PRACTICA
FOUNDATION

Mobile Applications for Fecal Sludge Management (FSM)

Connected tools for monitoring and optimizing FSM services

Smartphone use is developing rapidly in the towns and cities of Africa and Asia. The widespread use of these devices and mobile internet in urban areas allows for creating new, accessible, and highly efficient tools for monitoring, optimizing, and controlling fecal sludge management services.

Challenge

In the towns of the global South, FSM services daily serve a multitude of clients by extracting and treating tens of cubic meters of fecal sludge and transporting this over hundreds of kilometers. It is essential for fecal sludge removal workers **to efficiently master each phase of this process**. The same applies to the authorities in charge of structuring and regulating the FSM sector.

Where they exist, the tools based on handwritten records of field data are seldom up to date and hard to use. As a result, the results and profitability of FSM services are generally hardly known or understood. This situation in turn accounts in large part for the stagnating quality of services and the lack of information on FSM service levels in most towns and cities.

Mobile solutions

Mobile solutions integrate various technologies (SMS, websites, apps) that allow for **automating the entry, analysis and publishing of field data** including revenues, phone numbers, GPS coordinates, client feedback, etc.

Specific mobile tools can be created for steering the FSM sector and analyze the geographic distribution of users, transport distances traveled, quality of the extracted sludge, etc. It is also possible to secure payments via mobile accounts and store datasets on a server where they can be consulted and analyzed anytime via the Internet.

When developed on the Android or iOS system, mobile applications can be instantly deployed on a fleet of smartphones and tablets that are internet-enabled (Edge, 2G, 3G, or 4G) and equipped with a GPS chip. The required devices can be purchased on the local market for less than 100 Euros and connected using prepaid credit.

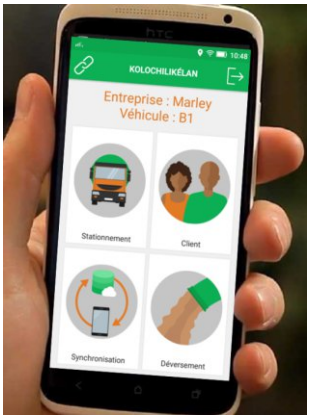

Fig.1 *Application for vacuum trucks*

FSM dedicated applications

Practica develops **applications for fecal sludge removal workers, sludge recycling unit operators, authorities** and their partners that enable them control the business of FSM systems over time. The developed tools are tailor-made to the specific local needs (e.g. configuration of the FSM sector, users' expectations in terms of operation and ergonomics) to create practical and intuitive solutions.

The developed applications allow, inter alias, for:

- **GPS tracking** of vacuum vehicles
- Automatic generation of **dashboards** that inform the technical and commercial management of fecal sludge removal and recycling services
- Automatic generation of reports compiling **technical and financial result indicators** of the overall FSM system.

As a complement to the development of the applications, Practica offers practical training modules and distance coaching of users.

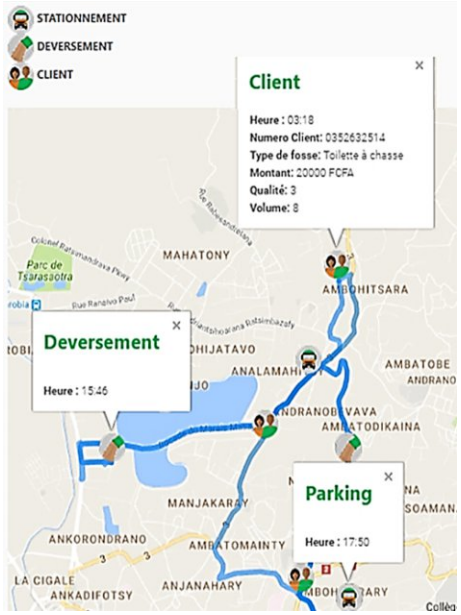

Fig.2 *Vacuum truck tracking tool*

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