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**GROUP A**

**SCHOOL: SCHOOL OF SCIENCE, ENGINEERING AND TECHNOLOGY**

**COURSE: DEGREE IN COMPUTER SCIENCE**

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**TOPIC: IMEI TRACKING**

**ABSTRACT**

A web application used to register new IMEI numbers and linking them to users to prove ownership and also transfer of ownership and tracking with relevant authorities. The current info structure in place to track down lost and flashed/formatted devices only applies to very high end devices rendering the other manufactures feel like their devices are not a form of investment to the clients but a depreciating good that should be taken as a risk to purchase rather than an investment in technology. The Finders keepers, rights millions of cell phones were lost and never returned in the past years. Most of the devices targeted are smartphones that run applications, a security measure like IMEI tacking system is a convenient measure to reduce or avoid complete loss of gadgets.

**1.0 INTRODUCTION**

Currently, we are limited to enjoying and owning our technological devices which are usually expensive to purchase without any security in place, that a lost device can be tracked and located with consideration to cost and time constraints.

* 1. Background Study

Since its invention in 1973 by Martin Cooper, phones have gained popularity and now they are our inseparable companions. There are now over 2.5 billion active Android users worldwide. cell phones are expensive and have a ready market, conditions stated make cell phones a targeted commodity. this brings up cost, privacy and security of data as an issue to be considered majorly on android devices.

The infostructure in place to track down lost and flashed/formatted devices only applies to very high end devices rendering the other manufactures feel like their devices are not a form of investment to the clients but a depreciating good that should be taken as a risk to purchase rather than an investment in technology.

The current infostructure is mostly cloud based and not close enough to the user. in Kenya procedure current applied to tracking down device include contacting relevant authorities and this requires a fee that is not set by the governments because the authorities do not have a set time to track down devices and they work with leads on the ground rather than working with service providers to triangulate real time information on the whereabouts of a select device and not just the SIM card numbers.

Finders keepers, right? millions of cell phones were lost and never returned in the past years. Most of the devices targeted are smartphones that run applications, a security measure like IMEI tacking system is a convenient measure to reduce or avoid complete loss of gadgets. this might include tracking phone location or blocking device usage. Therefore, the goal is to implement a prototype of IMEI tracking system based on analysis of existing knowledge on IMEI tracking.

*Reference:* [*https://www.ijert.org/research/mobile-tracking-for-theft-protection-IJERTV2IS90537.pdf*](https://www.ijert.org/research/mobile-tracking-for-theft-protection-IJERTV2IS90537.pdf)

1.2 Statement of the Problem

-What do we already know?

* The issue we have with mobile devices is they are expensive and don’t have any form of security in place in order to retrieve a lost device.

-What do we need to know?

* How to safeguard devices and follow up with records in case of insurance claims and transfer of ownership.
* How to bring the tracking capabilities to the user and not just service providers and the authorities.
* How to change ownership of devices with proof.
* How to make it possible to work with authorities and companies to be able to let them use our technology at a fee.

-Why do we need to know this?

* To know how to secure the technology around us.
* To increase popularity of technology use among all classes of citizens.
* To curb cases of theft of devices by ensuring justice prevails.
* To increase security and promote a sense of peace and calmness.
* To promote work culture to those prone to crime because there is no crime to commit and walk away scot-free.

*Reference:* [*https://www.scribbr.com/research-process/problem-statement/*](https://www.scribbr.com/research-process/problem-statement/)

* 1. Objective of the study
     1. General objectives
* To develop a prototype to increase security and comfort of users with all sorts of devices, mobile or any registered home device.
* To increase the trust of clients to manufacturers and enabling clients to not fear buying expensive devices and also make it possible to have technological devices that appreciate in value over time due to increased security and having a sense of anthropomorphic character as the devices pass hands form different owners each with their own value.
  + 1. Specific objectives
* To generate revenue by making the service a subscription service to allow clients to access the platform at any time (online/offline)
* To get the location and current handler/user registered to their devices without involving the service provider or relevant authorities.
* The prototype is to be able to find a more convenient way to track lost gadgets or devices.
* To also be able to create a space that the user is able to feel safe with their gadgets when using it.

*Reference:* [*https://www.helpforassessment.com/blog/how-to-write-research-objectives-in-research-proposal/*](https://www.helpforassessment.com/blog/how-to-write-research-objectives-in-research-proposal/)

* 1. Research Questions

1.3.1 What the issue to be addressed?

The issue to be settled is managing the issue of fixing security of gadgets.

