

# 5-Months Performance Report

Name: Sadakutul Alam Md Shakil  
Position: Mobile Application Developer  
Project: GFFO-SC  
Supervisor: Raihanul Haque Khan  
Joining Date: February 12, 2025  
Reporting Period: February 12, 2025 – June 30, 2025

## 1. Summary:

This report summarizes my contributions, achievements, and learnings during my first six months as a Mobile Application Developer under the GFFO-SC project. My work primarily involved developing and enhancing mobile applications, including the Landslide Alert App, the BMD Weather App, and the FFWC-related projects.

## 2. Key Responsibilities & Deliverables:

### A. Landslide Alert App

- Role-based Functionality:
  - Implemented role base survey question and submission process.
- Offline-First Functionality:
  - Implemented offline survey creation, data storage, and auto-sync when online.
  - Resolved location-based issues (Android 14 compatibility).
- API Integration & State Management:
  - Integrated Django REST APIs (CRUD, user auth, profile management).
  - Used GetX for efficient state management.
- UI/UX Improvements:
  - Used Modern UI pattern by stepper in survey question.
  - Redesigned dashboard with dynamic charts (Highcharts).
  - Added dual-language support (Bangla & English).
- Notifications:
  - Integrated Firebase Cloud Messaging (FCM) for real-time alerts.

## B. BMD Weather App

- Dynamic UI Components:
  - Developed animated gauges (pressure, wind compass) and mountain charts.
  - Implemented dark/light mode toggle and drag-and-drop widgets.
- Data Visualization:
  - Enhanced weather forecasts (72-hour mountain graphical view, sunrise/sunset animations).
  - Fixed alignment issues in temperature graphs.

## C. FFWC Mobile App (Planning & Research)

- Analyzed existing FFWC website features for future app integration.
- Designed homepage layout and user flow for the upcoming app.

## 3. Breakdown (Key Work Logs)

- Stepper UI, GetX integration, Landslide API integration.
- Django API integration, FFWC research, BMD animated UI.
- Dual-language support, survey API refactoring, BMD UI updates.
- FCM notifications, dark/light mode, offline survey logic.

## 4. Technical Skills & Tools Used

- Languages & Frameworks: Flutter, Dart, Django (REST APIs), Postgres.
- State Management: GetX, Provider.
- APIs & Services: Firebase (FCM), Google Maps API.
- UI/UX Tools: Highcharts, Figma (for prototyping).
- Version Control: Git, GitHub.

## 5. Challenges & Solutions

- **Android 14 location issues:** Resolved by updating location permissions and optimizing background services.
- **Offline data sync delays:** Implemented SQLite local storage with auto-retry logic for API sync.
- **Complex UI animations:** Used Flutter's animation controllers and custom painters for smooth gauges.

## 6. Learning & Growth

- Improved expertise in Flutter state management (GetX).
- Gained hands-on experience in Firebase notifications (FCM).
- Enhanced problem-solving skills in offline-first app development.

## 8. Future Goals

- Explore: Explore Machine Learning integration for optimizing the App.
- Optimize: Reduce APK size by optimizing assets and lazy loading.

## 9. Conclusion

Over the past six months, I have successfully contributed to multiple projects, resolving technical challenges and improving user experience. I look forward to continuing my growth and taking on more complex tasks in the upcoming months.

Submitted by:

Sadakutul Alam Md Shakil

Mobile Application Developer, GFFO-SC

Date: 25 June, 2025