

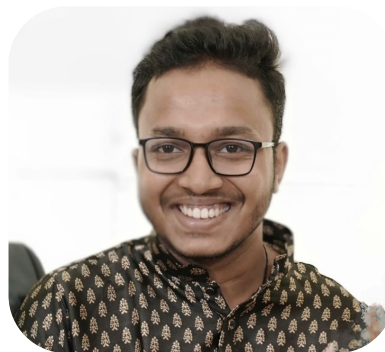
Problem Statement:

"In the gold loan application process, manual assessment of gold purity is a bottleneck, causing delays and operational costs. An innovative solution is needed to streamline the process by reducing assessment time, minimizing reliance on manual inspection, and integrating seamlessly into existing workflows. The solution should leverage technology for enhanced accuracy, scalability, and cost-effectiveness while ensuring a user-friendly experience."

Team Name:AURUM



AMAL THOMAS
S5 CSBS
RSET



BHARATH S
S5 CSBS
RSET



CELINA E JACOB
S5 CSBS
RSET



JOEPAUL VILSAN
S5 CSBS
RSET

What are we addressing:

- **Gold loan revolution:** Introducing a portable gold purity checking process for faster, more accurate loan applications.
- **Bye-bye manual hassles:** Ditch costly, time-consuming inspections with tech-powered purity assessment.
- **Customer experience boost:** Functional, economic, and brand value gains from a streamlined loan process.
- **Expensive Devices:** We focus to implement a process which is affordable.

Value Delivered:

- **Functional Value:** The device significantly reduces the time required for gold purity assessments, expediting the loan approval process and ensuring a more efficient workflow.
- **Economic Value:** By minimizing the need for dedicated personnel for manual inspections, the solution addresses operational costs, providing economic value to the bank.
- **Brand Value:** The adoption of innovative technology showcases a commitment to modernization and efficiency, enhancing the brand value of the financial institution.

Customers

- **Faster loans for customers:** On-site purity checks reduce wait times and boost convenience.
- **Cost savings for banks:** Ditch manual inspections and unlock operational efficiency.
- **Win-win innovation:** Tech-driven purity checker enhances brand value for all parties.

Solution

Domain: Intelligent Process Management (IPM),UI

1. IPM (Intelligent Process Management):

- **Role:** Orchestrates and optimizes gold loan application processes intelligently.
- **Functions:**
 - Automated workflows for gold purity assessment.
 - Real-time decision-making based on intelligent algorithms.
 - Integration of data streams from specific gravity, conductivity, and electromagnetism tests.
- **Benefits:** Improved efficiency, reduced processing times, and enhanced decision accuracy.

2. UI (User Interface):

- **Role:** Facilitates user interaction and provides real-time feedback.
- **Functions:**
 - Real-time feedback during gold purity assessment.
 - Data visualization for easy interpretation.
 - Seamless input and retrieval of data for bank employees.
- **Benefits:** Enhanced user experience, improved communication, and transparency in the gold loan application process.

Integrated Solution: The Intelligent Gold Purity Checker combines Intelligent Process Management and a User-Friendly Interface for a streamlined and efficient gold loan application process, delivering enhanced decision-making, efficiency, and customer satisfaction in a single solution.

