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Arizona National Software Requirements

1. Asphalt Plant software: -

  1.1. **Lab**: -

     1.1.1. *Raw materials*: -

        1.1.1.1. Sets Defaults for Raw Materials required Unit Weight.

        1.1.1.2. Periodical Testing to assure quality and compliance with requirements and issues reports alerting any deviance.

        1.1.1.3. Updates Default unit weight as weather changes after approval from responsible manager.

     1.1.2. *Plant*: -

        1.1.2.1. Calibration Tests & Reports.

          1.1.2.1.1. Cold Bin Calibration Test.

          1.1.2.1.2. Hot Bin Calibration Test.

          1.1.2.1.3. Creates Maintenance Check List.

     1.1.3. *Final Product*: -

        1.1.3.1. Sets Defaults for Mixing Speeds and Gradation of Materials to provide consumption rates for Raw Material Inventory based on each Mix Design.

        1.1.3.2. Sets Defaults for Screen Sizes based on Mix Design.

     1.1.4. *Weighbridge*: -

        1.1.4.1. Calibration tests & Reports.

        1.1.4.2. Daily Checkup on Difference between actual weight and Supplier Reported weight to increase accuracy.

  1.2. **Raw Materials**:

     1.2.1. *Raw Material Database*: -

        1.2.1.1. Each truck has to be entered into the system with approval from top management given to a supervisor to add such truck.

        1.2.1.2. Trucks are uniquely identified by the Plate Number.

        1.2.1.3. The truck is weighed (with Tank filled with diesel as a requirement).

        1.2.1.4. Volume of the load is measured and approved by manager (Compaction Error Stated) (For Aggregate Trucks).

1.2.1.5.   As for Diesel Trucks, Volume is measured by Approved Documents.

1.2.1.6.   When Raw materials arrive,

    1.2.1.6.1.   The volume is taken from the database Previously created as described above (but has to be visually checked by the responsible employee as a requirement).

$$Load\ Volume\ (m^3) = Truck\ Volume\ (from\ Database)(m^3)$$

    1.2.1.6.2.   The weight is taken as follows:

$$Load\ Weight\ (Kg) = Wieghbride\ weight(Kg) - Truck\ weight\ (from\ Database)(Kg)$$

    1.2.1.6.3.   The unit weight of the material is measured for each material as follows: -

    1.2.1.6.3.1.   Bitumen & Filler (Actual Unit weight isn't measured), Actual weight is taken as described above.

    1.2.1.6.3.2.   Diesel (Actual Unit weight isn't measured), however Actual volume is taken as described above.

    1.2.1.6.3.3.   Aggregate (1½", ¾", 3/8", Crushed Sand, Natural Sand): -

$$Actual\ Unit\ weight\ of\ Aggregate\ \left(Kg/_{m^3}\right) = \frac{Load\ Weight\ (Kg)}{Load\ Volume\ (m^3)}$$

1.2.1.7.   Approval of Raw Material: -

    1.2.1.7.1.   For the user to be able to admit Raw Material into the Raw Material Inventory, the following Conditions must to happen: -

    1.2.1.7.2.   For Aggregates (1½", ¾", 3/8", Crushed Sand, Natural Sand): -

$$Actual\ Unit\ weight\ \left(Kg/_{m^3}\right) \geq Default\ Unit\ weight\ \left(Kg/_{m^3}\right)(from\ Lab)$$

    1.2.1.7.3.   For Bitumen & Filler: -

$$Supplier\ Voucher\ weight \geq Load\ weight$$

    1.2.1.7.4.   For Diesel: -

$$Supplier\ Voucher\ Volume \geq Load\ Volume$$

1.2.2.   *Raw Materials Inventory*: -

    1.2.2.1.   Raw Material Inventory is considered Company assets and should show in the finance reports.

    1.2.2.2.   Daily Report for Every Material Imported and Exported should be sent to Accounts Department for book keeping and invoicing.

    1.2.2.3.   Inventory Check Should be done periodically to ensure consumption rates to be accurate (Difference should be alerted and dignified by manager).

    1.2.2.4.   Materials used for daily production should be deducted from inventory (through production Sub vouchers) and show as cost of the respectable production in finance reports as follows: -

1.2.2.4.1.   Aggregate Inventory: -

1.2.2.4.1.1.   Each type of production to have a specific mix showing the percentages of each raw material, and restrict the use of the excluded materials.

1.2.2.4.1.2.   Consumption is deducted by weight not volume based on Actual Unit weight of the material as it is received.

1.2.2.4.1.3.   Overflow material has to be stockpiled and inventoried to be recycled into respectable sizes or returned to supplier and refunded.

