PRINCE2®

PROJECT LOOKOUT

Group 7

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1   Executive summary

All five of our team members grew up having similar experiences of personally knowing cases of people losing their vehicles in our close family and friends. This was a reality that we had accepted and gotten used to until we realized that there is so much, we could do about it. A huge inspiration for us was the Project FADA-RI which aimed to deliver secure access for Interpol member countries to the German vehicle identification facility, FADA. This is an invaluable tool for determining forged vehicles. What we learned from this is that there is a lot of room to leverage the technologies at our disposal to help solve this issue, and that is exactly what we aim to do through the development of Lookout. It will enable users to get help as soon as possible. The problem with vehicle thefts is that there is no way to find them other than by sight hence the more the people the more the chances to locate. Moreover, the most important role when it comes to the app is that it is paired with some extensive security system to add functionality and improve the chance of recovering the vehicle. It can make lives easier for many people and reduce their stress.
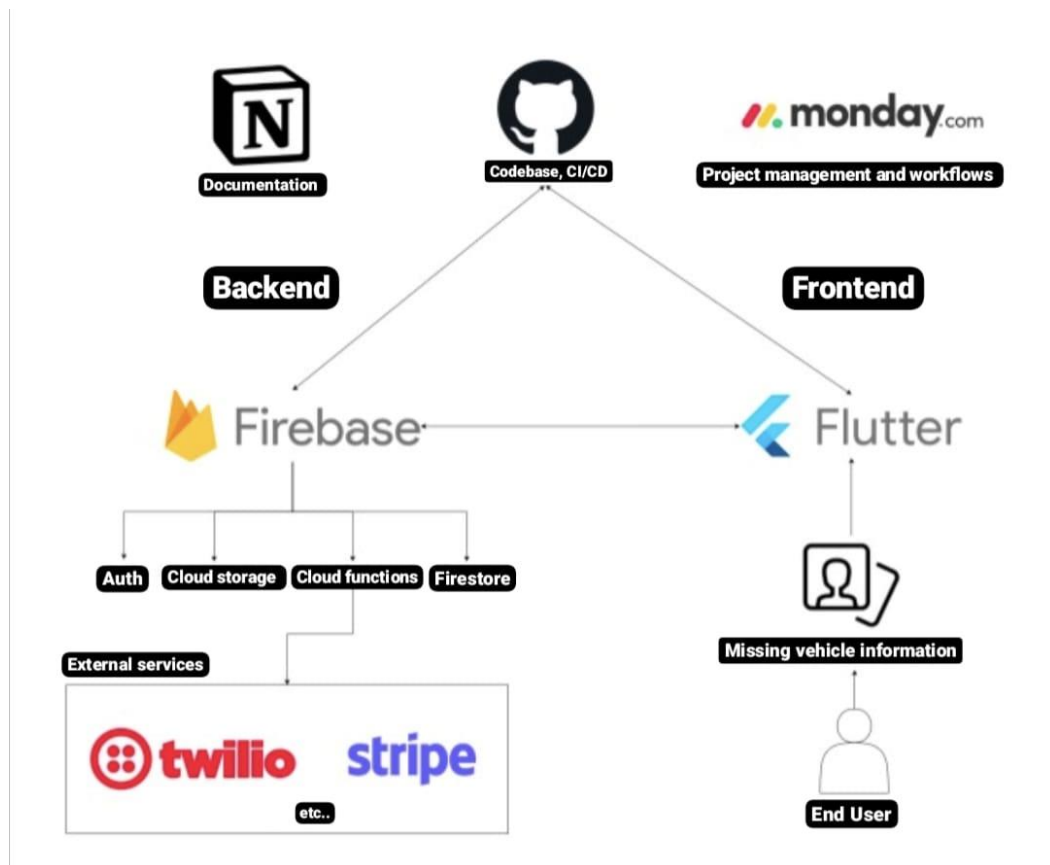
Table 1.1

2   Reasons

All five of us at some point came across people, close friends, or even strangers, experiencing the loss of their vehicle mainly through stealing, but we did not know how to help them. The most that people

usually do is take a picture and post about it on social media, attracting very little engagement, or the person undergoing the loss can only report it to the local police. There is no central platform for helping people who have lost their hard-earned form of travel and have no way to reach them. In 2021, around 248,976 motor vehicles worldwide were identified as stolen, thanks to the SMV database (Interpol, 2022). 810,400 vehicles were stolen in 2020, up 11.8% from 2019, when 724,872 vehicles were stolen (Bankrate, 2022). In most developing countries, these statistics are not even recorded and maintained. So many people suffer, and yet no digital solution for this problem.

