

GENERAL REQUIREMENT SPECIFICATION

Required: A **Management System** with a productivity management app for in the field staff. With an Android based online / offline work productivity app syncing with a real-time cloud based back-end server which works with Bluetooth bio-metric fingerprint readers, manual clocking, bar-coding asset management, vehicle and fuel management, job cards, security patrolling, NFC tags, chemical management, individual and team management in the field.

Summary Reasons / Goals / Critical Success Factors (CSF's)

1. Increase reporting accuracy
2. Increase productivity
3. Decrease ghost staff
4. Decrease conflict due to discrepancies
5. Increase accurate payments for work accomplished

Summary Benefits

1. Save time.
2. Simple and Easy to use.
3. Simple management reports.
4. Eliminate ghost workers or falsely recorded time sheets.
5. Protect from false accusation from employees.
6. More accurate record keeping.
7. Serve as an inventory for PPE and Equipment.
8. Precise management of herbicide.
9. Must assist with work progress assessments.
10. Drastically reduces report preparation time at the end of each month.
11. Increase Productivity
12. Increase Outputs / Deliverable's
13. Decrease Time Loss
14. Real Time Reporting (If you Cannot View IT, then you cannot Measure IT, then you cannot control it, then you cannot improve it and you cannot forecast it)

Summary Features

1. Manual or Fingerprint Clock in / out (Team or Individual)
2. Job Cards
3. Vehicle in / out, fill-up and fill-up approval, vehicle inspection
4. Safety / equipment check
5. Chemical Management and mixing
6. Begin End work Photo or work issue and comment logging photos
7. Walk perimeter and work area geo fencing
8. Training and toolbox talk / other specific clock in / out function such as injured
9. Sightings out of the ordinary issues or happenings that are logged
10. Clock Tasks – customized choose-able specific tasks
11. Time Sheets
12. Log Books
13. PPE / Equipment / First Aid Inspection
14. Barcodes and NFC Tags for scanning of equipment / stock / assets and related job cards.
15. Barcodes and NFC Tags for patrolling using the app

Reports Required:

1. Event Report
2. In / Out Report
3. Payroll Report
4. Daily Time Sheet Report
5. Individual Timesheet Report
6. Weekly Time Sheet Report
7. Monthly Time Sheet Report
8. Shift Report
9. Zone Variance Report
10. Shift Variance Report
11. Map Report
12. Out of Clock Report
13. History Report
14. Absent Report
15. Device Report
16. Clock Task Report
17. Job Card Report
18. Vehicle Report
19. Safety Equipment Check Report
20. Chemical Report
21. Walk Perimeter Report
22. Start Finish Photo Report
23. Manual Clock Report
24. Team Clock In / Out Report
25. Sighting Report
26. Asset Barcode / NFC Report
27. Stock Barcode / NFC Report
28. Equipment Barcode / NFC Report
29. Barcode Report
30. Verify / RICA Report

Summary Rules:

1. Must be Android Phone based and be able to work offline and sync later.
2. Must have a real-time cloud base server with all reports and data available in real-time with all data being exportable.
3. All updates of clocks, job cards, fill ups and other app tasks must be time stamped with GPS coordinates and sent to the server with the login in credentials and IMEA number.
4. Must be able to add and edit staff in the field including fingerprints
5. Must be able to verify staff in the field using the Android app
6. Cloud Server Reports must be real-time
7. Import Users via spreadsheet into the cloud management system
8. Update / edit users via the android app, cloud management system or spreadsheet import
9. Must provide all above goals, critical success factors, reports and features.
10. Must manage outputs and time.

System must provide the correct people with real-time, verifiable daily evidence of in-field productivity using an android based smartphone. Each part of the system is geo-referenced, date and time stamped and when there is data available in the field syncs live to the client server, in instances where no data signal is available, then it syncs as soon as one becomes available.

The **management system** must combine manual and bio-metric time clocking systems that also utilise photographic proof which is geolocated, date and time stamped; monitoring staff attendance and preparing scheduled time-sheets and other reports.

Provides production-driven people with a **management tool** to develop, professionalise with scheduled health, safety and plant/equipment/vehicle inspections for daily reports.

A verifiable vehicle **logbook** is kept through photographs and manual input of the odometer reading at the beginning and end of the day's work ensuring payments for legitimate travel claims.

The system **verifies** that all workers have full PPE, first aid and equipment as required by the contract and the BCEA.