DATA FLOW

Step 1: Going to the Customer's House

Step 2: Specific Gravity Test

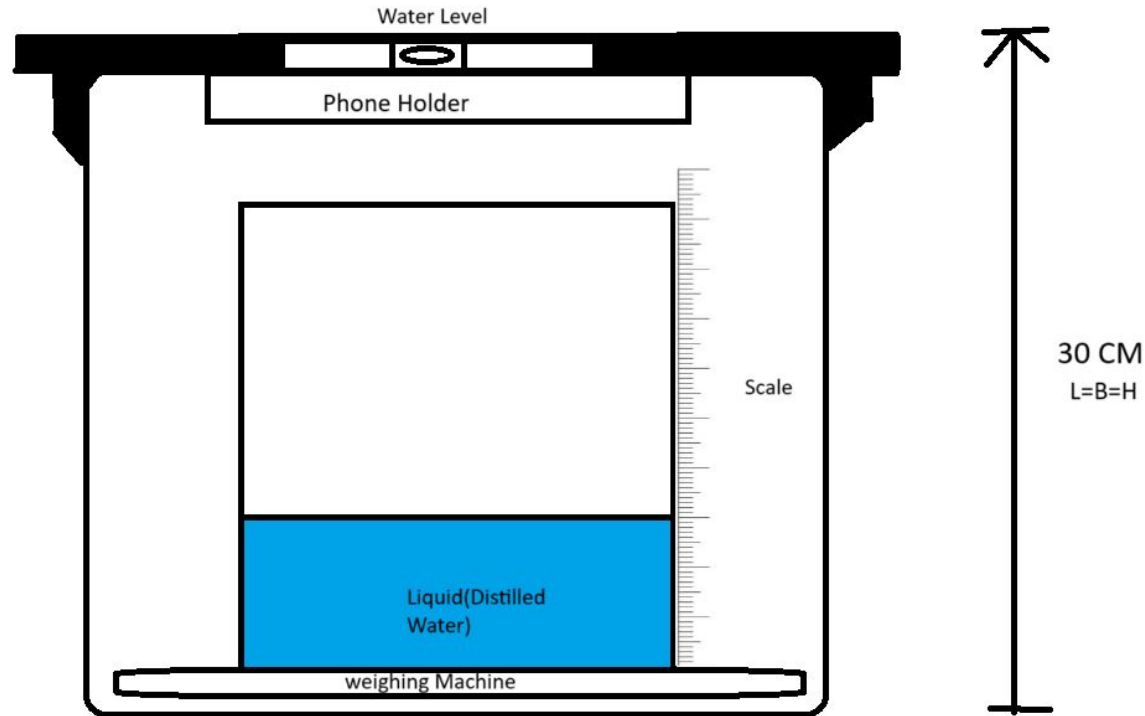
Step 3: Conductivity Test

Step 4: Electromagnetism Test

Step 5: KYC Verification

Step 6: Instant Credit to Customer's Account

Specific Gravity Test (approx. 5 mins)



Procedure

DENSITY=MASS/VOLUME

SPECIFIC GRAVITY=DENSITY OF SUBSTANCE/DENSITY OF WATER

SPECIFIC GRAVITY IS UNIQUE PROPERTY OF A MATERIAL

24K GOLD : 19.3

22K GOLD : 17.9

18K GOLD: 16.8

SPECIFIC DENSITY TABLE

Relative Densities

Material	Density	Material	Density
Alcohol (ethyl)	0.79	Nickel	8.85
Aluminium	2.67	Oak (wood)	0.93
Copper	8.94	Olive Oil	0.92
Cork	0.24	Paraffin	0.88
Ebony (wood)	1.33	Petrol	0.68
Ether	0.74	Pine (wood)	0.65
Glycerine	1.26	Plutonium	21.45
Gold	19.30	Silver	10.57
Iron (cast)	7.20	Terpentine	0.87
Iron (wrought)	7.79	Tin	7.29
Lead	11.35	Uranium	18.70
Marble	2.70	Water	1.00
Mercury	13.60	Zinc	7.10