1.2.2.4.2.   Filler Inventory: -

1.2.2.4.2.1.   Filler is consumed by percentage of weight (Mechanical Error is very common) therefore consumption has to be carefully noted and calculated based on the mix to develop the mechanical error cost per day.

1.2.2.4.3.   Bitumen Inventory: -

1.2.2.4.3.1.   Bitumen is Stored in Tanks that show current levels with some marginal error, there is a backflow quantity that is returned from unproduced materials that is stored in barrels to be returned to the main tanks, this quantity is to be shown separately for book keeping, finance reporting, and auditing.

1.2.2.4.4.   Diesel Tanks Inventory: -

1.2.2.4.4.1.   Diesel is used for multiple reasons, production is only one part, therefore for production cost of the material would be measured from the actual consumption read before and after production (Daily Required) from the Consumption meter (currently Diesel Tank Level) as follows: -

$$Actual\ Consumtion\ (Liter)$$
$$= Diesel\ Tank\ Level\ reading\ end\ of\ production\ (Liter)\ (locked\ by\ end\ of\ time\ of\ Data\ Entry)$$
$$-\ Diesel\ Tank\ Level\ reading\ start\ of\ production\ (Liter)(locked\ by\ time\ of\ Data\ Entry\ )$$

1.3. **Manufacturing**: -

1.3.1.   Work Starts with Work Order issued (based on Purchase Order linked to each project for invoicing) to Operations by top management (Work Order is to be later compared to the actual Purchase order for book keeping).

1.3.2.   Operations: -

1.3.2.1.   *Before Production*: -

1.3.2.1.1.   Daily Checkup must be performed before start of production (Required) during that checkup the following should be noted: -

1.3.2.1.2.   Diesel Tank Level to measure the Actual consumption for accurate inventory book keeping and production cost analysis.

1.3.2.2.   *Production*: -

1.3.2.2.1.   Each truck has to be entered into the system with approval from manager in charge to add such truck.

1.3.2.2.2.   Trucks are uniquely identified by the Plate Number.

1.3.2.2.3.   The truck is weighed (with Tank filled with diesel as a requirement).

1.3.2.2.4.   Final product is measured by Weighbridge using the following formula: -

$$Truck\ Load\ (Ton) = \frac{Weighbridge\ weight\ (Kg) - Truck\ Weight\ (Kg)(from\ Database)}{1000}$$

1.3.2.2.5.   Ticketing is filled on two stages (Voucher and Sub voucher): -

1.3.2.2.5.1.   Voucher is prepared by weighbridge operator (printed for Client) and includes the following data: -

1.3.2.2.5.1.1.   Voucher Number, Daily Load Number (Per client Per Project), Date, Time, Client, Project Name, and Project Location, Responsible employee for writing the voucher and Signature (electronic or manual field), receiver Name and a place for signature.

1.3.2.2.5.1.2.   Mix Type, Truck Load, Accumulated Daily Production (Per Client Per Project), Mix temperature.

1.3.2.2.5.2.   Sub voucher is prepared by plant operator for Each Voucher (Not printed used for cost analysis and quality check and assurance) and includes the following: -

1.3.2.2.5.2.1.   Voucher Number (For Connection with Voucher), Type of Mix, Mix Design Sub name, Mix Design formula (percentages of materials to calculate the amount of raw materials to be deducted from Raw Materials Inventory),

1.3.2.3.   *Maintenance*: -

1.3.2.3.1.   Each of the Major Components of the Plant has its own Maintenance Schedule and Spare parts list (noted in Spare Parts inventory)

1.3.2.3.2.   Maintenance Schedules are prepared by operations and approved by manager for priority.

1.3.2.3.2.1.   Daily Maintenance Checklist Prepared and noted by operations & Lab to reduce stops and breaks.

1.3.2.3.2.2.   Weekly Cleanup & Maintenance.

1.3.2.3.2.3.   Monthly Checkup.

1.3.2.3.3.   Any Maintenance required must be approved by operations and manager in charge.

1.3.2.3.4.   For every Maintenance, a Job Card must be created noting the responsible manager and mechanic for the job to be completed.

1.3.2.3.4.1.   For every Job Card, any spare parts used to be deducted from Spare Parts Inventory and noted for Restocking.

1.3.2.3.4.2.   For every Job Card, any work done by any third party whether it was providing parts or workmanship the contact details for the third party has to be noted in the contact list (Including the name of the person in charge of that particular Job from the Third Party).

1.3.2.3.5.   Contact list of Vendors, Garages, and others for each repair that has ever been repaired.

1.3.2.4.   *Spare Parts Inventory*.