Lookout is a platform that aims to tackle this issue by providing a forum that consolidates and streamlines the process of reporting and locating missing vehicles. Ideally, if anyone in the world comes across a vehicle that has been lost, the first thing they would do is post about them on Lookout. Alternatively, if they come across a vehicle that they recognize as missing on Lookout, they could help them find it through the app itself. This can not only help directly solve the issue of missing vehicles but also help tackle issues like kidnappings and stealing using the missing vehicles.

There are plenty of related problems, and Lookout hopes to be a solution. Lookout would hence help reach the goals of the UNARMS and Interpol as well. Through the development of Lookout, we can further advance toward a civilization where no one must lose their merited vehicle.

3 Business options

LOOKOUT is used to find missing vehicles. This app will be used to contact the owner of the vehicle so that the owner can retrieve the car. Flutter was used to build this app and external help was needed from Google Developer Student Club (GDSC). GDSC provided us with the technical team for this app. The app is not used in the real environment, but some issues can still be recognized. For example. if the user taking the photo has not taken a photo of the number plate, the app developer cannot do anything about this, but the user has to take the risk of chasing the car without the certainty of ownership. However, even if the picture taken is blurry or the words are not recognizable, this issue can be resolved with optical character recognition and the number plate will be recognizable hence the ownership of the car will be easily determined. The user will also have the option to take the help of law enforcement agencies to confront the offender since the offenders can be dangerous as well hence the user who belongs to the public will need help. A part of the code is shown below:

