DIGITALIZED JEWELLERY ONLINE SYSTEMTO BUY, SELL & ORDER JEWELS WITH RENTAL AND REPAIR SERVICES

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Abstract

Jewellery is one of the top businesses with an enormous profit percentage in India. But in the case of purchasing jewels and ornaments, people aren't satisfied with the availabilityof designs in online mode and they are needed to search each andevery other retail jewellery's website to seek the designs. This paper aims to study the problems faced by the people in purchasingthe jewels in online mode and provide a solution by developing a system comprising of multiple jewellery's designs in a single unit and provide other services which can include factors such as buy,sell and order jewels from makers & jewelers and also provide rental and repair services with full integrity in a secured system.

Key Terms: Jewellery retail System, Multiple Designs, Localmakers, Rental services, Repair services..

Introduction

In India, there is always an increased percentage in purchasing or selling of jewels as most of the people consider this not only as an ornament but also as an investment. As time flies, the demand for gold and other metal ornaments also risesdue to overpopulation in the country. In India, the market hasevolved over the years, with metropolitan cities such asDelhi/NCR, Mumbai, Chennai, Pune and Bangalore driving growth in the Indian market [1]. However, post COVID-19 pandemic, people started to do most of their day-to-daypurchasing through online mode. So, they require a system oran application which helps them to find each and every designprovided in a single system with different types of jewels where lot of other company's products are interlinked to it.

Literature Survey

Topic:Internationalization and Brand Value in Jewellery Industries

Publication :Raife Y.Eyiler,Volume 158, 2019, Pages 751-760 2019 TheAuthors.Published by Elsevier B.V

Content In the international literature and in our country, there are very limited studies on the issue of the scale of internationalization.It is observed that the concepts of brand value and brand equity can be expressed as synonyms. Brand equity is a consumer-based approach and it can be expressed as a financial-based approach, which contributes to brand value.

Topic: Entrepreneurial Mindsets for Innovative Brand Development in Jewellery Education

Publication:Kageeporn Wongpreedee, World Conference on Technology, Innovation and Entrepreneurship,2015
content: To promote the export market, jewellery manufacturers needed to develop added-value products along the lines of an original brand manufacturing (OBM) model.This paper reports on the development of entrepreneurial mindsets in this environment and the diffusion of marketing and technological concepts in the industry.

Topic:Consumer buying behavior towards online jewellery shopping by

Publication: Volume 4, Special issue 1, September2015, ISSN 2394- 1537

Content: The study has been done to findout the change of preference within consumers towards online shoppingof jewellery.The study would also help to find out the consumer preference and their buying behavior towards Online shopping of jewellery, this study would help emergingcompanies to understand the market of online shopping and accordingly set the Business and Marketing strategies to channelize the grow the aspects within jewellery industry

MODULES

A. Multiple Jewellery Brands

India has well established capabilities in making handmade and machine-made jewellery in traditional as well as modern designs. However, with the Indian consumers becoming more fashion and quality conscious, retailing in theIndian jewellery sector is emerging stronger with various bigcompanies like Tata, Kalyan, and Malabar gold are opening multiple stores across the country [2]. The market for Indianonline jewellery market is dominated by Carat Lane [1]. Butwe don’t have any online retail application which comprises multiple brand products and varieties in a single system. Here it helps the consumers to find all kinds of products of different brands where people can trust the source and helps them to find many varieties in a single system.

B. Chain of local makers

This system provides an additional feature as it gives an extra value to the local jewel makers where the consumers are able to contact the makers which helps them to get jewels in a pure manner and at low cost. This feature also benefits the makers by exposing their making skills and quality of the products and helps them to increase their growth in themarket. This builds a healthy connection between the consumers and the makers where they are able to get their wished products in a given time limit. There is an additional feature that the consumers are able to sell their old jewels to the makers based on their estimated value with some negotiations.

C. Exposure to Jewel Lenders

The Jewellery industry contributes to about 15 % ofIndia's total exports and is one of the fastest growing industries in the country. In the Indian economy, the Gems and Jewellery contributes significantly in terms of both demand and supply [3]. But some people can't afford such high valued products due to their financial issues. For such cases, there are a lot of local makers who rent their jewels forthe persons who wished to wear them during any occasions etc, but people aren't aware of such things. So, this helps to interlink the consumers and the lenders who rent their jewelsbased on the consumer's profile and get security for such jewels.

D. Repair Services

The next major issue for the people would be that when the used jewels are damaged, the people seek to change the entire jewel set which leads to the loss of money. But there are few possibilities that they can repair such jewels withoutexchanging them. This helps the consumers by providing connection between the local repair services in the online mode and contacting them to service such things. It provides more flexibility to the consumers to select their own wished servicemen and the system provides the verified and securedway to repair jewels in a proper manner.

E. Security and Quality Check

Though we choose the better brands and local known makers, the people take time to verify and trust the sources. So, the system should assure the consumers by providing them with the trustworthy information and choose the better sellers. Sometimes, when the manufacturers make the gold orother metal jewels with the old scrap and other wasted metallic items, the purity might get different. A proper systemmust be included in the making process to identify, analyze, improve, and control the potential of gold losses in the jewellery fabrication process [4]. So, the system provides anadditional option by giving the purity testing clarifications tothe consumers, so that consumers trust the source. At the same time, when the consumer sells their old jewels proper testing will be done when they provide items to them and they can get the valued money properly.

This literature includes studies which analyses the current methodologies used in Jewellery Management Systems,, theirdifficulties and propose the solutions for the such issues.