Protects beneficiaries and employees from cost cutting efforts through ensuring H&S standards are maintained through the proper use of PPE and equipment and ensures they receive their fair wages.

Exportable data for customized reports for use in a business intelligence system and the cloud-based **management system**

Project Asset Tracking provides contractors/team leaders reports on status of the assets in the **management system**

Daily tasks and outputs are verified by the contractor/team leader through fixed point photography and tracking daily work boundaries.

Reports sightings of rare species or other issues, important for biodiversity reports; these are collected on site and captured daily.

Provides contractors with task and specification reminders (such as mixing chemicals correctly) with daily inventory controls.

The **Management System** needs to be adaptable and so to be expanded to include client-specific requirements.

The **management system** must also able to provide outputs based on activities not necessarily captured in the using customizable tasks and Activities.

1. Feature: **Team Clock In/Out**

- a. Description
 - i. Manual or fingerprint clocking with Geo-referenced tags.
- b. Benefit
 - i. Ensure staff are clocking on duty and working on correct sites.
- c. Time Saving
 - i. Daily rollcall by project management is no longer needed as confirmation that staff are on site is automatic at the beginning and end of each day.
- d. Time Saving Per Site
 - i. ± 5 hours per week for field managers

2. Feature: **My Job Cards**

- a. Description
 - i. Site Contracts issued to Contractor
- b. Benefit
 - i. Gives full description and timeframes for the contract.
- c. Time Saving
 - i. Live information on amount of time spent on site vs time allocated, giving him/her the ability to pre-empt overrun and take mitigating action before the overrun occurs.
- d. Time Saving Per Site
 - i. incalculable as this will help prevent project overrun and overall additional out of budget costs to the project at organisational level.

3. Feature: **Vehicle In/Out**

- a. Description

- i. accurate logbook
 - b. Benefit
 - i. Besides giving actual mileages travelled it also allows for weekly vehicle inspections for the roadworthiness of the vehicles with photos.
 - c. Time Saving
 - i. The daily clocking of the vehicle with photos and weekly inspection will allow the field managers to be able to evaluate the roadworthiness of the vehicle from the office.
 - d. Time Saving Per Site
 - i. ± 1 hours per week for field managers
- 4. Feature: **Safety Check/Equipment**
 - a. Description
 - i. PPE/Equipment/First Aid Kit inspection
 - b. Benefit
 - i. Daily confirmation and check on all equipment on site, allows for reporting damaged equipment/PPE and used first aid equipment needing replacement.
 - c. Time Saving
 - i. Does not require site managers to perform infield equipment and or PPE audits, this can be done via the geo-referenced daily photographs.
 - d. Time Saving Per Site
 - i. ± 5 hours per week for field managers
- 5. Feature: **Chemicals**
 - a. Description
 - i. Chemical use logbook
 - b. Benefit
 - i. Logs electronically what chemicals were mixed on the site per day, along with who was responsible for the mixing process.
 - c. Time Saving
 - i. There is no longer a need for the project manager to go through a daily chemical log sheet to determine quantities of each chemical mixed, the quantities are captured live daily, with geo-referenced photos.
 - d. Time Saving Per Site
 - i. ± 2 hours per week for field managers
- 6. Feature: **Start End Photo**
 - a. Description
 - i. fixed point before and after photo for days work.
 - b. Benefit
 - i. allows desktop evaluation of work quantity and quality of work been done on a daily basis.
 - c. Time Saving
 - i. Less time is needed in the field per project site allowing equal M&E per site, and where teams are constantly under-performing it allows the project manager to evaluate reasons and keep a close eye on activities.
 - d. Time Saving Per Site
 - i. ± 5 hours per week for field managers
- 7. Feature: **Walk Perimeter**
 - a. Description
 - i. Perimeter track of work conducted for the day.
 - b. Benefit
 - i. confirms area worked per day giving accurate quantities of work conducted that can be quickly imported into mapping software for reports.
 - c. Time Saving
 - i. Gives a snap view of what work outputs were achieved on a daily basis, these can be viewed within the reports and anomalies followed up on.
 - d. Time Saving Per Site
 - i. This could save a full day per site.
- 8. Feature: **Training**
 - a. Description
 - i. Timesheet of staff on training/toolbox talks.
 - b. Benefit
 - i. this will be able to be checked against the attendance registers for training.
 - c. Time Saving
 - i. Training person days are captured on a daily basis when other staff are being clocked in, this data is captured per individual building a profile of how much training each person gets.
 - d. Time Saving Per Site
 - i.
- 9. Feature: **Sightings**
 - a. Description