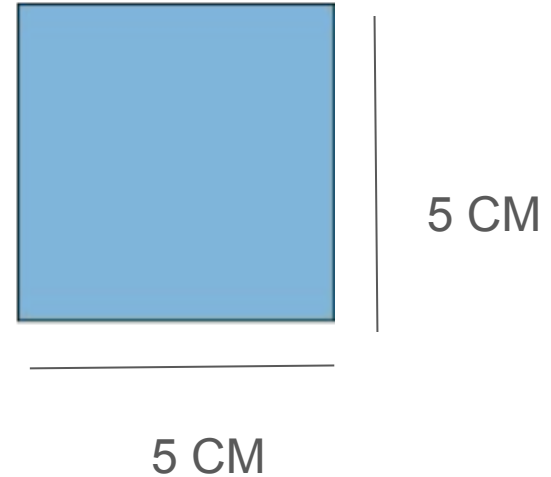
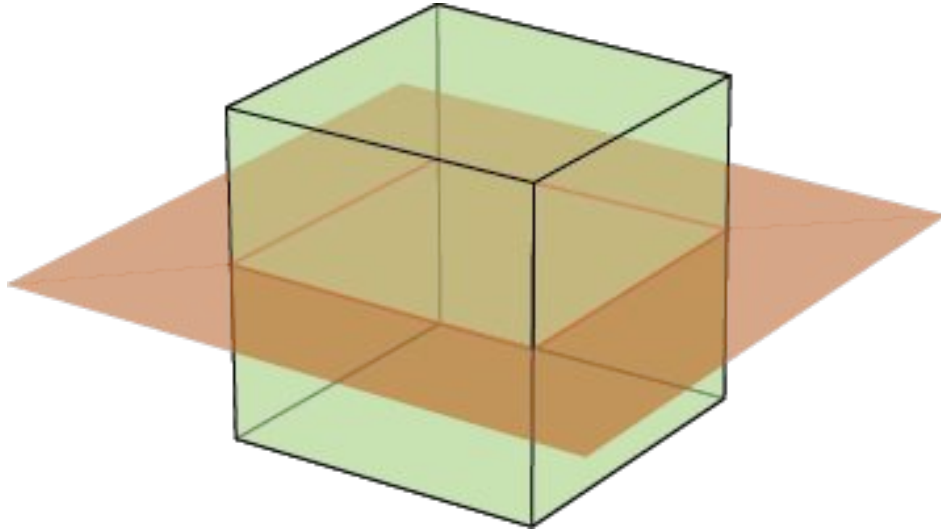
RESISTIVITY TEST (Approx 7 mins)

*Dry Water from object first

Like Specific Gravity, Resistivity is unique property of Material.

RESISTIVITY,
$$p = \frac{RA}{l}$$

CALCULATE CROSS SESSIONAL AREA()



Material	ρ ($\Omega\cdot\text{m}$) at 20 °C Resistivity	σ (S/m) at 20 °C Conductivity
Silver	1.59×10^{-8}	6.30×10^7
Copper	1.68×10^{-8}	5.96×10^7
Annealed copper	1.72×10^{-8}	5.80×10^7
Gold	2.44×10^{-8}	4.10×10^7
Aluminum	2.82×10^{-8}	3.5×10^7
Calcium	3.36×10^{-8}	2.98×10^7
Tungsten	5.60×10^{-8}	1.79×10^7
Zinc	5.90×10^{-8}	1.69×10^7
Nickel	6.99×10^{-8}	1.43×10^7
Lithium	9.28×10^{-8}	1.08×10^7
Iron	1.0×10^{-7}	1.00×10^7

Magnetic Property Test (Approx 3 mins)

Either by visual changes in object.(Attraction or Repulsion)

Or, By measuring Magnetic **Susceptibility**.(If an object can be magnetized by applying magnetic field)



Magnetic Susceptibility Meter

✉ contact@example.com 📞 +1 5589 55488 55



Federal Bank Gold Loan

[Home](#)[About](#)[Services](#)[Departments](#)[Contact](#)[Make an Appointment](#)

WELCOME TO FEDERAL BANK

Your perfect banking partner

[ONLINE GOLD LOAN](#)

After Gold Verification:

How does the process work

Federal Bank has come up with ways to apply for a gold loan from your homes. Follow the steps given below.

[Learn more >](#)



Application

Kindly keep the following documents in hand
1. Monthly Income payslips
2. Tax Returns
3. Proof of Residency
4. Proof of Identity



Verification and Processing

In this the following details shall be verified and confirmed by the agent
1. Credit Score check
2. Debt-to-income ratio



Loan Approval

After the loan has been approved by the agent it shall be sent to the bank manager for his/her approval and then on clicking this tab the user will be redirected to the page where he can keep track of the money and interest to be paid and amount to be paid per month and more.



Federal Bank Gold Loan

LOAN DETAILS



Borrower Name :	Rahul	
Loan Account :	123456789	
Gross Weight :	270g	i
Net Weight :	250g	i
Loan-To-Value :	70%	i
Gold purity :	22k	i

Principal Amount :	200000
Interest Rate :	16%
Loan Term :	2 years
Amount repayed :	38,6667
Amount to be repayed :	1,93,333.33
Upcoming EMI :	9,667 on 24 Jan