GRIFFITH COLLEGE LIMERICK

Software Development Project Cover Sheet

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Student number:	**3054010**
Faculty:	**Engineering, Computing & IT**
Course:	**Bachelor of Science in Computing Science (Honours) Degree** **Stage/year:** **4**
Subject:	**Software Development Project (SDP)**
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Lecturer Name:	**Sonia Zheleva**
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GRIFFITH COLLEGE LIMERICK

Bachelor Degree in Computing Science (Honours)

Marketplace for Local Artisans Android Mobile Application

Project Proposal Form

The form, fully completed, must be returned to:

Sonia Zheleva
Faculty of Engineering, IT & Computing
Griffith College Limerick
O'Connell Avenue
Limerick

Final Year Research & Development Project Proposal

PROJECT TITLE:	Marketplace for Local Artisans Android Mobile Application
STUDENT NAME & ID:	Valentin Gnidyi, 3054010
NAME OF DEPARTMENT:	Engineering, IT & Computing
PROGRAMME	Bachelor Honours Degree in Computing Science

PROJECT SUMMARY:

The research and development Project, described in this document, presents a proposal for a mobile application as a local artisans' marketplace platform, which would not only empower craftsmen to connect with the public and sell their products, but as well would help them establish better social interactions with other craft-makers and increase arts and crafts cultural awareness in the local community and globally.

OTHER INSTITUTIONS / DEPARTMENTS / PERSONNEL ASSOCIATED WITH THE PROJECT:

FULL DESCRIPTION OF THE PROJECT:

Problem Statement:

Trading goods is one of the oldest practices in human history. Over time it has evolved from barter system (direct exchange of a good or services for another one) to nowadays bank transactions (transfer of money form one bank account to another). However, elements from every type of trades are still in use today.

Trading hand-made products in a time of globalisation and mass production is getting more and more popular. This can be contributed to the growth of the economy that makes valued and unique good be available to the public. Hand made products are having more values: cultural, historical, personal, and the importance of arts and crafts in society today can`t be underestimated. Artists and artisans express the feel of a time, reflecting it in shapes, colours, and images. Along with the society's behaviour and cultural traditions, these people are presenting the emotional and artistic part of the time chronology (Kobra, 2023).

Artisans are people who were at the start of the process of creating economic and trading systems, and after multiple evolutionary cycles of trade, have the availability today to globally showcase their hand-made goods and obtain a deserved recognition in society. Unfortunately, many craft makers do not have a wide customer base, just an audience of people of close contacts and with limited way to reach broader audience.

In India, which is one of the biggest artisan markets in the world, 78% of artisans are selling their products at near-by local markets (Wilson, 2023). In England, the craft industry is providing around 4.2$ billion to the UK's economy. It has registered around 19.5 million crafters and 2.3 million people are working in such businesses, related to the Craft industry with 11.220 businesses being registered. Research also shows that 13.3% of all adults of the British Irelands are buying at least one hand-made craft per year (Asim, 2023). This shows that the UK's market is quite large and responds well to the public demands.

Offline sales cover just small territory for people in the local vicinity of the craft markets. 50% of the craft makers in UK are based in suburban areas and are supplying their products to local markets, thus providing these local markets an authentic charm. However, today's modern mobile technologies are penetrating all aspects of economy and personal life - smartphones, communications, logistic, financial transactions, and can empower artisans as well in multiple ways. Online sales for artisans are possible on marketplace platforms, such as: e-bay, Etsy, Folksy, Amazon handmade, Facebook Marketplace, providing tools for craftsmen to sell their products online. Such platforms provide opportunity to have the hand–made products seen by people all around the globe and are not only available for purchase but to inspire as an art, idea, images. Unfortunately, along with the genuine crafts and arts, available to view and purchase online, there are many examples of online shops that are populating the market with some fake hand-made products (Wood, 2023).

Most of the online marketplaces are working great as *web applications* for PCs, whereas the *mobile applications* are still not very well presented and popular. In the process of the current Project's research, it was found that *Etsy* and *Falksy* are available in Ireland and are having representation from some Irish artisans.

However, developing a suitable *mobile application* as local artisans' platform, that could empower craftsmen of the local community in Limerick, Ireland, with both, local and global recognition, along with the opportunity for these craftsmen to sell their products to a wider customer base, would be of great help to them, as well as to people with Internet access on just their smartphones. Research shows that in Ireland, 90% of the adult population is using smartphones (Central Statistics Office Ireland, 2021).