1.3.2 Who thinks often about this issue and why?

The objective of this task is gadget proprietors and fabricates. The proprietors will be more secure with their gadgets and consistently recuperate them while the produces will acquire faithful clients and furthermore make some simpler memories recuperating old or reviewed gadgets.

1.3.3 What have others done?

Up to this point, the equipment and programming is accessible for specialist organizations to follow their clients yet it hasn't been executed to serve in assisting the gadget proprietors in feeling with getting with their gadgets.

1.3.4 What is our answer from the issue's perspective?

Our answer is carrying the accessible advancements to cooperate and cause the gadget proprietors to have better security for their gadgets and empower the produces to make progressively more significant gadgets unafraid of misfortune and doubt on the client side.

1.3.5 How might we exhibit that our answer is a decent one?

This arrangement centers around settling a significant issue of cell phone burglary that has forever been around since cell phones became well known. This arrangement can be utilized to settle many cases including kidnappings and other delicate cases once the worldwide IoT embraces the innovation and work together. This arrangement will assist producers with eliminating worldwide debasement and contamination by offering administrations like exchange in for gadgets and reuse them as opposed to allowing clients to dump them in land fields. This arrangement will empower future advances which will be costly like quantum frameworks, to be utilized in cell phones and the gadgets can be found effectively and recuperated. This arrangement will commonly dial back and in the end control wrongdoing because of careful nature will resemble an eye overhead watching and catching culprits.

*Reference:* [*http://byu.danrolsenjr.org/ResearchGuidance/ResearchQuestions.html*](http://byu.danrolsenjr.org/ResearchGuidance/ResearchQuestions.html)

1.4Significance of the study

This project enables security of users’ devices or comforts users when purchasing a device that it comes with security inbuilt, thus the users can be able to appreciate the value of the device that is the price and even have insurance on select devices.

1.5Scope of the study

With the increase of cell phone users in everyday activities, there has been a need to secure both data and device. The present study takes into account the use if IMEI system to realize phones security. The study will also cover on how prior owners of devices would impact on its cost. The study is restricted to IMEI systems and within Kenyan boundaries.

* 1. Limitations
* It will be time consuming to create and set up this technology.
* Convincing many device owners to use our service will be a hard task.
* Service providers might limit our use of their IMEI database to avoid risks in the company.
* Appreciating devices will be hard to find in some regions due to the lack of an artistic culture.
* Competition from already established firms such as apple inc.

2.0. **LITERATURE REVIEW**

* 1. INTRODUCTION

Currently, we are limited to enjoying and owning our technological devices which are usually expensive to purchase without any security in place, that a lost device can be tracked and located with consideration to cost and time constraints.

* 1. General overview of Literature Related to the Main Concepts

2.2.1 Guest ID (CNAM)

Guest ID offers all of the data most buyers need to conclude whether they will answer your call. They don't typically answer calls from unregistered numbers. Much less individuals will answer when your number has been hailed by a transporter or call-obstructing application.

Ensure you purchase clean, unflagged numbers. Then, at that point, use CNAM enlistment to assist with forestalling incorrect names and banners. This fairly straightforward step ought to make it simpler to keep up with your number's standing, which will assist you with associating with leads and clients.

Preferably, you ought to utilize improved guest ID that incorporates your business' name and logo as well as the name of the division and individual making the phone call.

2.2.2 Telephone Number Banners

Telephone number banners assist buyers with abstaining from irritating and possibly unsafe calls. The FCC gets a bigger number of protests about robot calls than anything more, so obviously individuals disdain getting hindered by spontaneous, undesirable calls.

Banners can get appended to your telephone number in two ways:

* + A transporter sees that your number places countless calls each hour or day.
  + Enough individuals report your number to call-obstructing applications that the applications add a banner to caution others.

When your number gets hailed, it will destroy your effort plan. Best case scenario, you will rapidly discover that the number has been discolored and you can pull it from your revolution.

2.2.3 Plan Marks

Plan marks can assist you with arriving at buyers when utilized appropriately. Your telephone number trustworthiness endures, however, when cell phone applications and transporters add wrong marks to it.

You need supportive purpose marks, for example,

* + Good cause
  + Review
  + Enlightening
  + Account Administrations
  + Noble cause
  + Charity

Individuals frequently answer calls coming from numbers with these marks.

Names that keep individuals from noting include:

* + Trick Likely
  + High Gamble
  + Likely Spam
  + Possible Extortion
  + Misrepresentation Hazard

You can question incorrect goal and cautioning marks. However, the interaction takes time. It's vastly improved to stay away from marks that make it harder for you to interface with customers.