Before we deal with the business of transferring the jewels,we look towards the manufacturing and making of them which are made with the metals like Gold, Silver, Platinum and Gems like Emerald, Diamond, Pearl, Ruby etc., So, we haveto check the quality of the products before accepting to release the products for sale. Gold in the form of coins (99.99 wt.% pure) was supplied by Titan Company Ltd. (Jewellery division), India. Copper and Silver (99.99 wt.% Pure) in granular form were supplied by Titan company Ltd. Elemental Titanium (99.7 wt.% pure) in the rod form purchased from Sigma-Aldrich, USA was used [8]. These are then processedto make the ornaments.Gold is the superior metal which is used most of the time to make a jewel. The Gold is found in the ore form then meltedto pure form of metal for the creation of jewellery items. PureGold contains about 99.99% of gold which is known as 24 Karat Gold. But, there is no possibility of making jewels in thepure form as it can't be used for longer. So, everyone prefers 22 Karat gold which is about 91.6% of gold and remaining with some alloy content. It takes some fine process to make such a perfect form of gold.

METALFOUND	PURITY	PERCENTAGE OF GOLD
GOLD	24 Karat	99.99%
GOLD +COPPER/ZINC	22 Karat	91.7%

GOLD +ALLOY	18 Karat	75.0%

Table 1 – Gold Purity Chart

This table. 1 explains about the purity which are found in thejewels calculated based on the amount of the gold in the alloyand how they are processed to the form is shown in the depicted figure 1.

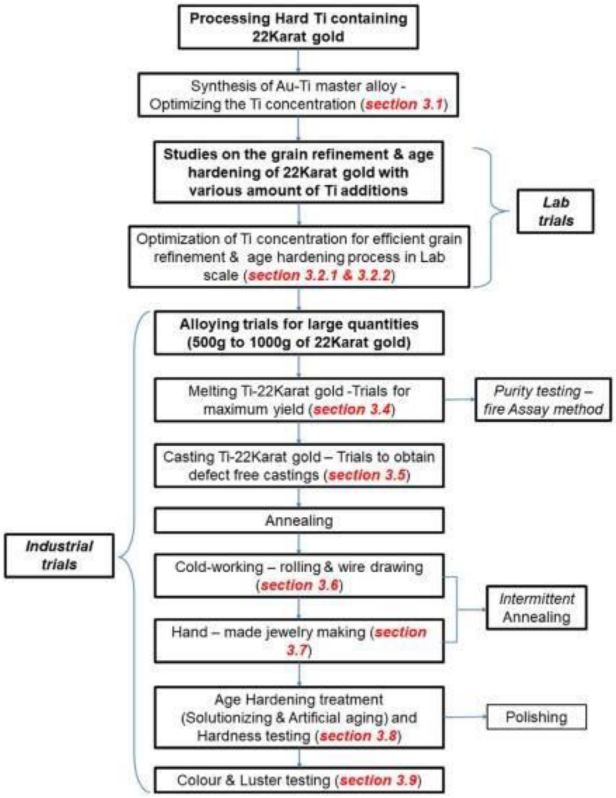

Processing Hard Ti containing 22Karat gold
Synthesis of Au-Ti master alloy - Optimizing the Ti concentration (section 3.1)
Studies on the grain refinement & age hardening of 22Karat gold with various amount of Ti additions
Optimization of Ti concentration for efficient grain refinement & age hardening process in Lab scale (section 3.2.1 & 3.2.2)
Lab trials
Alloying trials for large quantities (500g to 1000g of 22Karat gold)
Melting Ti-22Karat gold -Trials for maximum yield (section 3.4)
Purity testing – fire Assay method
Casting Ti-22Karat gold – Trials to obtain defect free castings (section 3.5)
Annealing
Industrial trials
Cold-working – rolling & wire drawing (section 3.6)
Intermittent Annealing
Hand – made jewelry making (section 3.7)
Age Hardening treatment (Solutionizing & Artificial aging) and Hardness testing (section 3.8)
Polishing
Colour & Luster testing (section 3.9)

Figure. 1 – Complete processing flow chart of Ti-22 Karat gold both at lab and industry [8].

After testing the purity level of the Gold then the metal is given to the industry or local workshop to make the jewels. Then the jewels shall be given to the vendors for the sale in the market. The rise of the online jewellery store can reducethe crime rates as it can reduce the jewellery robberies whenthere is a complete transaction in online mode [10].

Figure. 2 - Jewellery Robberies percentage in major cities [10]

The above figure.2 shows that these scenarios can be sorted with the availability of current technologies.

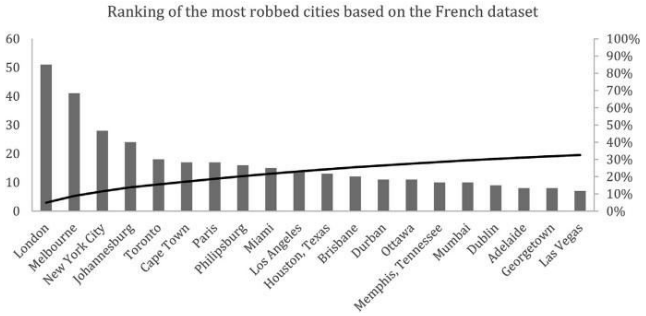


Figure. 2 - Jewellery Robberies percentage in major cities [10]

The above figure.2 shows that these scenarios can be sorted with the availability of current technologies.

RELATED WORKS:

Online Jewellery Shop is basically used to build an application program which helps people to find and buy the latest design of jewellery with different categories like Gold,Silver, Diamond [5].

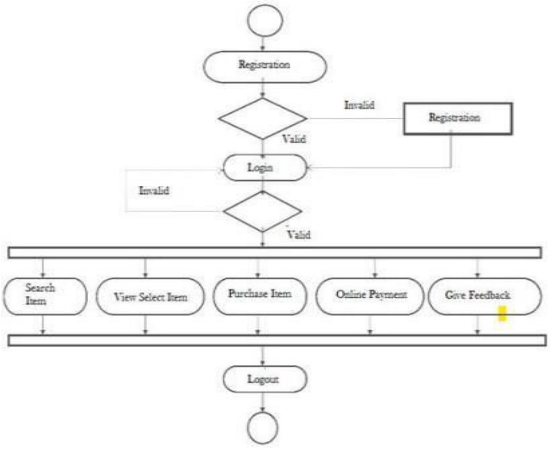


Figure. 3 – Existing Jewellery System [5].

