



# SmartWage

**Filipe Lutz Mariano - 25956**

**Vinicius Miranda - 70973**

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Supervisor: Wenhao Fu

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# 1. Introduction

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## *Problem Statement*

As full-time students and part-time workers, we have first hand experience in the difficulties of understanding the tax code and more importantly, how it relates to our education and employment situation. While there are some helpful online resources to aid PAYE earners and to breakdown the complexities of a wide range of tax credits and liabilities, these usually require a great deal of reading and pre-requisite knowledge of taxation terminology.

We have witnessed many of our peers frustratingly attempt and fail to reconcile their tax position, with many eventually paying someone with greater knowledge for their assistance. We want to relieve these busy part-time workers, whom are often balancing multiple jobs or studies, from this stressful and arduous task. We believe our app will provide tangible benefits to users by combatting issues around emergency tax, applying for tax relief and managing liabilities across multiple jobs.

## *The SmartWage app*

The SmartWage app is initially targeted at part-time workers, in particular those paid by the hour where total pay can fluctuate week to week. Users are invited to input their income and expenses data into the SmartWage mobile app and will be shown their tax liabilities year-to-date.

The app will also help users to track refunds that they might be due as a result of overpaid tax or reliefs/credit that have not been applied yet.

With this intuitive tool, users can manage their finances confidently and effectively. SmartWage will be built using Kotlin for Android, with a focus on data security and compliance with Irish tax regulations to create a safe, reliable experience for users.

As many third-level students are engaged in part-time work, the app is designed to specifically highlight any education-related tax relief e.g. tax relief on qualifying fees at approved third level colleges. ( [Tuition fees paid for third level education](#) )

## **Project Aims**

This project aims to help users save money and time but also encourage better financial literacy among a group that often has unique financial needs and limited resources.

( [Unclaimed tax refunds: How to get some of your tax back – The Irish Times](#) )

## Scope and Objectives

### Scope of the Project

SmartWage is specifically for part-time workers in Ireland who are paid hourly and may have multiple jobs. It's built to track income, expenses, tax liabilities, and refunds without catering to full-time salaried employees. The app is focused on individuals with flexible or varied income sources, such as students and part-time workers, who can benefit from dedicated financial tracking. The app won't replace the revenue website or do the tax return, it's to give information to the user about what they might be entitled to in refunds and how much tax they should be paying. Revenue is still very much in charge, this app is just about making taxes a bit easier to understand and keep track of the income, expenses and tax paid to have a better and easier financial life. The app will provide a provisional tax refund based on the user's information and provide information on how to apply it on the Revenue website.

### Objectives

1. **Income and Expense Tracking:** Allow users to log their hourly wages, track income from different jobs, and monitor expenses.
2. **Accurate Tax Calculation and Refund Estimates:** Use Irish tax rules to calculate taxes and estimate refunds, factoring in any relevant deductions.
3. **Multi-Year Tax Review:** Enable users to review tax details from the past five years to identify overpayments and possible refunds.
4. **Provisional Tax Estimates:** Provide users with estimated taxes at the end of the year, helping them plan for upcoming tax obligations.
5. **Provide clear information on how to do the annual tax form and apply on the Revenue website,** based on user information.

## Technology

SmartWage will use the following technologies and tools to ensure a smooth, reliable experience:

1. **Programming Language:** Kotlin will be the main language for developing the Android app. Kotlin offers efficiency and performance benefits, making the app more reliable and easier to maintain.
2. **User Authentication:** Firebase Authentication will handle user login securely, supporting email/password and social media sign-ins. Firebase makes it simple for users to create accounts and access their data securely.
3. **Data Storage with Amazon DynamoDB:** SmartWage will use Amazon DynamoDB, a NoSQL cloud database that scales automatically and provides fast, consistent access to stored data. User data, such as income and expense records, will be stored securely in DynamoDB, ensuring quick and reliable data access.
4. **Data Security:** To protect user data, SmartWage will implement encryption techniques that comply with best practices in data security. This keeps users' financial and personal information safe from unauthorized access.
5. **APIs for Tax Data:** The app will use APIs to fetch tax updates from Ireland's Revenue service. This ensures that calculations are based on the latest tax rates, exemptions, and reliefs relevant to users.
6. **User Interface:** The app's interface will be user-friendly, emphasizing clarity and simplicity to make tracking income and expenses as easy as possible. Modern UI/UX principles will guide the design, providing a streamlined experience.

## Equipment Needed

The following tools and resources will be essential for building the SmartWage mobile app:

- **Development Environment:** Android Studio, the official IDE for Android, will be used to build and test the app. The development setup requires:
  1. A computer with adequate RAM and processing power to run Android Studio smoothly.
  2. The latest version of Android Studio, along with Kotlin-specific SDKs and tools.
- **Testing Devices:** Android smartphones or emulators are needed to test the app across different Android versions and devices, ensuring compatibility.
- **Version Control with Git:** Git will be used to track code changes and collaborate. A repository hosted on GitHub will enable version tracking and project collaboration.

## Potential Problems or Complications

- **Keeping Up with Tax Regulations:** As tax laws change, the app will need to adapt to ensure compliance. This requires ongoing updates to the tax calculation features.
- **Data Security Requirements:** Safeguarding sensitive user data requires robust encryption, which adds complexity to development.
- **User Engagement:** To encourage frequent use, the app will need features that keep users engaged and coming back regularly.

## 2. Methodology

### Software Development Methodology

The SmartWage project will follow the agile methodology, allowing for flexible, iterative development with regular feedback. Git projects will be used for version control and project tracking, making it easy to collaborate and keep track of development progress. Research indicates that agile helps student-led projects like this one stay adaptable, collaborative, and focused.

- User Stories

1. As a user, I want to create an account so that my data is saved securely.
2. As a user, I want to log multiple hourly jobs to track my income accurately.
3. As a user, I want to add my expenses so that I can manage deductions effectively.
4. As a user, I want to view my estimated tax owed so that I can understand my financial obligations.
5. As a user, I want to check if I'm eligible for refunds and help me reclaim any overpaid taxes.
6. As a user, I want to access my income data offline so that I can view my details anytime.
7. As a user, I want to track my weekly hours to estimate my monthly tax liabilities.
8. As a user, I want to view an overview of my monthly income so that I can budget better.
9. As a user, I want to receive notifications for potential refunds to avoid missing them.
10. As a user, I want to calculate provisional taxes at year-end to plan for tax obligations.
11. As a student, I want to track tuition-related expenses to claim deductions.
12. As a part-time worker, I want to view my tax breakdown per job for detailed insights.
13. As a user, I want the option to view previous years' tax summaries to analyse trends.
14. As a student, I want to access tax resources and tips within the app to learn more about managing finances.
15. As a user, I want to customize my notifications to receive only relevant financial updates.
16. As a part-time worker, I want to download my tax summaries for my records.
17. As a user, I want my data to be securely stored, ensuring that my information is safe.
18. As a user, I want a user-friendly interface that simplifies tax calculations.
19. As a user, I want access to customer support to resolve any app-related issues.
20. As a user, I want to be able to delete my account.

### 3. Project Plan

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This roadmap details the weekly schedule for developing the SmartWage prototype:

Week	Milestones
1	Project research, setting objectives, researching tax regulations
2	Define user stories, create the project timeline
3	Design UI wireframes, gather feedback on wireframes
4	Set up Android environment and GitHub Repository and Git Project
5	Set up Firebase for authentication, implement account creation, and login functionality
6	Integrate front and backend, implement tax calculations
7	Start testing, look for user feedback, address and fix issues
8	Refine prototype, prepare demo, document findings for next steps



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