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    }
  },
  "node_modules/@firebase/app": {
    "version": "0.7.20",
    "resolved": "https://registry.npmjs.org/@firebase/app/-/app-0.7.20.tgz",
    "integrity": "sha512-tTVrEYCbEKBcMp/bj5rUa35iM32W5z9l3jbLAqDh0ZM2yO4JvF08a3hHacZ32XDh9Av/yCgla0QmVPp/Z2klNg==",
    "peer": true,
    "dependencies": {
      "@firebase/component": "0.5.12",
      "@firebase/logger": "0.3.2",
      "@firebase/util": "1.5.1",
      "tslib": "^2.1.0"
    }
  },
  "node_modules/@firebase/app-compat": {
    "version": "0.1.21",
    "resolved": "https://registry.npmjs.org/@firebase/app-compat/-/app-compat-0.1.21.tgz",
    "integrity": "sha512-zKRjOt6JXZ6gBdl3ELdjvEQ7cdrsrCjLEaLttBxioqW9VxXZfBOgP38uUb0baJk2XNEUA6YWM+H/bg1y+FGFYA==",
    "peer": true,
    "dependencies": {
      "@firebase/app": "0.7.20",
      "@firebase/component": "0.5.12",
      "@firebase/logger": "0.3.2",
      "@firebase/util": "1.5.1",
      "tslib": "^2.1.0"
    }
  },
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    "integrity": "sha512-6fbHQwDv2jp/v6bXhBw2eSRbNBpxHcd1NBF864UksSMVIqIyri9qpJB1Mn6sGZE+bnDsSQBC5j2TbMxYsJQkQg=="
  },
  "node_modules/@firebase/auth-interop-types": {
    "version": "0.1.6",
    "resolved": "https://registry.npmjs.org/@firebase/auth-interop-types/-/auth-interop-types-0.1.6.tgz",
    "integrity": "sha512-etIi92fW3CctsmR9e3sYM3Uqnoq861M0Id9mdOPF6PWIg38BXL5k4upCNBggGUpLIS0H1grMOvy/wn1xymwe2g==",
    "peerDependencies": {
      "@firebase/app-types": "0.x",
      "@firebase/util": "1.x"
    }
```

Fig 3.1

4   Expected benefits

We figured out that expected benefits could be tangible and evident ('hard' benefits) or intangible ('soft' benefits). Hard benefits might include measurably better teamwork, increased overall profit by 80%, a 100% decrease of stress in people's lives, better cost-effective software, enhanced on-the-job skills, improved representation of law enforcing agencies, and reduced effort time. Soft benefits might include an improved reputation by impacting the industry on a major problem and promoting corporate and legal modification.

Moreover, insurance companies, witnessing the upgraded chances of recovery in case of theft of the vehicle, would equip unique discounts permitting users to pay lower premiums by up to 35%. Additionally, improved route planning can be accomplished as the areas affected by the majority of risks of car theft can be notified to agencies which can decrease car theft by 80%. Consequently, GPS systems can then recommend alternative routes for those areas, enhancing driver productivity and improving customer satisfaction. We decided to use the sensitivity analysis to determine whether the project is heavily dependent on the recovery of the vehicles as a benefit, which indeed it is. This affects project planning, monitoring and control activities, and risk management, as steps would need to be taken to protect this benefit. We can further integrate the app with some supply chain and logistics applications

such as Amazon to derive shipment details and send data about vehicles in transit or issues such as shipment delays and vehicle breakdowns.

Desired Outcomes:	Ideally, if one loses a vehicle, they will post about it on LOOKOUT and if someone comes across any missing vehicle, they will either alert the relevant person through the app or try to get their vehicle to them directly. The person looking for their cars can offer rewards to get people motivated.

Table 4.1

Expected dis-benefits

We found that if the user base is limited, the business would suffer 90% losses as no awareness means no recovery of vehicles. The majority of people are occupied with their day-to-day activities and would not have the time to look and discover missing vehicles around them. If the law enforcement agencies would not allow access to their databases, we would at least suffer a loss of 1000 euros used for alpha and beta testing of the app.

Moreover, the offenders whole stole the vehicles could be dangerous and the user might be involved in danger if the user approaches them directly. Hence user satisfaction would decrease, enabling at least 60% losses. If we merge the app with the law enforcement agencies and a major argument arises with them, it can lead to the entire failure of the project.

5   Timescale

The project was managed on monday.com and tasks were divided equally among the group members. Coordination was done between the GDSC's technical team and our members for the entire time. The entire project timeline, however, would be for a year if it is approved and proceeded. The shorter timeline is shown below:

Table 6.1

Table 6.2

6   Costs

Initially we decided to have a budget of 5000 Euros. However, after calculating the logistics of the plan, we established it into 10,000 Euros. It is divided between different tasks including alpha and beta testing (1000 Euros), government and law enforcement fee (5000 Euros), reward for the first 50 users (2000 Euros) and advertisement (2000 Euros). The app can be monetized through several ways. Some of the monetization strategies that can be explored are as follows:

- **A "reward" system**: users who post about missing vehicles may also put rewards for locaters, and when the missing vehicle is found, the reward is given to them. Lookout keeps a small percentage of this reward as a commission.

- **Post boosting system:** urgent cases may be authorized to promote their post about a missing vehicle for a certain fee - this way, that respective post will be displayed on the front page, for example.

