Group Worksheet: Neighborhood Watch Application

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**Instructions:**  
Each group member should answer the following questions in writing. The goal is to ensure that everyone has a shared understanding of the problem requirements.

# 1. Users and Roles

**1.1 Who are the three types of users of the system?**

1. Neighbourhood watch member
2. Security officer
3. Administrator

1.2 What **platform(s)** does each user primarily use (web, mobile, both)?

* Administrator: both
* Security Officer: mobile
* Neighborhood Watch Member: both

1.3 What are the **unique privileges** of each user?

* Administrator:
* configure/maintain system
* approve and manage user accounts (can approve self-registered accounts)
* add/remove/block users #suspend SO, admins & NWM
* monitor n manage houses #the status
* oversee reports(this could be complaints, comments or say the general patrol stats )
* Security Officer:
* Scan qr codes
* Log patrols & comment
* View patrol histroy
* Neighborhood Watch Member:
* Pay & manage subscription
* View patrol stats
* View and receive alerts(1st if a security officer fails to patrol adequately and 2nd emergency alerts)
* Raise emergency alerts-interact with community

# 2. Authentication & Registration

**2.1 How do administrators create and recover their accounts?**

* ***~~Administrators accounts are creates by other admins.~~***
* ***~~Recover passwords by resetting them through 2 factor authentication also to login. This could be email~~***

**2.2 How do security officers register and get approved?**

**let’s say the accounts are created upon employment. I would say the security company sends a request to add names of the SO’s (#create acc)n the admin just approves it**

**2.3 How do neighborhood members register and get approved?**

**Self register through the mobile app and are required to pay the subscription fee of P150 and then admin Approves inorder to get full access to all the app Features.**

**2.4 What type of two-factor authentication is required for administrators?**

**OTP via email n 4 digit pin or call to verify.**

# 3. Features by Role

**3.1 What actions can administrators perform?**

***~~✓ configure/maintain system~~***

***~~✓ approve and manage user accounts (can approve self-registered accounts)~~***

***~~✓ add/remove/block users #suspend SO, admins & NWM~~***

***~~✓ monitor n manage houses #the status~~***

***~~✓ oversee reports(this could be complaints, comments or say the general patrol stats )~~***

* ***~~Revoke suspension(manually) n reinstate (after 3 months)SO~~***

**3.2 What actions can security officers perform in the mobile app?**

* **Scan qr codes at gates**
* **Log patrols-name,time,date,location**
* **Comment during scan**
* **View patrol histroy**
* **Work offline n sync later**
* **Don’t have access to the app outside of the neighbourhood unless its the supervisor of the Security company**
* **Can’t login using Web app. Use mobile app through (those scanning phones/devices idk what they are called )**
* **Cantmodify/delete recorded entries**

**3.3 What features are available to neighborhood watch members?**

* **Pay sub**
* **View patrol stats**
* **Receive automated alerts**
* **Raise emergency alerts n interact with community**
* **Can access their acc thru Web app**
* **Receive payment reminder n can cancel sub anytime**
* **Login is 2FA**

**3.4 What happens if a member does not pay for their subscription for two months?**

**For those 2 weeks access is limited maybe say they can view patrol stats Non can they interact with community. Can see the time of patrol e.t.c**

**But generally in that 2months account is suspended**

# 4. Patrol & Monitoring Rules

**4.1 How do security officers log patrols?**

**Through scanning the qr code**

**4.2 What details are captured during a patrol scan?**

**Officer name n ID, timestamp, location plot no. The SO logged in that’s who’d details are captured.**

**4.3 What happens if an officer scans fewer than X% of assigned QR codes?**

**Sends Report to admin.**

**Sends email notification to NWM**

**4.4 What automatic notifications are triggered for anomalies?**

**Notifies admin n NWM on irregular patrols**

# 5. Alerts & Community Features

**5.1 How can members raise emergency alerts?**

**Emergency button**

**5.2 What happens when an emergency alert is raised?**

**Notification immediatelysent to Sos, NWMs n admin**

**5.3 What community interaction features are available in the app?**

**Discussions/ community chat box(share updates, precaution measures etc)**

# 6. Reporting

**6.1 What types of reports does the system generate?**

* **Anomaly report**
* **Payment reports**
* **Patrol performance report/ stats/history**
* **Weekly reports**

**6.2 Who can access these reports?**

**Admin has access to all**

**SO = views patrol histroy**

**NWM= summary stats of patrol stats, payment stats N anomalies**

# 7. Security, Scalability & Performance

**7.1 Why must the system be secure?**

**Handles sensitive data (paymens n personal info)**

**7.2 How should the system handle payments securely?**

**Secure payment gateway will research different kinds**

**7.3 What is the plan for scalability as more users join?**

**Top of my head I’m thinking cloud hosting**

**7.4 What should the disaster recovery plan cover?**

**Obviously data backups etc**

**7.5 What performance requirements are important (e.g., handling high loads, avoiding crashes)?**

**I’ll do more research but just off of my head the secure payment gateway, fast response time say system to response in 0.05sec. System to be able to handle those alerts, patrol logs all at the same time effortlessly . The system must be scalable and maintain high performance at all times .**

# 8. Mobile App Offline Functionality

**8.1 What should the mobile app be able to do offline?**

* **Log patrol scans,**
* **Let’s say the emergency alerts but with no details of what’s it’s about .**

**I’LL THINK ABOUT MORE**

**8.2 How does it synchronize data when internet becomes available?**

**Automatically sync when connection is restored really don’t know the how part but I’ll research more on it**

# 9. Suspension & Deletion Rules

**9.1 Under what conditions is a member suspended?**

**Failed payment for 2 consecutive months**

**9.2 Under what conditions is a security officer suspended?**

**If there is frequent anomalies# scans >=50% of their assigned households in a month.**

**9.3 How can a suspended officer be reinstated?**

**Only after serving 3 months of suspension then the admin can reinstate the SO manually**

**9.4 What happens when an officer is permanently deleted?**

**Permanently barred from accessing the mobile app .**

# 10. Open Questions (for group discussion)

* What technologies could be used for the mobile app (Flutter, React Native, etc.)?
* What backend stack could support security, scalability, and offline sync?
* How should SMS/email notifications be handled technically?
* What Botswana-specific payment gateways should be integrated?

PSA I NEED MORE TIME TO DO A ROOT AND BRANCH RESEARCH for these last questions .

Thank you