Project Background Information:

Historical Perspective:

To make the trading comfortable antient societies made an agreement to use some useful products for the community as a trading measure. Those products archaeologists are calling *proto money*. (Balassa, *et al*., 2023)

Money is a concept of not directly exchange goods and services. It is working as a unit of measure, a universally recognized standard, for pricing and payment acceptance. Nevertheless, over the time and history, both forms of trading (barter, or with use of money) have evolved. In August 2021 it was announced the oldest known, securely dated coin 640 B.C. from Ganzhuang in Henan Province of China. (Beattie, 2022). Other coins that were found from around the globe that are even older (like, the Mesopotamian Shekel), have no date on it – their age could only be approximated by material and cultural analysis, which can`t provide a precise answer (Dehner, 2022).

The invention of money and it`s evolution played huge role in the international trade development. Connection of different people from different places led to a cultural exchange. One of the greatest examples of it is the Great Silk Road – it was a system of routes existing in the antient Eurasian continent from Mediterranean Sea to China. The Great Silk Road was not merely a route for transporting goods, it was connecting outstanding cultural pieces and standards of applied arts, architecture, wall painting, music, arts, dance, and theatrical performances of Middle Ages." (unesco.com). And there were many other routes, well-known in history, such as: The Spice Routes, Incense Route, The Amber Road, The Tea Horse Road, The Salt Route, The Trans – Saharan Trade Route, The Tin Route, all of which were involved in shaping the culture of nations that lived at those times (Cock-Starkley, 2020).

The Industrial revolution changed the market and the social value of goods tremendously by decreasing the value of human work and producing the merchandise cheaper and faster. Despite these changes, the mass production was not able to fulfil the market globally. The requests for specially designed and hand-made items dropped down but continued to be in value. And more artists, together with craftsmen, started to organise social groups, such as Arts & Crafts Movement, which started in Britain in 1860s. The cost of craft production was too expensive for average family, however the society brought innovations and some new ideas. The movement played a big role to attract society to the value of genuine handmade products (Renauld, 2023).

During that time mass market was changing in a way of bringing more new products and technologies. And new technologies, more availability of recourses, tools and special equipment that became more accessible, and availability of more hand-made products.

Handmade and mass-product markets stop to compete for the same audience and started to exist side by side, taking advantages one from another. Mass-producers gathering ideas from artisans, and artisans – start using new technologies from the mass production (Smith, 2015).

Current Perspective:

In 2019, 73% of the UK's adult population has purchased some type of craft, as has been reported by the Crafts Council in the United Kingdom, which accounts for about 25 million items. Approximate 32% of customers were aged under 35, showing that the younger populations are the largest group of arts and crafts customers. There were 11.620 craft businesses with 43000 employees (Craft Council, 2020).

The market of handmade products in Ireland is growing. There were 105,000 people that were employed in the sector of Craft and Design in Ireland in 2019, which is more than 3 times an increase from 2012, when that number was just 39 000 people. In 2020 the contribution of the sector to the economy of Ireland increased from 2.3 billion EUR to 3.6 billion EUR, even though it was during the time of Covid-19 pandemic, which was a huge stroke to the world's economy and the small businesses, especially (Design & Craft Council Ireland, 2021).

International Health Regulation Emergency Committee of the World Health Organisation declared an emergency on 30 January 2020 in relation to Covid–19 and all countries made effort during the Corona virus pandemic to offset the economic crisis, understanding its harmful effect on people`s social, environmental, and health aspects. Small businesses, small industrial enterprises, micro-businesses, artists, and workshops were the first, who faced the issues in productivity due to the pandemic (Betzler, 2020).

During the Covid-19 lockdowns, many people created interesting solutions: go online, self-digitizing, using conference software, selling gift cards and vouchers in advance, start working remotely, creating for virtual platforms. Companies also started to automate working environment to remove the human involvement as much as possible. Some jobs were given to robots, some positions were optimised and changed to remote, some were given to special software and artificial intelligent machines (Nobre, 2020). Nerveless, the hit on small businesses was huge. As was already stated, people started looking towards technologies – there was a global awareness of the smartphones' abilities, and the ways of using technology increased on a huge scale (De'Rahul, *et al.*, 2020).

Nowadays, mobile applications can transform a smartphone into a toolbox with solutions for many problems, one of which is the lack of self-organising and management that people of arts and crafts exhibit. Examples of such mobile applications are: To – Do lists (Todolist), taking notes (Evernote) or helping to keep information available anywhere any time, without losing it (dropbox) (Sullivan, 2021)

In Ireland in 2019, approximately 84% of the adult population were using smartphones. (Gibney 2020) Statistics from September 2023 shows that *Android-based* mobile phones are the predominantly used ones and are counting for 53.85% of the Operating System Market shares of smartphones in Ireland (StatCounter).