This Figure. 3 shows the depicted system which is a pre- existing system which provides only the buy option of a particular jewellery. This can be updated with the help of oursystem as the system provides both buy and sell option of various brands and jewelleries.

These changes can be made to improve the internationalization of the brand value of the jewelleries [9]. When we connect with the people online there are a lot of opportunities to increase the market by promoting our products and get tied up with some of the online advertising companies. Such reasons may lead to development of multilevel models and products in the jewellery industry as there will be increased demand for new designs from variousregions [11]. From the above literature survey, we can get toknow to about issues to be solved such as,

- Combining multiple brands to a single system.
- Checking the purity of Gold.

- Rental and other repair services.
- Acceptance of the consumers.

1. PROBLEM STATEMENT

From the surveys made from various sources, we have found the hardships that are faced in the current system involved and thereby we can state the problem statement.

Most of the jewelleries have their own websites or applications to connect with the people through online mode. We don't have a single system which comprises all brand products which helps the consumers to find the designs easily in a short span. This takes a little time for consumers to searchtheir wished design from one webpage to another. At the sametime, consumers are not aware of the local and indigenous makers who works for years and provide the better andfinished products. The proposed solution for the problem statement should also take the following into account.

- Multiple brand products should be included in a singlesystem to reduce the consumer's searching time.
- Only authorized persons should be admitted as the mainman in the Jewellery's portal.
- Local makers can be preferred to the consumers and helpthem to grow in the market.
- Document verification should be done to provide theportal of selling jewels to the makers.
- All details should be encrypted by some cryptographicalgorithms.
- Qualities of products should be checked thoroughlyduring both selling and buying of the products.

METHODOLOGY

The Digitalized Jewellery System provides a flexible usage to the consumers as it provides a better way to search for a bunch of products in various categories. Consumers are able to search for jewel items based on their wished brands and also seek the local makers to buy and sellitems. This system also provides a way for the jewelers and local makers as they get access to this and can increase their business in this online world.

(D - Jewellery mobile application)

We are using Xml for Frontend development and Kotlin for Backend and MySQL as database for storing data in our Android Application

SIGNUP:

Our signup page will contain two divisions; one for user signup and another for jewellery/Makers signup

User signup:

New user can create new account by creating username and password

Jewellery/Makers signup:

New jewellery authority can create new account by creating username and password and they need to fill details about their jewellery and they need to upload their authorizedlicense in that page and makers can create new account by creating Username and password and they need to upload certain proofs to complete registration. Every new jewellery authority will get jewellery id and every new maker will get makers id and that are generated sequentially by the application and their details will be stored in the MySQL database and that are managed by Admin.

LOGIN:

Our login page will contain two divisions; One for user loginand another jewellery/Makers login

User Login:

Users can login using user id and their password; which is depicted in figure. 4.

Jewellery/Makers Login:

Jewellery authority can login using jewellery id and their password and Makers can login using makers id and their password; which is depicted in figure. 4.

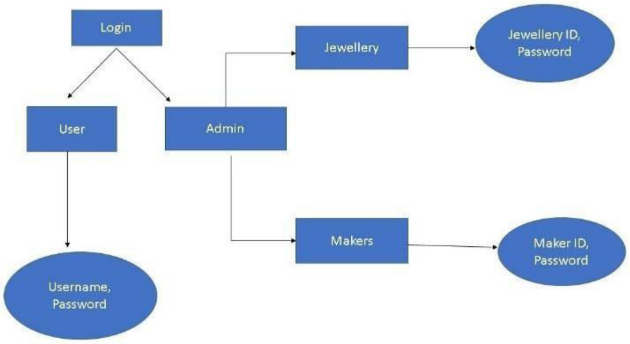


Figure. 4 - Flowchart representation of the User login, Jewellery login and Makers login - source – authorcontribution

HOMEPAGE FOR USER:

Our Application's homepage will have five fragmentsand user can easily navigate based on their requirement

JEWELLERY FRAGMENT:

In this fragment, we will display all jewels with jewel's details and seller's contact details in a card view and the usercan place their order using the "place order" button and that will redirect to the payment page; which is depicted in figure
5. And we will add the menu list option so, that user can change grid view or list view based. And we will also add thefilter option so, that user can filter the jewels based on their requirements.

CUSTOM ORDER FRAGMENT:

In this fragment, we will display jewel makers profile in a card view and user can select makers based on their requirements and we will connect calls between makers and users further; which is depicted in figure 5.

SELL JEWEL FRAGMENT:

In this fragment, user need to upload certain proofs and details about their jewels in a form and in the input view, theuser needs to enter the price of the jewel that they want to sellit for; which is depicted in figure 5.

JEWEL ON RENT FRAGMENT:

In this fragment, we will display the jewels for rent. For normal users, we like to display the currently available jewelsand lend to them based on their profile and get security fromthe borrower. For Premium User, quality and premium designs will be displayed for rent; which is depicted in figure5.

REPAIR SERVICE FRAGMENT:

In this fragment, the user needs to upload image of the jeweland need to fill in details about the damage or service they want from us in the description column. And they need to submit that request by using the request button;

which is depicted in figure 5.

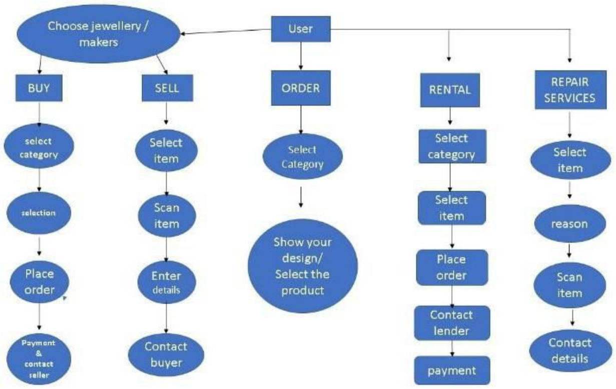


Figure 5: Flowchart representation of the workflow of buy, sell, order, rental and repair services that can be performed bythe user - source – author contribution

JEWELLERY/MAKERS HOMEPAGE:

Jewellery homepage:

In this fragment, we will display the details of jewels and details of the user and the delivery date of the jewel to the customer in a list view; which is depicted in figure 6.

