# Design Brief

**JREL GROUP (P2)**

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**Problem Statement:**

Shabodi requires a NetAware application that allows for notification and provides location in the event where there's a UE in a restricted area. The system should also be adaptable and ready for use in multiple scenarios.

From meeting with the client, we have complied two sets of needs:

**Technical:**

1. The client needs a fully functioning NetAware application that uses their sandbox
2. The system needs to provide location to admin of the UE
3. The system needs to control a device and network for an outcome/experience
4. The product needs to work on a private network and be Cloud-ready
5. The client needs there to be a visible and audible alert
6. The system needs to provide real time alerts by GPS

The greater purpose of the project is to show how can Network go beyond connectivity. This need does just that while also promoting the company's reputation. Finding the location of the UE is the most important aspect for the enterprise, as well as leveraging their devices and private network. The enterprise needs a form of alert notification and GPS notification of the UE, but the type of alert would vary depending on the environment.

**Marketable:**

1. Shabodi needs a real world applicable and demonstratable system they put in sandbox and show to potential clients
2. The product needs to be a microservice, meaning that it is multiuse, where functionality can change by swapping in and out features
3. The product needs to be expandable and developable for different and future uses

To demonstrate Shabodi's sandbox, having an application to market to prospective clients is of the utmost importance. Designing a product that can be highly adaptable will allow for a more

demonstratable product.  Keeping the product expandable means, we can truly make a multiservice product.

**User benchmarking:**

From looking at similar products we will implement the ability to stop the alert in case of accidental entrance. Another aspect in our product we will consider is making sure the range of GPS alerts are adequate for the Enteprises need.  "I purchased the Ultimate GPS V3 module recently and I am doing some preliminary testing on it now. I am finding the accuracy to be much greater than the 3m indicated in the datasheet"[1] for indoor applications 3 meters accuracy might be enough in an office setting but might not be for an industrial setting.

"Several previous studies have shown that the performance of the ESP-32 Cam is poor. Judging by the low frames per second (FPS) like 0.2-0.5 fps"[2] for facial recognition tracking we will have an application with adequate bandwidth to process the imagery to be sent to administration.

"We slowed drivers down and improved safety. We easily save enough in insurance costs alone to pay for the entire system."[3] Review for a truck tracking application from administration. It shows us that tracking is effective in some ways. That GPS can spend more that location, it can also send speed to administration.

**Questions:**

While developing this product we are seeking clarification on a few topics.

- With the businesses you work with, what are the most common security/tracking systems?
- Who would you like to alert when someone exits the borders?
- How would you like to set up restricted zones?
- Can you elaborate on what is a "unique outcome or experience by controlling network resources"?
- Do you have a VM partnership? If so, how can we use it to gather and integrate data?

**References:**

[1] file:///C:/Users/User/Downloads/512-Article%20Text-1249-2-10-20220616.pdf

[2] https://forums.adafruit.com/viewtopic.php?t=171189

[3] GPS Tracking Solutions • Titan GPS