Mobile applications can also be an online e-commerce platform, using which the artisans can have a new way of reach to customers and fans all around the world. In December 2018, the American online marketplace *Etsy*, endorsed a platform for artisans to trade handmade items (etsy.com). It had over 220,000 active sellers in U.K., and another company - Folksy, which focused on selling handcrafted gifts and original artwork, informed of having about 9,000 participating craft creators (Chhatwal 2023). To cover payments and financial transactions there are providers of mobile payment solutions, such as *Apple Pay* and *Google Pay,* that are actively competing to secure the transactions for retailers' *Point–Of–Sale* systems. There are also mobile applications that focus on such payment methods, such as *PayPal*. (Beattie, 2022)

Irish smartphones users are limited in options for *online marketplaces,* which gather artisans and the public on one platform. Functionalities and features of such software thus far do not provide a pleasant user experience. At the same time, the web applications are very well made and quite popular. However, in Ireland 90% of the adult population is using their smartphones daily to check information on Internet and make transactions, which creates a habit of performing digital operations via phones only (Central Statistics Office Ireland, 2021) Thats why, a decision of creating an *Android-based* mobile application is more than reasonable.

Case Studies on Similar, Already Existing on the Market Applications:
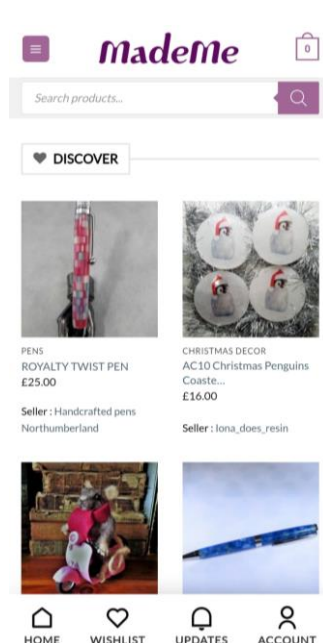
An example of such mobile application is *Made Me* (please, see Figure 1)

Included Features:
- Pleasant design
- Easy and intuitive in navigation
- Listing products by categories
- Listing artisans at near-by location on Google Maps
- Easy and simple checkout.

Not Included:
- Doesn`t provide a forum for communication of artisans.
- Very limited categories of products to purchase.

Figure 1: *MadeMe* Mobile Application's Home Screen (play.google.com(b))

- **Folksy**

Folksy is British based marketplace that focused on handmade gift products (please, see Figure 2).
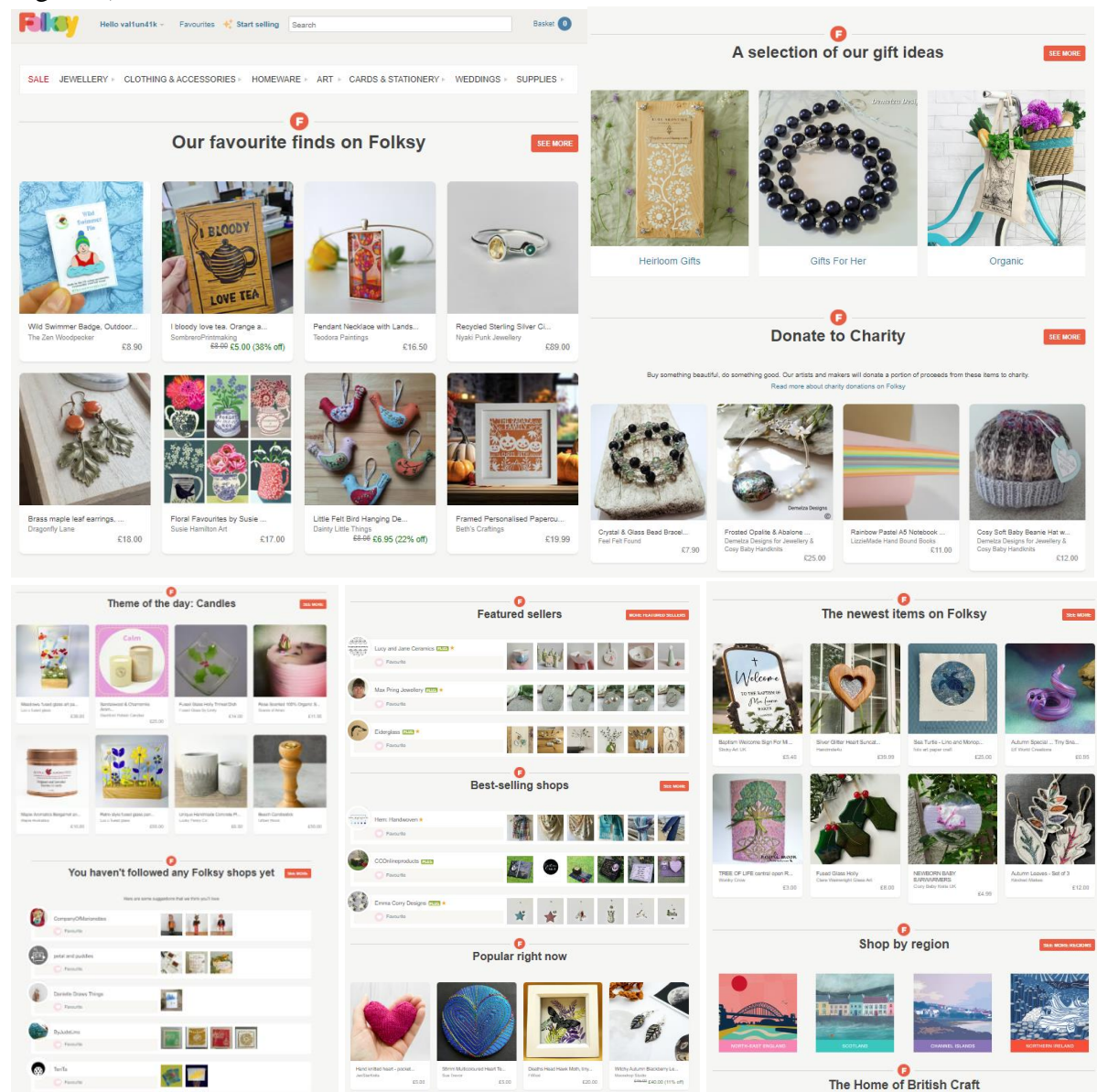