Guest ID Notoriety gives screen captures from genuine cell phones, so you can see the particular marks transporters add to your numbers.

* 1. Review literature based on Objective One

2.3.1 Form your own Validity

A colossal part in building trust is building your own believability according to the possibility. This implies that to a greater degree an educated authority that you are, the more the possibility will trust your suggestions. Basically, by showing the possibility that you are the expert in your industry, they will be additional open to purchasing from you.

A genuine model can be viewed as in the "Science in Influence" video by clinician Robert C. Robert gives the case of how a land organization applied this guideline to its business by training its receptionists to specify to guests the length of involvement of its realtors prior to putting them through. This brought about a critical expansion in agreements that were composed. Nothing different here with the exception of the possibility felt as though they were conversing with a believable source, which increments trust.

Try not to be excessively boasting about your achievements. Had a partner who might let possibilities know that he was irrefutably the pro at assisting expected clients with their first-time buy since he was the most educated about the program. It was a straightforward explanation that constructed a monstrous degree of trust.

2.3.2Use Tributes and outsider Stories

Individuals look towards their friends for help and counsel on regardless of whether they ought to follow through with something. Cry and Trip Advisor have become monstrously well known in light of the fact that individuals need to hear from others who have been in comparable circumstances.

While you presumably can't acquire a portion of your clients to give positive tributes not too far off on the spot, you can constantly recount their accounts. Relating a comparative story to a possibility's circumstance can frequently be the game changer in the event that a possibility confides in you and your organization or not.

2.3.3Never Untruth

Your standing will constantly go before you. Your dependability can be obliterated before you even stroll through the entryway on the off chance that you lie to a possibility and the word fans out like quickly. The most effective way to keep away from this is to just not lie. Lying won't ever help what is going on. It will hurt your standing, hurt your image and your organization, and will basically be a central point in whether a possibility will try and pay attention to you.

Trust is key while dealing with the telephone and is in many cases the component that isolates out the people who are fruitful from the individuals who fall flat. Evaluate the above strategies for building entrust with possibilities.

* 1. Review literature based on Objective Two

2.3.1 Client Benefits

To achieve this trust from the clients to manufacturers, our technology needs to be highly compatible with their systems and of the manufacturers and be very user friendly to achieve mass appeal. To do this, we will make the front -end system appeal to the older n wealthier generation with its design used. We will ensure our host service provider is trust worthy and has a great appeal to all the generations, we will ensure the technology has a very high reward program to ensure any investment made from the client has a high output both in security of the device and insurance claims governed by the insurance regulatory authority.

* 1. Design Framework

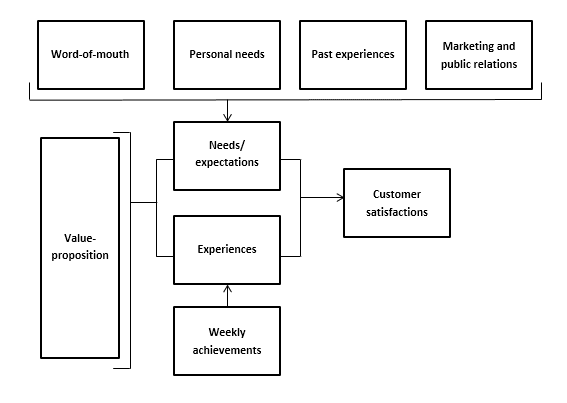
The problem we have is lack of direct control of device security on the physical end mostly theft.

Customers are struggling with the fact that many of their devices do not have enough security invested in them and small theft issues such as pickpocketing will incur them great financial losses hence customers don’t prefer to invest in expensive high-end devices. This is a big issue for the otherwise fast-growing technological sector. Management wants to increase customer loyalty. They believe that improved customer satisfaction will play a major role in achieving their goal of increased return customers and utilization of the latest and best technology globally.

According to Thomassen, both the so-called “value proposition” and other influences have an impact on final customer satisfaction. In his satisfaction model (Fig. 1), Thomassen shows that word-of-mouth, personal needs, past experiences, and marketing and public relations determine customers’ needs and expectations.

These factors are compared to their experiences, with the interplay between expectations and experiences determining a customer’s satisfaction level. Thomassen’s model is important for this study as it allows us to determine both the extent to which the device buying customers are satisfied, as well as where improvements can be made.

**Figure 1**Customer satisfaction creation



*Reference* [*https://www.scribbr.com/dissertation/theoretical-framework-example/*](https://www.scribbr.com/dissertation/theoretical-framework-example/)

With the above design, we can see that our online platform will have to satisfy the following criteria and make it visible to the customers to make it a successful system.