1.3.2.4.1.   Spare parts used to be noted in Spare Parts inventory.

1.3.2.4.2.   Contact list of Vendors, Garages, and others for each spare part that has ever been purchased.

1.4. **Sub Accounts Department**: -

1.4.1.   Received Raw Material checked based on Inventory Daily Report.

1.4.2.   Final Product Production Invoiced based on Manufacturing Vouchers

1.4.3.   Regular Accounting, Auditing & Financing forms & Reports (Cost Accounts, Income Statements, Balance Sheets, etc.)

2. **HR & Payroll**:

   2.1. Full HR Module (including all standard forms, reports, and charts integrated with the fingerprint machine & Attendance sheets prepared by app for employees with no fingerprint to analyze the attendance of the employees)
   2.2. Payroll Module (linked to accounts to provide the salaries based on actual report from HR employee file for exceptions, overtime request forms, medical leaves, etc.)
   2.3. Report builder
   2.4. Filtration system

3. **Accounts & Finance**: -

   3.1. Full Finance Module (including all Accounting Statements, Profit/Loss Analysis, etc.)
   3.2. Each Department to have access to their own accounting for book keeping.
   3.3. Each of these Accounts & Finance Modules to be integrated into the main Module for the top management auditing, follow-up, control and management.

4. **Report Builder (filtration system for every division)**.
   4.1. For Every Database, the columns should contain a filter to select the data needed for any analysis.
   4.2. Report Builder is a wizard that would enable the user to easily create a custom report and save it as a template to be able to use whenever needed even after updating the data in the Database.
   4.3. Print & Save as Pdf features should be accessible.
   4.4. Charts as visible reports should be easily generated.

5. **Invoicing System**.
   5.1. Based on Actual Production reported from the Ticketing Vouchers.
   5.2. Invoices should be clearly apparent in Finance Modules.
   5.3. Payments of Invoices should be linked by the number of Invoice.

6. **Automatic Backup (Daily, Weekly, Monthly, Quarterly, Semi-annual, Annual)**.
   6.1. Back up of Database, Daily Reports, Financial Transactions, and Employee Records should be on a multi-stage basis (One on an online storage and another offline storage)
   6.2. System Should alert responsible user for the Backup and notify management if backup didn't occur.

Websites Requirements

1. Each Website to have its own Content Management System.

2. Each Website design and Data Should be Backed up on a separate storage from the hosting server for risk reduction.

3. Website 1: Al-Ghanim Combined Group Company General Trading & Contracting L.L.C.
   3.1. Home Page: Landing Page that would show a quick preview of all the projects, services & Description of the company.
   3.2. About Us: Page to Describe the history, portfolio and would have a link to download the company profile, Sister companies and links to each of them.
   3.3. Projects Page: -

      3.3.1.   Would show all the projects performed by the company grouped by project and sorted by time, (Each project group would show as a thumbnail that shows glimpses of the project).

      3.3.2.   Would show a map that reflects the location of all the projects delivered.

           3.3.2.1.   Each project will have its own page that shows the following: Description, Type of Delivery, Location, Duration, Size, Client.

3.4. Services Page: Page that would show the services of the company grouped by department and sorted by size (Each services group would show as a thumbnail and that shows glimpses of the service final product).

      3.4.1.   Each Service shall have its own page that show the following

           3.4.1.1.   Description of the service.

           3.4.1.2.   Size and capacity of our company for that particular service.

           3.4.1.3.   Finished Products, with description of the location and project if applicable.

           3.4.1.4.   Clients.

           3.4.1.5.   Major Suppliers.

3.5. Contact Us: Page to show the location, contact form (Drop down menu to link inquiry to service department), Social Media Links and news.

3.6. Careers Page: a form for applicants to apply for jobs, upload C.V.s and see job postings.

3.7. Employee Portal Page: Access Link to Employee Portal.

3.8. Email Page: Access Link to Our Email host page.

4.   Website 2: Arizona National General Trading & Contracting L.L.C.

   4.1. Home Page: Landing Page that would show a quick preview of the projects, services & Description of the company.

   4.2. About Us: Page to Describe the history, portfolio and would have a link to download the company profile, sister companies and a link to each of them.

   4.3. Projects Page: -

      4.3.1.   Would show all the projects performed by the company grouped by project and sorted by time, (Each project group would show as a thumbnail that shows glimpses of the project).

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Software Priorities

Milestone No.	Description	Duration
1	Websites and their CMS's +Invoice Management	2 weeks
2	HR & Payroll	4 weeks
3	Finance	3 weeks
4	Asphalt Plant Software	7 weeks