Figure 2: Folksy Web Application's Main Page (folksy.com)

Included Features:

- Has very inspiring design as a way of creating marketplace.
- Intuitive navigation.
- Showing the products by categories and listing crafted products by author.
- Craft makers' filters to select by region.

Not included:

- Offline Registration for Artisans (the existing online registration can cause creation of a fake craft maker`s account).
- Showing the artisans on a map.
- Doesn`t provide a Forum for chats between craftsmen. Only direct chat to the artisan.

- **Etsy**

American company that started in 2018, and is selling online handmade products from artisans (please, see Figure 3).
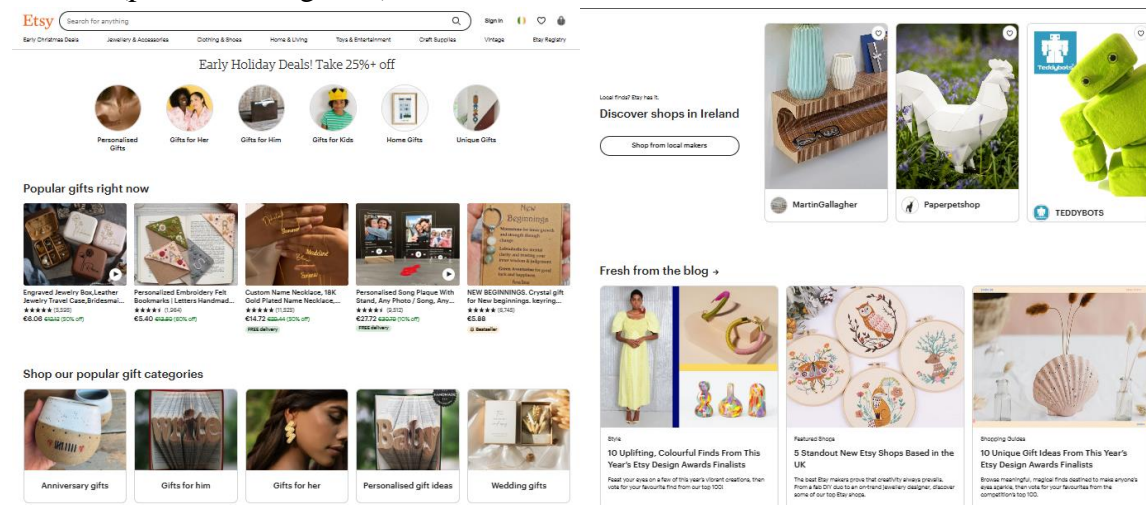

Figure 3: Etsy Web Application's Main Page (etsy.com)

Included Features:

- Pleasant design
- Intuitive navigation
- Presenting blogs of artisans
- Lising products by author and categories
- Option to check the list of local craft makers.