Maker homepage:

In this fragment, we will display the details of the jewel and the rough image of the jewel in an image view and the contactdetails of the user and date of delivery in a card view; whichis depicted in figure 6.

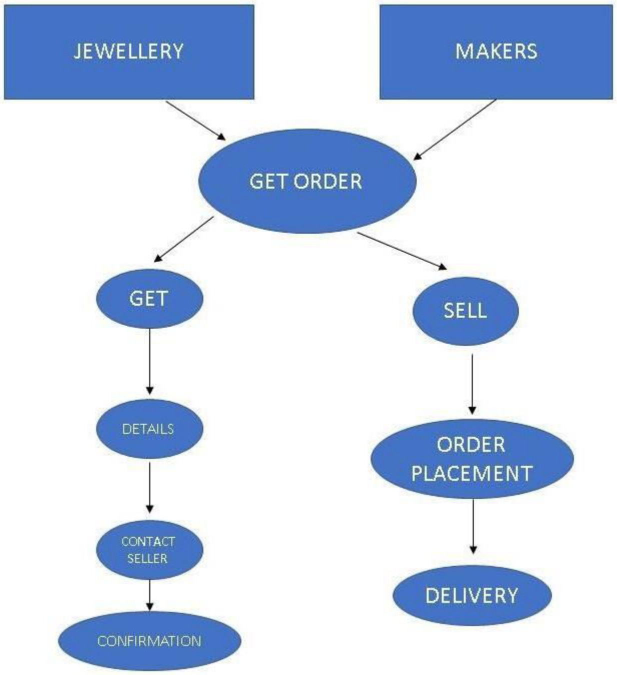


Figure 6: Flowchart representation of the workflow of jewellery authorities and makers - source – author contribution

RENTERS HOMEPAGE:

In this fragment, we will display the details of the jewel and borrower's contact details and the radio button to confirm order or not; which is depicted in figure 7.

Figure 7: Flowchart representation of the workflow of the renter - source – author contribution

REPAIRER HOMEPAGE:

In this fragment, we will display the description of the jewelrepairs and contact details of the customer and the radio button in which the repairer can reject or accept the order based on the service availability in a card view; which is depicted in figure 8.

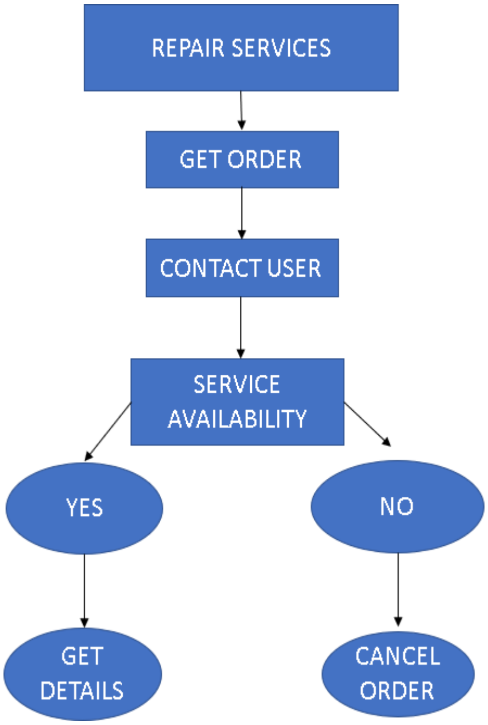


Figure 8: Flowchart representation of the work of repairer - source – author contribution

IMPLEMENTATION

```
package com.example.zshop

import android.os.Bundle
import android.util.Log import
android.view.View
import androidx.appcompat.app.AppCompatActivityimport
androidx.core.content.ContextCompat
import androidx.fragment.app.Fragment
import androidx.navigation.fragment.NavHostFragmentimport
androidx.navigation.ui.setupWithNavController import
com.example.zshop.cart.CartFragment
import com.example.zshop.cart.CartViewViewModel
import com.example.zshop.databinding.ActivityMainBindingimport
com.example.zshop.order.OrderFragment
import com.example.zshop.product.ProductDetailsFragmentimport
com.example.zshop.product.ProductFragment import
com.example.zshop.rental.RentalFragmentimport
com.example.zshop.repair.RepairFragmentimport
com.example.zshop.sell.SellFragment
import com.google.android.material.badge.BadgeDrawable


class MainActivity : AppCompatActivity(), Communicator {


    private lateinit var binding: ActivityMainBindingprivate var
    viewModel = CartViewViewModel()companion object {
        var count: Long = 0L
        const val APP_ID="4ed0b59188dc4370823488c5ce45a3d9"
    }

    public override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        binding = ActivityMainBinding.inflate(layoutInflater)
        setContentView(binding.root)
        supportFragmentManager.beginTransaction()

binding.bottomNavView.setupWithNavController(binding.navHostContainer.getFr
agment<NavHostFragment>().navController)
        setupNavigation()
```

```
}

private fun setupNavigation() { binding.bottomNavView.setOnItemSelectedListener {
    lateinit var fragment: Fragmentwhen
    (it.itemId) {
    R.id.products_fragment -> { fragment =
    ProductFragment()
    supportFragmentManager.beginTransaction()
    .replace(R.id.nav_host_container, fragment, "fragment_product")
        .addToBackStack("ProductFragment").commit()count = 0
    badgeClear(R.id.cart_fragment)
    }
    R.id.repair_fragment -> { fragment =
    RepairFragment()
    ProductsApplication.refresh = false supportFragmentManager.beginTransaction()
    .replace(R.id.nav_host_container, fragment,
    "fragment_cart").addToBackStack("CartFragment").commit()


            }
            R.id.rental_fragment -> { fragment =
                RentalFragment()
                ProductsApplication.refresh = false supportFragmentManager.beginTransaction()
                    .replace(R.id.nav_host_container, fragment, "fragment_cart")
                    .addToBackStack("CartFragment").commit()
            }
            R.id.sell_fragment -> { fragment
                = SellFragment()
                ProductsApplication.refresh = false
                supportFragmentManager.beginTransaction()
                    .replace(R.id.nav_host_container, fragment, "fragment_cart")
                    .addToBackStack("CartFragment").commit()
            }
            R.id.order_fragment -> { fragment
                = OrderFragment()
                ProductsApplication.refresh = false supportFragmentManager.beginTransaction()
                    .replace(R.id.nav_host_container, fragment, "fragment_cart")
                    .addToBackStack("CartFragment").commit()
            }
            else -> {
                badgeClear(R.id.cart_fragment)
    }
    }
   true
  }
 }

    fun badgeSetup(id: Int, count: Int) {
    val badge: BadgeDrawable = binding.bottomNavView.getOrCreateBadge(id)
    badge.backgroundColor = ContextCompat.getColor(this, R.color.Roman)
```

```
        badge.isVisible = true
        badge.number = count
    }

     fun badgeClear(id: Int) {
        val badgeDrawable: BadgeDrawable? =
binding.bottomNavView.getBadge(id)
        if (badgeDrawable != null) {
            badgeDrawable.isVisible = false
            badgeDrawable.clearNumber()
        }
    }

    override fun passDataCom(id:
        Int,
        title: String,
        price: Double,
        description: String,
        category: String,
        image:  String, rate:
        Double, count: Long,
    ) {
        val bundle = Bundle()
        bundle.putInt("id", id)
        bundle.putString("title", title)
        bundle.putDouble("price", price)
        bundle.putString("description", description)
        bundle.putString("image", image)
        bundle.putDouble("rate", rate) bundle.putLong("count",
        count)

        val transaction = this.supportFragmentManager.beginTransaction()val
        productDetailsFragment = ProductDetailsFragment()
        productDetailsFragment.arguments = bundle
        transaction.replace(R.id.nav_host_container,productDetailsFragment,

    "fragment_product_details").addToBackStack("ProductDetailsFragment").commit()
        binding.bottomNavView.visibility = View.GONE
    }

    fun bottomNavViewGone()
    {
        binding.bottomNavView.visibility = View.GONE
    }
    fun bottomNavVisible()
    {
        binding.bottomNavView.visibility=View.VISIBLE
    }
    override fun onBackPressed() {when
    (supportFragmentManager.findFragmentById(R.id.nav_host_container)) {is
            NavHostFragment -> {
                Log.v("bala", "main_activity")
                binding.bottomNavView.visibility = View.VISIBLE
                finishAndRemoveTask()
            }
            is ProductFragment -> { Log.v("bala",
                "fragment_product")
                binding.bottomNavView.visibility = View.VISIBLE
                badgeClear(R.id.repair_fragment) finishAndRemoveTask()
            }
            is CartFragment -> { binding.bottomNavView.visibility =
                View.VISIBLEsupportFragmentManager.beginTransaction()
                    .replace(R.id.nav_host_container, ProductFragment(),"fragment_product")
    .addToBackStack("ProductFragment").commit()
     }
    is ProductDetailsFragment ->
    { binding.bottomNavView.visibility =
    View.VISIBLEsupportFragmentManager.beginTransaction()
    .replace(R.id.nav_host_container, ProductFragment(),"fragment_product")
    .addToBackStack("ProductFragment").commit()
     }

     }

     }
     }
```

Product Page:

```
  package com.example.zshop.product

import android.content.Context
import android.net.ConnectivityManagerimport
android.net.NetworkCapabilities import
android.os.Build
import android.os.Bundle
import android.util.Log
import android.view.LayoutInflater
import android.view.View
import android.view.View.GONE import
android.view.View.VISIBLEimport
android.view.ViewGroup import
android.widget.SearchView import
android.widget.Toast
import androidx.fragment.app.Fragmentimport
androidx.lifecycle.Observer
```

```
import androidx.lifecycle.ViewModelProvider
import androidx.recyclerview.widget.GridLayoutManagerimport
com.example.zshop.Communicator
import com.example.zshop.MainActivity
import com.example.zshop.ProductsApplication.Companion.checkActivityCountimport
com.example.zshop.ProductsApplication.Companion.refresh
import com.example.zshop.R
import com.example.zshop.cart.CartFragment
import com.example.zshop.cart.CartViewViewModel
import com.example.zshop.databinding.FragmentProductBindingimport
com.example.zshop.network.NetworkStatus
import com.example.zshop.repository.Repository


class ProductFragment : Fragment(R.layout.fragment_product) {

 private lateinit var fragmentProductBinding: FragmentProductBindingprivate lateinit var
    communicator: Communicator
 private var cartViewViewModel = CartViewViewModel()

 companion object {
     var checkedButton: Int = R.id.default_buttonlateinit
     var adapter: ProductListAdapter
    }

    override fun onCreate(savedInstanceState: Bundle?)
     {
    super.onCreate(savedInstanceState)
    }

    private val viewModel by lazy
    {
    ViewModelProvider(this)[OverviewViewModel::class.java]
    }

    override fun
    onCreateView(inflater: LayoutInflater, container: ViewGroup?,savedInstanceState: Bundle?,): View?
     {
     fragmentProductBinding = FragmentProductBinding.inflate(inflater,container,
     false)
```

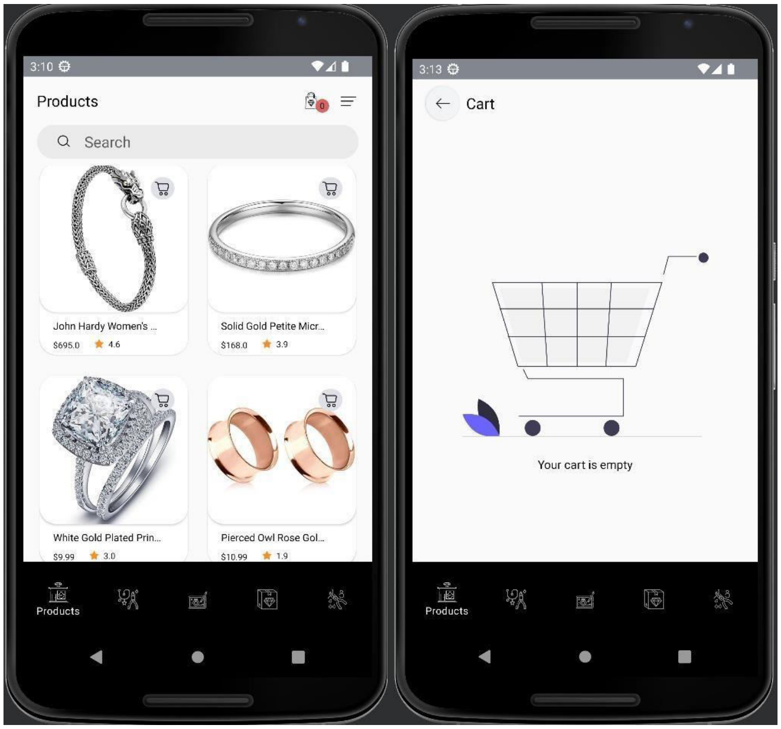
```
        communicator = activity as Communicatorreturn
        fragmentProductBinding.root
        }

        override fun onViewCreated(view: View, savedInstanceState: Bundle?) {
        super.onViewCreated(view, savedInstanceState)
        setupAdapter()
        subscribeToViewModel()if
        (checkActivityCount) {
         Log.v("bala_api", "callApi")
         viewModel.getProductDetails()//
         checkedButton = R.id.default_button
         checkActivityCount = false
        }
//        viewModel.getProductDetails()
        viewModel.getJewels()// checkedButton =
        R.id.default_buttonsetupSearchOption()
        refreshApp()
        filterProducts()
        cartDisplay()
        fragmentProductBinding.countOfCart.text =
            cartViewViewModel.getTotalCountOfItems().toString()

         }

         private fun cartDisplay() { fragmentProductBinding.cartImage.setOnClickListener()
         {
          val fragment = CartFragment()
          val viewModel = CartViewViewModel()
val mainActivity = MainActivity()
refresh = false

requireActivity().supportFragmentManager.beginTransaction()
    .replace(R.id.nav_host_container, fragment, "fragment_product")
    .addToBackStack("ProductFragment").commit()
    viewModel.getAllFromCart().observe(this.viewLifecycleOwner)

    MainActivity.count = viewModel.getTotalCountOfItems()if
    (MainActivity.count > 1 && !refresh) {
        mainActivity.badgeSetup(R.id.cart_fragment,MainActivity.count.toInt())
    } else {
        mainActivity.badgeClear(R.id.cart_fragment)
    }
   }
   }
   }

   private fun setupSearchOption() {
   Log.v("List", "SetupSearchOption")
   fragmentProductBinding.searchBar.clearFocus()
   fragmentProductBinding.searchBar.setOnQueryTextListener(object :
   SearchView.OnQueryTextListener {
   override fun onQueryTextSubmit(query: String?): Boolean {
   fragmentProductBinding.searchBar.clearFocus()
   if (query != null) {
   getItemsFromDb(query)

   }
   return true
   }

   override fun onQueryTextChange(newText: String?): Boolean {

   if (newText != null) {
```

