time goods are purchased which can be used for rewards and promotions

Tech Setup - Architecture



- ✓ Huawei ECS 1
- ✓ Handles machine learning-related request from the app
- ✓ Python + Flask

- ✓ Huawei ECS 2
- ✓ Handle general CRUD request from app
- ✓ NodeJS + Express

- ✓ GaussDB MySQL
- ✓ Store our App Data in relational tables to support feature development

- ✓ Android App written in Java
- ✓ **MVVM** Software Design Architecture
- ✓ TensorFlow Lite model loaded on device for image classification

- ✓ Huawei Object Storage Bucket
- ✓ Store Application static assets such as images and pdf

Key Design Considerations

Scalability and Robustness

- ✓ ECS allows for scalability by provisioning resources accordingly to current needs
- ✓ OBS allows for fast retrieval and storage of static assets
- ✓ GaussDB allows for low latency querying to serve the stored data swiftly to users

Maintainability

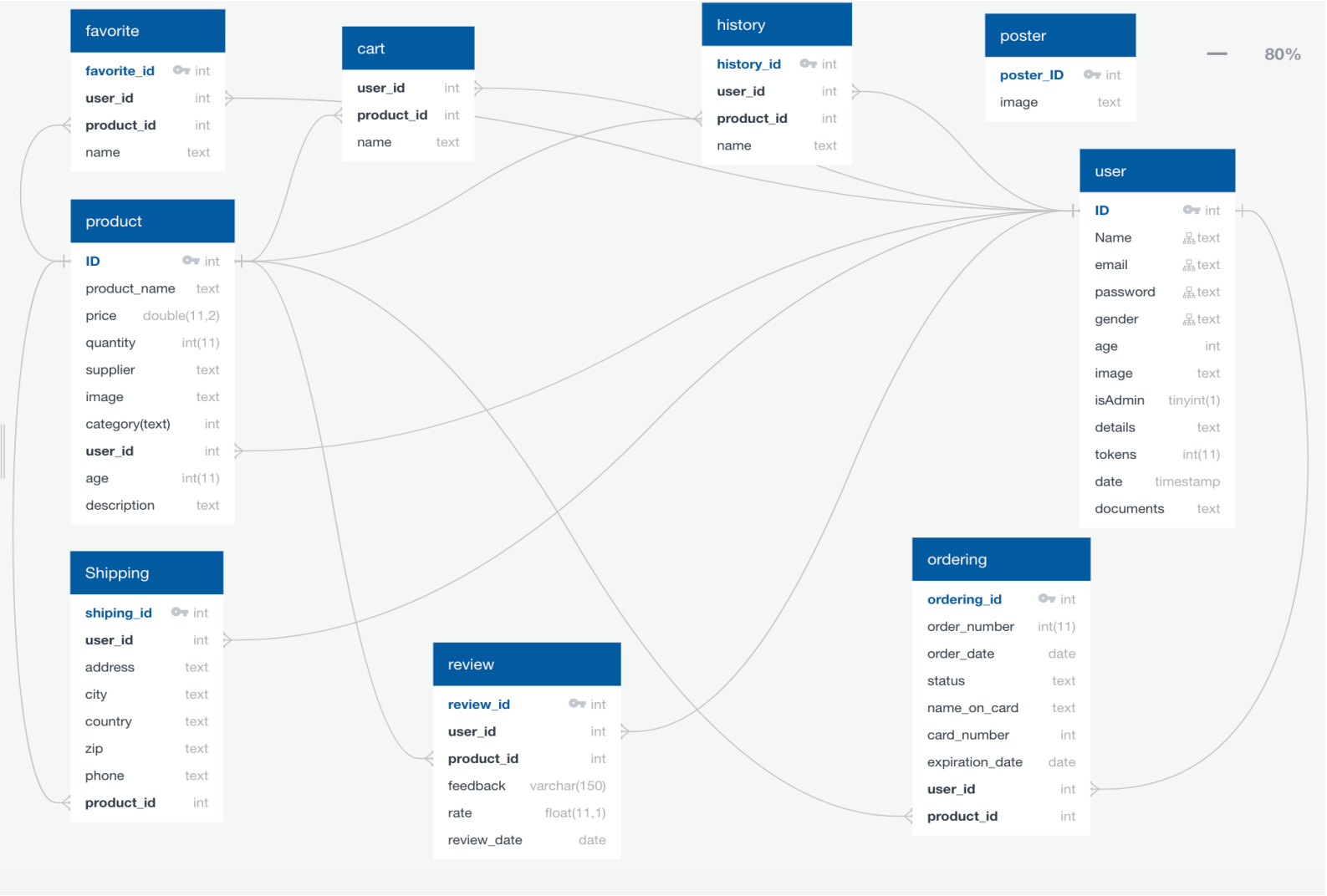
- ✓ Reduce code coupling by using MVVM Architecture and creating Microservices for app to access via APIs
- ✓ Allows features to be developed independent of one another without breaking the entire app

Ease of Monitoring

- ✓ Cloud services logs compute resources allowing for tracking of server status
- ✓ Easy to set alerts and triggers to reduce MTTR

Tech Setup - SQL Tables

✓ High level overview of our SQL Tables and Relationships to support the platform features



Business Model

✓ We identified 4 streams of revenue that can allow us to monetize our users and the platform

✓ Charge a small transaction fee of 0.1% - 1% each time a transaction closes

✓ We have an Ads Section in the app where advertisers can place ads to reach out to the users for reasons such as product promotion, job hiring or branding

✓ Multi-tier subscription system where users can pay to excess more features such as right to list more items, access to machine learning features and transaction data of the platform

✓ If we scale sufficiently and have the financial balance sheet, Misa can act as a market maker for used goods by purchasing them and later selling them with a slight mark-up, similar to how an investment bank operates their trading division

✓ This creates a win-win situation where sellers on the platform enjoy liquidity as they can convert their office assets to cash quickly by selling to Misa instead of waiting for buyers. Misa in turn earns a tiny spread by trying to flip the product