Not included:
- Map representation of local artisans.
- Calendar and listing of upcoming events for artisans in the local vicinity.
- No Forum for chats between craft makers to share ideas. However, each artisan can have a personal blog.
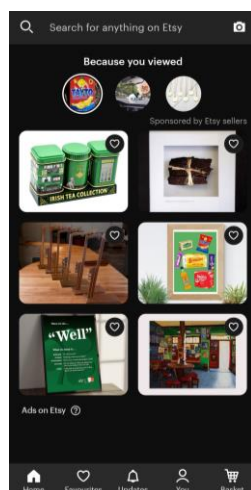
Etsy is also having a mobile application; however, the functionality and features of that platform are more limited compared with its web application (please, see Figure 3).

Browsing by Categories for example, is available only after selecting *search* option on the menu bar and only there appears the option "*browse by category*". The mobile application has a way to save items as *favourites* from the Home Screen, however the option is not very intuitively presented when *browsing by category* as part of the home screen.

Figure 3: *Etsy* Mobile Application's Home Screen. (play.google.com (a))

Project Goal:

The goal of the Project is to research the Literature about *marketplaces* for hand-crafted products, to develop an *Android* mobile application that as e-Commerce platform would connect local artisans with community members in a pleasant way and empower and support local small businesses with community engagement. The proposed for development application would provide a digital platform to showcase creators' products and extend their reach to wider customers' base not just in the local communities, but globally as well. It would promote the growth of the local economy by increasing sales and supporting the sustainability of small-scale, local production. It will offer different features, such as customers' reviews and ratings to build a reputation system to help with continuous improvement of products and services offered.

The application is aiming to make a positive impact on local economies, artisans and craftsmen and promote unique talents within local communities.

Project Scope:

The Project is delimited to artists, craftsmen, artisans and the public in Limerick, Ireland, and the prototype of the system will be developed for *Android OS*.

Project Objectives:

The objectives of the proposed Project are as follows:

- Perform preliminary research on hand-made products marketplaces, providing statistics regarding the topic.
- Research existing applications for comparison of functionalities as Case Studies on the topic.
- Prepare a Project Proposal
- Perform preliminary research on artisan's markets, using Mixed Research methodology:
  - Using *Quantitative* approach to design and distribute *Survey Questionnaire* to gather information from the public in Limerick, Ireland about purchasing hand made products and the public views on the need for the proposed application.
  - Using *Qualitative* approach to design and distribute *Structured Interview* questions to gather opinions from self-employed professionals (artists, craftsmen, artisans) in Limerick about their opinions on the impact of digitisation on every aspect of life and the way they work and sell their hand-crafted products, and the need of the proposed for development mobile application.
- Analyse the Survey and Interview results to evaluate the feasibility of the Project and the application`s functional requirements. Complete Thesis Ch.1
- Perform comprehensive Literature review with historical and current perspectives on the topic and Cases studies of similar, existing application. Complete Thesis Ch.2
- Structure System Requirements in a Conceptual model for the proposed application, generate and compare alternative solutions, and recommend the most realistic one for the Project. Complete Thesis Ch.3
- Design and code the Graphical User Interface screens and the Data structures of the application, implementing security measures for personal data at storage and sensitive information in transit. Complete Thesis Ch.4
- Research on appropriate Testing methodologies to perform module, integration, and system Testing of the application. Complete Thesis Ch.5.
- Perform User Evaluation on the application's Prototype, analyse results and apply, if necessary, users` feedback to improve user`s satisfaction; Provide meaningful conclusions and scope for future work on the Project. Complete Thesis Ch. 6.
- Prepare Presentation slides.
- Submit the Thesis and present the Project.

Project Description:

Nowadays, local artisans often can struggle to represent their crafts and gain recognition that they deserve. The proposed for development mobile application as a *Marketplace* platform can not only help with selling their crafted products, but as well help to establish better social connections with other craftsmen and increase the arts and crafts cultural awareness inside a local community.

The application will provide the option for the public to make online purchases from local artisans and be aware of live gathering events, where they can meet up with the craft makers and view their products. For artists, the application will provide a platform to share ideas (over the *Themed Forums* section), sale products (as online *Point of Sale* system) and make self-advertising (over the *Gathering Events News Feed* section).

Key Features:

- Appropriate content
- Appealing interface design and product listing
- Intuitive navigation
- Secure Personal data and Safe financial transactions.