- **"Proxy" advertisements**: people may be allowed to pay Lookout to sponsor ad campaigns on other platforms for a certain missing vehicle. This way, Lookout would run advertisement campaigns for the vehicle on social media platforms like Twitter and Facebook, and also in other media such as local newspapers. Lookout would handle everything for the campaign from start and finish and would take a small commission for running the campaign.

- **Sponsorships**: Lookout would actively look for sponsorship opportunities from charitable organizations, philanthropists, possibly the local governments, and local enforcement agencies.

- **Donations**: the option to donate will be integrated into the app.

7 Investment appraisal

A cost and benefit analysis:

The app needs alpha and beta testing which will require 1000 euros. This is essential because without this the app developers cannot be sure of how to improvise the app or make it more user-friendly. To use the government and law enforcement databases, a fee will have to be given which costs about 5000 euros to gain access. A reward will be given to the first 50 users who will report the missing car in form of a GPS tracker or free carwash making the cost of 2000 euros. An advertisement team will need to be hired to promote the app on different platforms costing 2000 euros. An additional cost of risk management will cost 150 euros. All these costs sum up to 10000 euros. The entire amount is an investment as all these measures will help the app developers to improve the app to its best version and increase the user base. Hence the profit incurred will be greater than these costs and the app can be sold to another agency as well where it can be used for more betterment of society.

8 Major risks

We uncovered some significant risks and issues with the project. Firstly, we figured that it can be difficult to assess the text on the picture posted by a user, so we decided to manage the risk through the optical character reader (OCR). Similarly, data security and the stealing of vehicle information were also recognized as vital risks. We decided to apply encryption software such as Acronis Cyber or Atera for the former and deployment of the app on the right platform for the latter. We would secure the app database from hacking by using security questions and two-factor authentication so the user can be verified and the data from the app will not be transferable to any other platform. The details are as below compiled in excel tables.

ID	Title	Type	Status	Date Raised	Last Update	Closure Date	Raised by
1	Text recognication	Quality	Active	11/8/2022	11/9/2022	11/11/2022	Abdullah Rafique
2	Data security	Legal	Active	11/8/2022	11/9/2022	11/11/2022	Muskan Shah
3	Stealing vehicle information	Legal	Active	11/8/2022	11/9/2022	11/11/2022	Andrei

Table 9.1

Actionee	Cause	Event	Effect	Probability
Manahil Rana	Difficulty to recognise number of the car	Number plate not clear	Able to detect number plates	75% to 100%
Nischal	The login details and the data can be stolen from the database	Fear of being hacked	Data of the user can be secured	50% to 75%
Manahil Rana	Mallicious users can spy or sell the vehicle details	Sensitive data about vehicles	Data of the vehicles can be secured	50% to 75%

Table 9.2

Impact (monetary)	Proximity	EV	Importance	Response(s)
$15,000	This month	$0		Optical character reader (OCR) can be used
$20,000	Next 6 months	$150	Medium	Encryption software such as Acronis Cyber or Atera can be used
$15,000	Next 6 months	$0	Medium	Deployment of the app on the right platform

Table 9.3

Description
OCR can be used to recongize text instead of using the basic camera
Secure the app database from hacking by using security quesitons and two factor authenication
This way each user can be verified and the data from the app will not be transferable to any other platform

Table 9.4

ID	Issue	Type	Status	Priority	Severity	Date Raised	Last Update	Decision Date	Closure Date	Raised by
1	Budget was raised	Request for Change	Closed	High	Minor	11/4/2022	11/11/2022	11/11/2022	11/11/2022	Muskan Shah
2	Limited external help	Problem/Concern	Closed	Very High	Critical	10/15/2022	11/3/2022	11/3/2022	11/11/2022	Manahil Rana
3	No test run conducted	Off-Specification	Open	Medium	Minor	11/8/2022	11/8/2022			Nischal
4	Photo Quality	Off-Specification	Open	Medium	Minor	11/8/2022	11/8/2022	11/9/2022	11/11/2022	Abdullah Rafique
5	Number plate	Problem/Concern	Open	Medium	Major	11/10/2022	11/10/2022	11/11/2022	11/11/2022	Andrei Musca

Table 9.5

Report Link	Decision	Description
Hyperlink to the repot, if any	The budget was raised from 5000 to 1000	The cost of advertisments, rewards and risk management raised our costs
None	Multiple programmers to help with the app	External help was needed from GDSC to provide help with the softwares
None	Test run will be conducted in the future	Test run will give us the credibility of the app
None	Optical character recognition will be used	Photos can be blurry therefore the number plate might not be readable
None	The car owner will have to take the risk	If the number plate is not visible in the photo, there is no way that the owner can know for sure if its their car or not.

Table 9.6

References:

Nealon L. (2022). *Car theft statistics 2022*. Retrieved from:
https://www.bankrate.com/insurance/car/car-theft-statistics/

Interpol (2022). *Fighting vehicle crime.* Retrieved from: https://www.interpol.int/en/Crimes/Vehicle-crime/Fighting-vehicle-crime