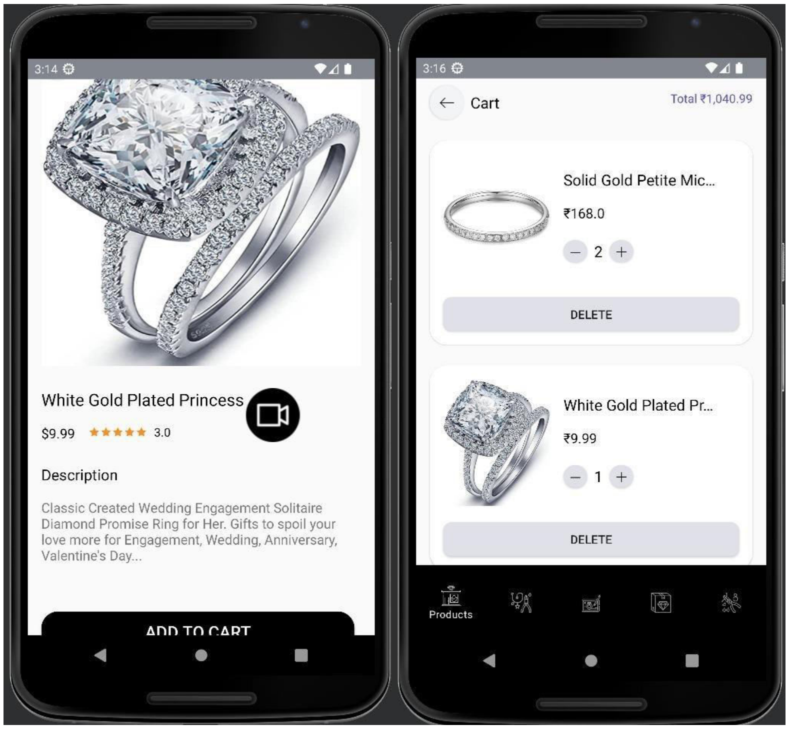
```
getItemsFromDb(newText)
}
return true
}
})
}

private fun getItemsFromDb(searchText: String) {
 viewModel.searchForItems(desc = "$searchText%")
.observe(this@ProductFragment, Observer { list ->
 list?.let {
adapter.submitList(it)
}
})
}

private fun setupAdapter()
{
adapter = ProductListAdapter()
fragmentProductBinding.GridView.layoutManager =
 GridLayoutManager(this.context, 2)
fragmentProductBinding.GridView.setHasFixedSize(true)
 fragmentProductBinding.GridView.adapter = adapter

}

private fun refreshApp() {
 fragmentProductBinding.swipeToRefresh.setOnRefreshListener {

if (checkForInternet(this.requireContext())) {
 refresh = true
//
        viewModel.getProductDetails
 ()viewModel.getJewels()
fragmentProductBinding.swipeToRefresh.isRefreshing = false
 checkedButton = R.id.default_button
} else {
```

```
fragmentProductBinding.swipeToRefresh.isRefreshing = false
 Toast.makeText(context, "NO INTERNET CONNECTION",
Toast.LENGTH_SHORT).show()
}
}
}


private fun subscribeToViewModel() {
 viewModel.getJewels().observe(this.viewLifecycleOwner) {
fragmentProductBinding.swipeToRefresh.isRefreshing = false
 adapter.submitList(it)
adapter.onItemClick = {
 communicator.passDataCom(
it.id,
 it.title,
 it.price,
it.description,
 it.category,
 it.image, it.rate,
 it.count
)
}
}
viewModel.status.observe(this.viewLifecycleOwner) {
 when (it.status) {
NetworkStatus.NO_INTERNET -> {
 Log.v("bala", "Nointernet")
fragmentProductBinding.loadingImageview.visibility = VISIBLE

fragmentProductBinding.loadingImageview.setImageResource(R.drawable.ic_con
 nection_error)
}
NetworkStatus.SUCCESS -> {
```

```
when (it.apiName) { Repository.PRODUCT_DETAILS_API_NAME
 -> {
Log.v("bala", "success") fragmentProductBinding.progressBar.visibility = GONE
 fragmentProductBinding.loadingImageview.visibility = GONE
 fragmentProductBinding.GridView.isEnabled = true
object : GridLayoutManager(this.context, 2) {override fun
 canScrollVertically() = true
}
checkedButton = R.id.default_button
 fragmentProductBinding.GridView.isClickable = true
}
}
}
NetworkStatus.LOADING -> {
 when (it.apiName) {
Repository.PRODUCT_DETAILS_API_NAME -> {
 Log.v("bala", "Loading")

if (!fragmentProductBinding.swipeToRefresh.isRefreshing) {
 fragmentProductBinding.GridView.isClickable = false
 fragmentProductBinding.GridView.isEnabled = false object :
 GridLayoutManager(this.context, 2) {
override fun canScrollVertically() = false
}
fragmentProductBinding.progressBar.visibility = VISIBLE
}
}
}
}
NetworkStatus.FAILED -> when (it.apiName) {
 Repository.PRODUCT_DETAILS_API_NAME -> {
Log.v("bala", it.exception.toString())
if (it.exception.toString() != "timeout") {
 fragmentProductBinding.swipeToRefresh.isRefreshing = false
Toast.makeText(context, "REFRESH AFTER SOMETIME",
 Toast.LENGTH_SHORT)
.show() fragmentProductBinding.progressBar.visibility = GONE
}
}
}
}
}



}


fun filterProducts() {


 fragmentProductBinding.filterImg.setOnClickListener()
{
          var bottomSheetFilterFragment = BottomSheetFilterFragment()

bottomSheetFilterFragment.show(requireActivity().supportFragmentManager,
 "Tag")

}
}

private fun checkForInternet(context: Context): Boolean {

// register activity with the connectivity manager service
 val connectivityManager =
context.getSystemService(Context.CONNECTIVITY_SERVICE) as
 ConnectivityManager

// if the android version is equal to M
// or greater we need to use the
// NetworkCapabilities to check what type of
// network has the internet connection
if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.M) {

// Returns a Network object corresponding to
// the currently active default data network.
val network = connectivityManager.activeNetwork ?: return false

// Representation of the capabilities of an active network.val
 activeNetwork =
connectivityManager.getNetworkCapabilities(network) ?: return false

                    return when {
 // Indicates this network uses a Wi-Fi transport,
 // or WiFi has network connectivity
 activeNetwork.hasTransport(NetworkCapabilities.TRANSPORT_WIFI)

-
 >

// Indicates this network uses a Cellular transport. or
// Cellular has network connectivity

activeNetwork.hasTransport(NetworkCapabilities.TRANSPORT_CELLULAR) ->
 true

// else return false
 else -> false
}
} else {
// if the android version is below M
 @Suppress("DEPRECATION") val networkInfo =
connectivityManager.activeNetworkInfo ?: return false
 @Suppress("DEPRECATION")
return networkInfo.isConnected
}
}
```

SNAPSHOTS


3:10
Products
0
Search
John Hardy Women's ...
$695.0
4.6
Solid Gold Petite Micr...
$168.0
3.9
White Gold Plated Prin...
$9.99
3.0
Pierced Owl Rose Gol...
$10.99
1.9
Products
3:13
Cart
Your cart is empty
Products



White Gold Plated Princess

$9.99 ★★★★★ 3.0

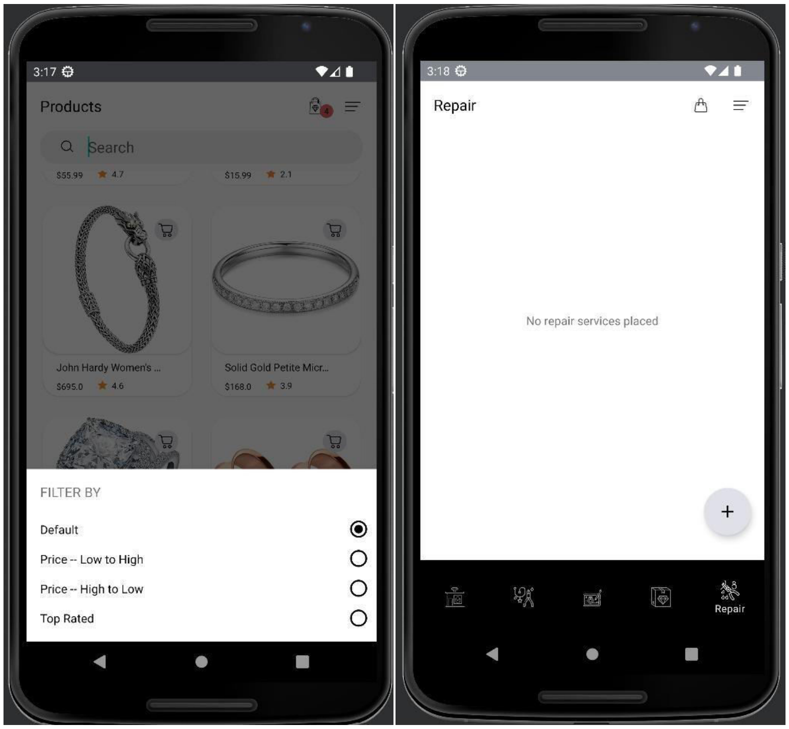
Description

Classic Created Wedding Engagement Solitaire Diamond Promise Ring for Her. Gifts to spoil your love more for Engagement, Wedding, Anniversary, Valentine's Day...