Functionalities:

General Public (Customer) Intefrace
- Online Registration, creating Customer profile.
- Secure Login process (with option to *re-set password*)
- Local Artisan Search with Geolocation Services:

  - Implement geolocation services to show the artisans and their products within Customer's vicinity, encouraging support for nearby businesses.

    Allow Customers to search for local Artisans, based on location, product category, or specific keywords.

- Place Order and Secure Checkout:
  - Allow Customers to request product(s) from selected Artisan and Product Category and implement a secure and user-friendly *checkout* process, including the option for *guest checkout* and *order tracking*.

- Payment Processing:
  - Integrate a secure payment gateway to facilitate transactions with *Digital Wallets*.

- Wishlist and Favourites:
  - Allow users to create *wish lists* and mark *favourite products* for easy future reference or sharing.

- Notifications and Alerts:
  - Set up *Alerts* for users to receive updates on new products promotions, or events from their favourite artisans.
  - Receive *Notifications* of Placed Order status (accepted/rejected/processed/paid)

- Product Reviews and Ratings:
  - Enable Customers to leave *reviews and ratings* for products purchased and service obtained.

- Community Events Listing board:
  - Include a *Listing board* of local artisan events, markets, or fairs to further engage with the artisan community.

- Social Media Integration:
  - Allow users to share their purchases or desired products on social media platforms directly from the app, promoting the local artisan marketplace.

Artisan Interface:

- Artisan Registration & Login

  - *Offline* Registration process with contact information, performed by the System Administrator to prevent *online* impersonation.
  - Secure *Login* process with option to change (reset) password.

- Artisan Profile Creation, Product Listings, and Updates:
  - Allow artisans to create a profile, showcasing their work, including a portfolio of products by categories, with description, pricing, pictures, which will enable them to upload images and details of their products, including categories such as handmade crafts, artwork, jewellery, etc., and to update information.

- Order Management:

  - Provide tools for artisans to manage orders (view submitted order requests from customers, send *Notifications* of acceptance/rejection of order requests, send *Invoices* for accepted orders, and *update* order status (accepted/processed/paid), track shipments, and communicate with buyers. Include order history.

- Payment Processing:
  - Receive Notifications for provided Payment of Order Invoices.

- Promotion and Marketing tools:
  - Include features for artisans to promote their products, such as discounts, limited time offers, and social media sharing.

- Products Rating and Comments from Customers:
  - Allowing to view the comments left from Customers.

- Artisan Community Forum:
  - Create a forum/community space, where artisans can connect, share tips, and discuss their craft.

Project Methodology & Evaluation Criteria:

The Project will utilise a *Mixes Research* Methodology, which combines *Qualitative* and *Quantitative* research approaches. This will help to clarify the opinions of the target audiences on feasibility and viability of the proposed mobile application.

The *Quantitative* approach will be used in carrying out a *Survey* to gather statistical data from the public and to clarify ways of purchasing handmade products in Ireland.
The *Qualitative* research will be caried out with *Structured Interview*s with craft makers to gather their opinions and insights of digitalisation of the artisan's market.

The System Analysis phase will have an Object–Oriented approach where requirements will be analysed and structured in Conceptual Model with Use Case, Sequence, and Object Class Diagrams to have a better perspective on application's functionality and business requirements.

Three Alternative Solutions will be presented (Low–End, Mid–Range, and High–End), and the most realistic one will be chosen to develop and complete the new mobile application. Feedback from the User Evaluation process will be gathered afterwords to have insight of the users' satisfaction with the application and gather suggestions for improvements.

Evaluation Criteria:
When developed, the application prototype will be available on Google Play Store for users to evaluate it. The Online Evaluation Survey will be provided to gather feedback from target users. The aim of the Evaluation Questionnaire is to clarify whether the application is robust and fits the users` expectations and needs. It will follow such factors as:
- *Accessibility*: Evaluation of how accessible the application is to users, its compatibility across android devices at present, and in the future.
- *Navigation*: Evaluation of how straightforward and intuitive it is for users to move through the application, with clear navigation menus, provided to help users' easy transitions between screens.
- *Design*: Evaluation of the Graphical User Interface, appraising aspects of appropriate colour scheme, fonts, font sizes, and pleasant elements of the interface.
- *Content:* Evaluation of the quality and relevance of the information presented, its appropriateness for the intended purpose, together with its style and format.
- *Security*: Evaluation of the security measures embedded in the application to protect personal data and sensitive financial information, ensuring that strict measures are implemented to cover potential security vulnerabilities.