- i. occurrence sightings worth being reported.
- b. Benefit
 - i. contractor can take note of anything that occurs on site from rare sightings to illegal activities, this is done with a geo-referenced photo. Build a profile of activity and biodiversity on site.
- c. Time Saving
 - i. no longer need the field manager to go out to site specifically to take photos (if this is possible when relating to biodiversity) and get co-ordinates.
- d. Time Saving Per Site
 - i. ± 1 hours per week for field managers

10. Feature: **Clock task**

- a. Description
 - i. additional tasks to be conducted on sites.
- b. Benefit
 - i. allows for additional activities to be put in place, e.g. clear rubbish on site, identify water leaks, enviro education to schools etc.
- c. Time Saving
 - i. allows contractor to mitigate clearing time delays due to the need for clearing rubbish etc. also like sightings allows for geo-referenced data on where activities occurred.
- d. Time Saving Per Site
 - i.

11. Feature: **Time Sheet**

- a. Description
 - i. Time Sheets are captured live in the field
- b. Benefit
 - i. With the time sheet been captured live in the field there are no mistakes in the digitising from paper documents into the timesheet report, with the use of the fingerprint scanner it also eliminates the possibility of "*GHOST*" workers.
- c. Time Saving
 - i. No manual digitising is needed which is a majority of the project administration
- d. Time Saving Per Site
 - i. ± 1 hours per week for Project Finance Administrator

12. Feature: **Log Book**

- a. Description
 - i. accurate logbook
- b. Benefit
 - i. Gives actual distances travelled to and from sites by contractor and allows for triggers on unexplainable additional distance travelled for the project manager to query.
- c. Time Saving
 - i. not a time saving but rather a fraud preventative. Some projects pay the contractor for a static mileage whether this was done or not, now actual mileage done can be paid for reducing the transport costs considerably.
- d. Time Saving Per Site
 - i. ± 50 km per week reduction

13. Feature: **PPE/Equipment/First Aid**

- a. Description
 - i. PPE/Equipment/First Aid Kit inspection
- b. Benefit
 - i. Daily confirmation and check on all equipment on site, allows for reporting damaged equipment/PPE and used first aid equipment needing replacement.
- c. Time Saving
 - i. The report generated will allow the project manager to be able to manage his/her procurement time better reducing both travel and time for *ad hoc* procurement of things like PPE as he/she will be able to see what is damaged but usable and plan a single shopping trip.
- d. Time Saving Per Site
 - i. ± 2 hours per week for field managers

14. Feature: **Walk Perimeter**

- a. Description
 - i. Actual area worked per day is captured in the field by the contractor, this corresponds with the Start/End daily photos.
- b. Benefit
 - i. The data captured does not need to be manually digitised for the reports.
- c. Time Saving
 - i. With the data already been captured digitally in a format that can be imported into most GIS programs quickly, it will cut digitising time by approximately 40% per site, if the data does not need to be cleaned this figure could be more.

- d. Time Saving Per Site
 - i. ± 1 hours per week for field managers

15. Feature: **Training**

- a. Description
 - i. Timesheet of staff on training/toolbox talks.
- b. Benefit
 - i. this will be able to be checked against the attendance registers for training.
- c. Time Saving
 - i. Training person days are captured on a daily basis when other staff are being clocked in. this data is captured per individual building a profile of how much training each person gets.
- d. Time Saving Per Site
 - i. ± 0.5 hours per week for project manager

16. Feature: **KPI Reports**

- a. Description
 - i. all data including demographics are captured via the app and on a daily basis updated accurately.
- b. Benefit
 - i. the data is already in an electronic format and does not need to be transposed from a hardcopy where errors can occur.
- c. Time Saving
 - i. no searching and transposing of data, this report is autonomous and generates itself.
- d. Time Saving Per Site
 - i. ± 0.5 hours per week for project manager

17. Feature: **Payment Release Checklist**

- a. Description
 - i. a check sheet that all requirements of the job card have been met to the field managers satisfaction prior to allowing payment to be processed.
- b. Benefit
 - i. all data pertaining to the contract is gathered on a daily basis ensuring the project manager can be comfortable that the site was completed and inspected, this is due to closure of job card requiring a signature from the field manager.
- c. Time Saving
 - i. no more generating different check sheets to be signed by the field manager as these are generated automatically and can be pulled from the system at any time.
- d. Time Saving Per Site
 - i. ± 0.75 hours per week for project manager