Cart — Total ₹1,040.99

Solid Gold Petite Mic... ₹168.0 − 2 +

White Gold Plated Pr... ₹9.99 − 1 +



Products

Search

$55.99 ★ 4.7

$15.99 ★ 2.1

John Hardy Women's ... $695.0 ★ 4.6

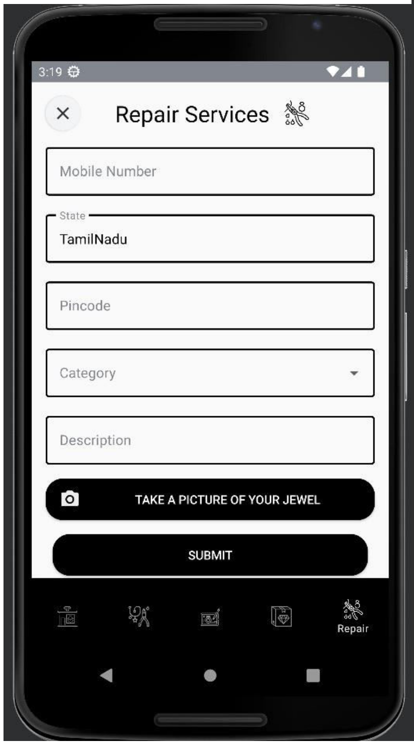
Solid Gold Petite Micr... $168.0 ★ 3.9

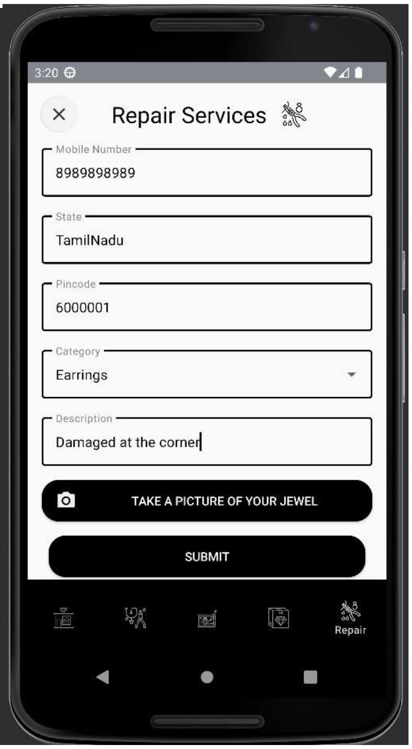
FILTER BY

- Default ●
- Price -- Low to High ○
- Price -- High to Low ○
- Top Rated ○

Repair

No repair services placed





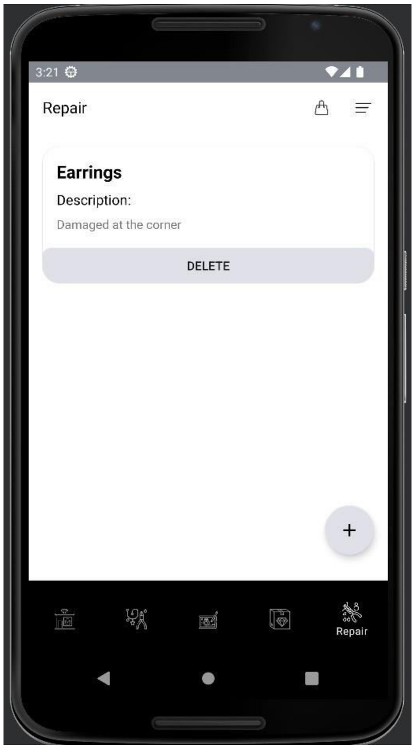
Mobile Number: 8989898989

State: TamilNadu

Pincode: 6000001

Category: Earrings

Description: Damaged at the corner



Earrings

Description:

Damaged at the corner

I. FEASIBILITY

The implementation of this application requires the cooperation of the local makers and the jewellery manufacturers to make it feasible and to implement it in the real world. The next major task would be to get cooperation from the jewel lenders as they slightly misunderstand due to security issues. The security and other quality issues should be looked at carefully and maintained thoroughly. The initialfunds required to establish the infrastructure required to run the system so that we can unite those makers and main brandsto attract and grab the consumers in the online mode. These may help to solve the issues and faults in the pre-existing systems and allow people to get used to the new featured system.

CONCLUSION

It is clear that as time flies the demand for gold and other jewel items will have more demand. Nowadays, people are seeking comfort and people are majorly using E-commerce services. So, it becomes an unavoidable resource. In that way Online retail Jewellery is emerging as one of the most preferred jewellery shopping methods of all. And people don't need to go for offline jewellery for purchasing new collections and jewels they prepare. And will people prefer our D-jewellery for new collections with the best rate at theirhome. And there are no separate E-Jewellery sites for rental services and repair services and other E-jewellery sites are only tied up with only one jewellery shop, but we will tie upwith many jewelleries for jewel collections so that users willget different designs at different jewelleries.

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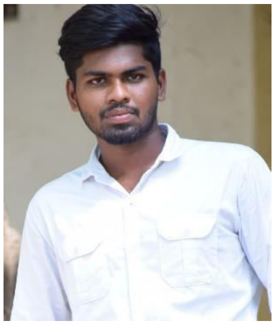

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