Project & Milestones & Deliverables:

The Project Milestones are listed as follows:
- Generate ideas and conduct research to select a suitable Project topic.
- Conduct initial Literature review, together with Case Studies on already existing marketplace mobile applications for artisans.
- Establish Project's goal and objectives and provide a detailed Project description and timeframe in drafting the Project Initial Specification and the Project Proposal.
- Amend the Project Proposal, according to Supervisor's feedback.
- Utilize a *Mixed Research* approach for the Primary Research:
  - Use *Qualitative* method to create and distribute *Structured Interview* questions to sample of local artisans and craftsmen in Limerick to gather information about technologies they use for trading crafted products and what they would like to see in the proposed for development mobile application.
  - Use *Qualitative* method to create and distribute *Survey* questions to sample of members of the public in Limerick to gather their opinions on the need for the proposed application.
- Conduct analysis of the Survey and Structured Interview results to evaluate potential feasibility for the Project and application's functional requirements. Complete Thesis Ch.1.
- Conduct in-depth Literature review on the chosen topic for the Project and complete Thesis Chapter 2.
- Conduct System Analysis to structure the system requirements in Conceptual model of the application, choose suitable Software Development Methodology, and finalize Thesis Chapter 3.
- Submit Thesis First draft to include Chapter 1, Chapter 2, and Chapter 3 for review. Create short video clip presentation as an Interim Report.
- Gain necessary skills in Android Studio and its Development Environment and gain proficiency in Google Firebase. Improve programming skills in required development languages.
- Design and Code the Graphical User interface (GUI) screens together with Data structures (application's back-end), implemented with Google`s Firebase Database Management System. Finalize Thesis Chapter 4.
- Select suitable Testing method for the developed application and conduct thorough Testing process with Testing Cases. Complete Thesis Chapter 5.
- Perform User Evaluation, critically analyse its results, the Project success, and Personal achievements, provide Conclusions and Scope for future work on the Project; complete Theses Chapter 6.
- Submit Thesis Second draft for review (Chapters 4, 5 and 6).
- Prepare PowerPoint Presentation Slides.
- Submit the Thesis and present the Project.

Final Year Research & Development Project Proposal

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Project Deliverables:

- Initial Project Specification and Description and Project Proposal draft.
- Completed Project Proposal.
- Progress report: Thesis First draft and video clip.
- Progress report: Thesis Second draft.
- Completed and collated Thesis.
- PowerPoint Presentation slides.
- Application's Source Code.

Project Timeframe & Gantt Chart:

Include key timeframe, milestones, grant chart, identify risk and an RMMM matrix (Risk, Measurement, Monitor, Mitigation)

| #	Milestones	Deliverables	Duration
1	Gather ideas to identify suitable project topic	Project topic identified together with suitable research method	2 weeks
2	Perform Literature Review related to the chosen topic for Project Proposal Writing	Project Proposal draft	2 weeks
3	Amend the Proposal according to Supervisor`s feedback.	Completed Project Proposal	0.5 week
4	Identify samples of targeted audiences and create questions for Survey and Structured Interview	Survey Questionnaire and Structured Interview questions prepared to be distributed	1 week
5	Distribute Survey and Structured Interview questions to targeted audiences	Results of Structured Interview and Survey are gathered and analysed. Chapter 1 completed	2.5 weeks
6	Perform Literature Review; Write Thesis Chapter 2	Thesis Chapter 2 completed	2 weeks
7	Perform System Analysis and create Conceptual model; Write Thesis Chapter 3 and submit Thesis First draft	Thesis chapter 3 completed, and Thesis First Draft submitted	3 weeks
8	Create presentation video as Progress Report	The presentation video is submitted	2 days
9	Learn Android Studio & Google Firebase; Practice in improving coding skills	Become competent to code screens and functionality	20 weeks (overlapping Tasks 1-8)
10	Design and Code interface screens, data structure and desired functionality Write Thesis Chapter 4	Desing and Coding phase are completed. Complete Thesis Chapter 4	7 weeks

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11	Choose suitable Testing method and perform testing on the application	Fully tested application. Thesis Chapter 5 completed	2 weeks
12	Perform User Evaluation, analyse results, estimate the project success, provide conclusion and scope of future work in Chapter 6	Complete Thesis Chapter 6	2 weeks
13	Submit Second draft of the Thesis	Thesis chapters 4,5 and 6 completed are submitted	1 week
14	Prepare Power Point Presentation;	Project Presentation slides are created.	1 week
15	Submit the completed Thesis; Present the Project	Thesis submitted and Project presented to examiners	1 day

Project Risks:

No.	Risk Description	Impact	Action
1	Time to learn new application programming languages	Critical	Dedicate time to learn programming languages early on with online tutorials
2	Proper Project Time Management	Critical	Apply good time organisation to all Project tasks to complete the Project on time & schedule
3	Data Loss	Critical	Backup data frequently on the Cloud and on separate disk storage devices

Project Gantt Chart:
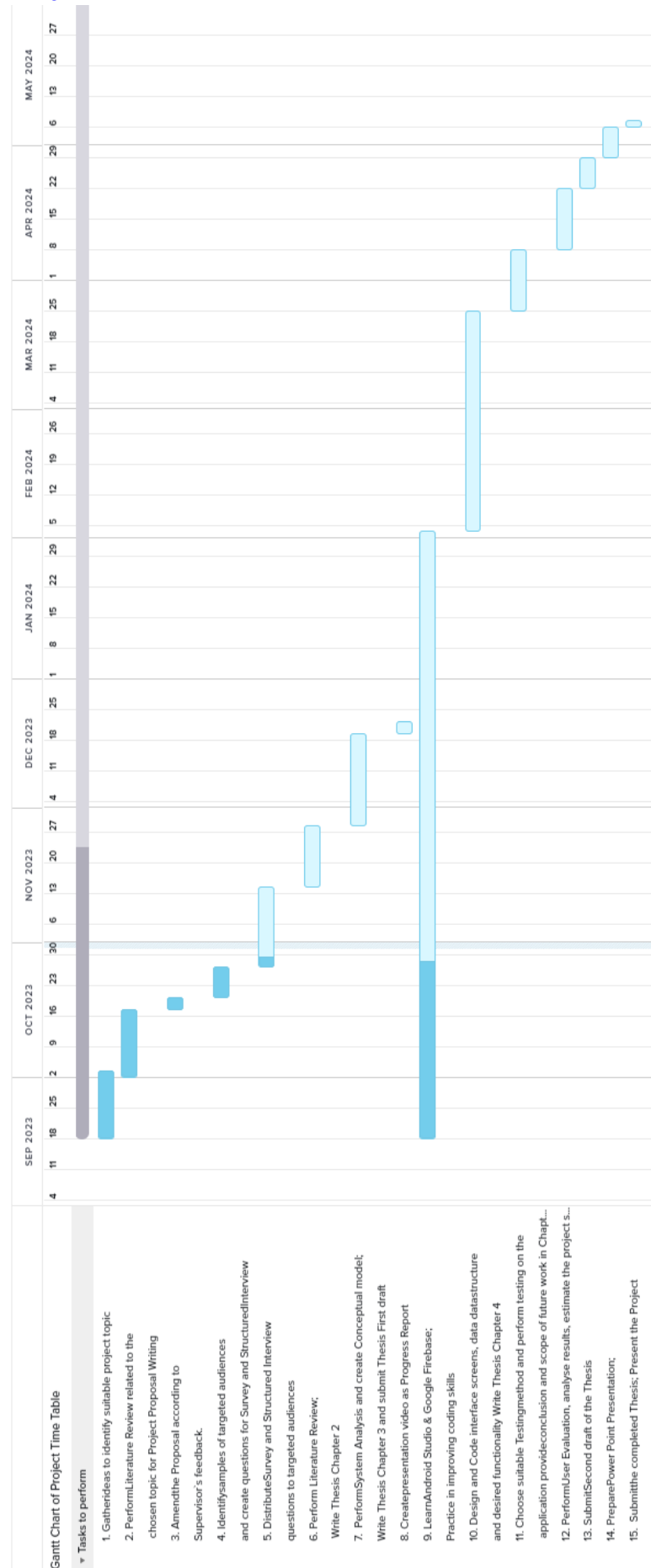
<u>Technical and Non-Technical Resources Required:</u>

Hardware:

- Laptop
- Android OS based mobile phone

Operating System:

- Windows 10
- Android OS

Software:

- Android Studio /Android Studio Emulator/ Gradle
- Google Firebase
- HTML5/CSS/XML
- Java/Kotlin/React Native
- 3rd party Digital Wallet

Tools, equipment, and other sources:

- Internet
- YouTube tutorials
- MS Office
- Udemy.com
- Android Emulator
- Google Forms
- DRAW.io
- Balsamiq
- Integration with Google Maps

People involved in the Project:

- Project Supervisor – Sonia Zheleva
- Artists, craftsmen, artisans in Limerick to participate in the Structured Interview and in testing of the developed application's Prototype

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Student Signature: Date: 31/10/2023

Supervisor Signature: Date: