**CoDreamers Software Company**

**PROJECT PROPOSAL ON**

**INVENTORY MANAGEMENT SYSTEM**



**CodeDreamers S.C**

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| --- | --- | --- |
| Company Partners | | Phone |
| Assefa Tedla |
| Abdulhakim Zeinu |
| Tesfu Amsale |
| Nesredin Ebrahim |
| Abenezer Leta  Meti Tesfaye |

**Prepared For:-**

Date:

[www.codreamers.net](http://www.codreamers.net)

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# **Introduction**

Inventory management is a component of supply chain management that oversees the flow of items (products, goods, etc.) as they move from the manufacturer to the warehouse and then to the point of sale. “A key function of inventory management is to keep a detailed record of each new or returned product as it enters or leaves a warehouse or point of sale. An inventory system is a process whereby a business keeps track of the goods and material it has available. Today’s competitive environment is forcing companies to optimize the procurement processes and inventory levels while at the same time ensure accuracy of controls and implementation of standard procedures for the flow of materials. However, in the absence of appropriate systems and information infrastructure, companies are finding it difficult to achieve smooth and efficient.

So, in this project we are trying to make inventory management system which will help employees to keep record of inventories in systematic way and help them produce report about the inventory or stock currently available in their department in an efficient way to help them in decision making about the stock. Our system will identify every inventory item and its associated information and it will provides a central database and point of reference for all inventory, coupled with the ability to analyze data, generate reports, forecast future demand, and more.

**Background**

CodeDreamrs software Company is a small start-up system software development firm located in Hawassa, Ethiopia. We are in business to develop software for general purposes and for specific purposes to our various clients. We are in business to not only make a profit but to also compete favorably against other software development companies in the industry and attain our vision of being the preferred software development company for clients all over Ethiopia.

In order to achieve our vision, we have on hand the best software developers that will ensure that we attain our goal of being the preferred software company and in meeting all the diverse software needs of our customers here in Ethiopia.

## Vision Statement

Our vision at CoDreamers SC. is to be distinct from other software development companies by creating software that suits the diverse needs of our end-users and to be the preferred software firm for users in Ethiopia.

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## Mission Statement

Our mission is to be able to build and develop a standard application which will be made available on all platform. These platforms include Windows, Android phones, Apple amongst others.

## Key success

* We have the right business structure that will ensure that we conquer this industry. Our software developers are the best there is and have the expertise and experience to enable us attain our goals and objectives.
* We are also involved in ensuring that our software pass through the quality process, reason we have testers who run several tests on any of our software before it is released.
* We have also selected as top 50 runner up innovators in Africa innovation week competition.
* We have already developed:-
  + Market and Weather information dissemination system for farm Africa
  + Integrated kebele Administration system which is going to be deployed in all keble’s around SNNPR
  + GIS-enabled tourist information system

CoDreamers Software Company (hereafter referred to as CDSC) is pleased to submit this proposal to Agricultural Bureau for the design and development of Inventory Management System. We welcome the opportunity to work with Agricultural Bureau on this exciting project.

This proposal is aimed at laying down necessary information to initiate, govern and monitor the development of the Inventory management System project after Agricultural Bureau requested for it. This document is to serve as basis of understanding on the objective, scope, benefits, functional requirements, budget and schedule plans between the involved actors in the project.

It is our understanding that Agricultural Bureau seeks to have the system which will avail correct management on Inventory and is reasonably accessible to all. We believe we are highly qualified to go through comprehensive design and development process to attain the system to avail those information.

The team is composed of individuals with skills necessary for the design, development of any web-based, android, IOS, or desktop application with the aim of building new solutions in the field of ICT thereby assisting the need of Agricultural Bureau on the reliable management of inventory. The team is highly enthusiastic and combines strategic thinking with emerging technologies to provide innovative solutions following state-of-the-art development approach. The team is active in making alliance with likeminded organizations as yours and keen to develop long term relationships with potential clients.

We believe high-quality work is delivered through a focus on bidirectional communication, responsiveness to clients’ query, joint and transparent engaging development approach with client, accurate project management, product quality and ethical approach to business. Furthermore, we highly believe work on allocated budget and on deadline key for success of the project and hence expect the same from Agricultural Bureau.

We respectfully submit the following proposal, which describes the objective, development approach, methodology, benefit, scope, functional requirement technology, services, terms, schedule, budget, other pertinent information for consideration.

## **Problem statement**

Based on our observation of how currently the bureau manage inventory we have identified that the current manual inventory management system lacks so many things. But as major we listed down the following problem:

* Lack of information on products availability, prices, potential buyers, sellers, and so on.
* Lengthy manual procedures and labor-intensive work
* Poor transparency
* Market instability
* Untimely market trend analysis and related managerial difficulties.
* Poor information collection that leads to falsely manipulated data
* Farmers and sellers face double dealers or chained intermediaries which lead them to loose or less profit
* Farmers can’t compare the local market price with the national market since there is no information provided

## **Objective of the proposal**

This proposal is aimed at laying down necessary information to initiate, govern and monitor the design and development of the Inventory management system after Agricultural bureau requested for it. This document is to serve as basis of understanding on the objective, scope, benefits, functional requirements, budget and schedule plans between the involved actors in the project.

## **Objective of the project**

### **General Objective**

The general objective of this project is to design, develop and deploy a standard market management system in easy to use, flexible and secure way.

### **Specific Objective**

The specific objective is nothing but the components we need to attain in order to attain the general objective. So these are:

* **To Analyze the existing system:** to get deep understanding of the Agricultural bureau current working system.
* **Problem Identification and Definition:** identify what major problems exist in the existing working environment and define them clearly.
* **Requirement generation of alternative system:** to perform a requirement analysis and find out the system functional and non-functional requirements.
* **Requirement analysis of the proposed system:** to perform a requirement analysis so we could choose what requirements are necessary and which requirements are not.
* **Designing the new System:** designing the new system using OOM for understanding the system and making implementation easy.
* **To design the database**
* **Implementing and testing the new system**
* **Deployment of the new system**

## **Project scope**

It is important in the scope to highlight the nature of the preliminary design that will be produced by the CDSC team. The CDSC team will be fully responsible for requirements generation, detailed design and development. The Agricultural bureau team will verify it but not produce detailed design, nor can they be responsible for the development.

The analysis sites, development locations (target woredas, cities, or markets), and target agricultural products will be agreed by SRTIDB and CDSC team in the future after the acceptance of this proposal. But for now we can put what we think the project will be bounded to

* Hierarchical functionality to show the **hierarchy** of each organizational structure and make the flow of information transparent and accountable.
* Will have **categorical** structure for every **Item**, or **Product** etc.
* Will have the information of every **Product** that will be included in this project depending the agreement going to be made.
* We will be using **Amharic** and **English** languages only for now.
* We will develop a **website** and **mobile application**

## **Benefits of this project**

Without an inventory management system, the goods and products that flow through an organization will inevitably be in disarray. An inventory management system enables a company to maintain a centralized record of every asset and item in the control of the organization, providing a single source of truth for the location of every item, vendor and supplier information, specifications, and the total number of a particular item currently in stock.

Because inventory often consists of movable assets, inventory management systems are critical for keeping tabs on current stock levels and understanding what items move quickly and which items are more slow-moving, which in turn enables organizations to determine when it’s time to reorder with greater accuracy. Overall, a comprehensive inventory management system offers [countless benefits](https://www.shopify.com/blog/70603013-warning-youre-losing-money-by-not-using-these-8-inventory-management-techniques) to companies including:

* Improved cash flow
* Better reporting and forecasting capabilities
* Reduction in storage costs (overhead)
* Reduced labor costs
* Reduction in dead stock
* Better organization
* Enhanced transparency
* Improved supplier, vendor, and partner relationships
* Maintaining a balance between too much and too little inventory.
* Tracking inventory as it is transported between locations.
* Keeping track of product sales and inventory levels.

# **Functional requirements:**

### **Inventory Management**

This module provides centralization of your most basic and necessary warehouse functions. With it, you’re able to see complete inventory details like stock levels, product history and other product specifications.

* Product Categorization
* Product Measurement
* Product History
* Stock Inquiries
* Cycle Counting
* Automatic Stock-out Reports

**Theft Control** -Inventory management allows you to see the number of products you have at any given time, with the associated revenue made from sales, so it's easy to see when something goes missing. Hopefully that never happens, but it is something to keep in mind.

**Product Tracking** - Product tracking allows you to prioritize your inventory based on high sale items, and those that don't sell at all. This way you can market the items most likely to sell, instead of advertising for those that don't.

**Inventory optimization:** Maintain just the right amount of inventory for each product, without over- or under-stocking any item. It’s especially useful if you deal in products that experience a seasonal rise and fall in demand.

**Stock notifications:** Receive alerts and notifications when there’s over- or under-stocking beyond a defined threshold. This helps you to place orders or offer promotional discounts to clear out extra stock.

**Report generation:** View sales history in the form of a list of your most popular products. This feature also enables you to manage items in your inventory that have not reached the sales levels you expected, for example, by offering discounts on them.

**Multi location management:** Manage multiple warehouses and points-of-sale (POS). All locations can be integrated within a single inventory management system.

**Warehouse management:** This feature is useful if you need to optimize your warehouse stock and maintain an accurate log of each product’s location. It’ll give you a single view of where all of your products are stored.

# **Approach and methodology**

## **Management approach**

We approach each client engagement using different kinds of processes and procedure. Each client is assigned a contact person who acts as the primary point of contact for your organization. This person guides and informs the project team through the development process to ensure timely and high-quality completion.

The CDSC team uses a comprehensive set of checklists, tasks and procedures that will help to monitor the project level for every milestone. We have an ad-hoc meeting approach to have discussions on the sudden changes and problems occurred during the implementation and post development times.

Full transparency and scheduled review of progress mitigates risk and ensures that close management of the project occurs at every stage. Behind the scenes the general manager coordinates with the executive team to ensure service quality.

In case challenges are encountered at any stage of the project, the team will assume tackling the problem in consultation with the Agricultural Bureau team to be established from the organization for the purpose of this project.

## **Development Process**

CDSC team will go through planning, design and production processes. Adhering to this process will ensure a successful outcome. Our process starts with phase 1. The team’s goal in this analytical phase is to define features concretely, determine technology integration specifies, and prioritize the features so that decisions are made in those areas that will provide the greatest importance for the organization.

The system to be developed we will go through different stages of the system development. In this aspect, what we use is a model called prototype. This model will help the client to see what is being done and will participate in the development process commenting on the different kinds of prototype of the system being developed.

The goal of a prototyping-based development process is to counter the limitations of the waterfall model. The basic idea here is that instead of freezing the requirements before any design or coding can proceed, a throw-away prototype is built to help understand the requirements. Development of the prototype obviously undergoes design, coding, and testing but each of these phases is not done very formally or thoroughly. By using this prototype, the client can get an actual feel of the system; because the interactions with the prototype can enable the client to, better understand the requirements of the desired system. This results in more stable requirements that change less frequently.

These following are phases and sub activities for the development project

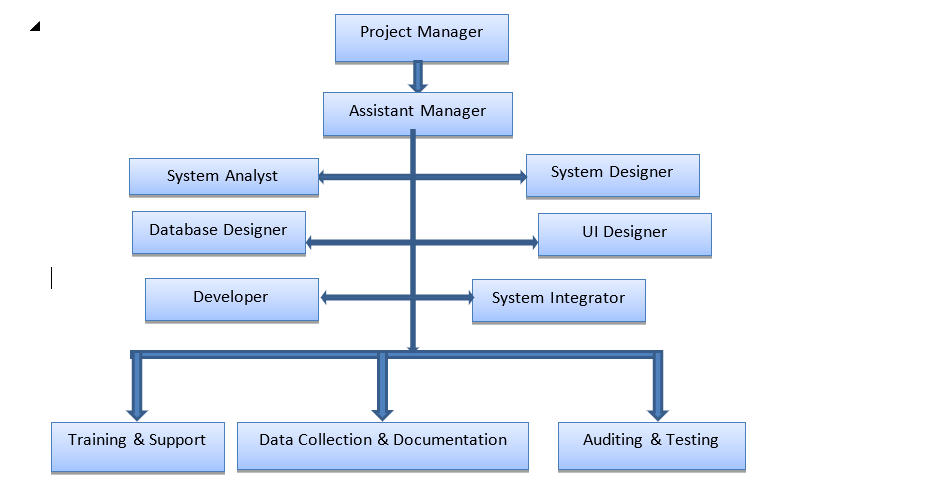
* Phase 1
  1. Requirement Gathering and Analysis
  2. Data Collection
  3. System Analysis & Conceptual Design/Coding & Implementation
* Phase 2
  1. Database and system schema design
  2. Coding and implementation
     + Technical System design
     + Content creation
     + Implementation
* Development Environment
* Programming, Customization and Templating
  1. System Integration
  2. Testing
* Phase 3
  1. Maintenance
  2. Hosting
  3. Launching & social media integration
  4. Training and Support
  5. Documentation & Manual Preparation

# **Project Activities Schedule**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No | Activities | March 2018 | | | | April 2018 | | | | May 2018 | | | | Remark |
| W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 | W1 | W2 | W3 | W4 |  |
|  | **Phase I** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.1 | Requirement Gathering & Analysis |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.2 | Data Collection |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.3 | System Analysis & Conceptual Design |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **Phase II** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.1 | Database and System Schema Design |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.2 | Coding & Implementation |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.3 | System Integration |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.6 | Testing |  |  |  |  |  |  |  |  |  |  |  |  | Demo |
|  | **Phase III** |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.1 | Maintenance |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.2 | Hosting |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.3 | Launching & Social Media Integration |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.4 | Training and Support |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.5 | Documentation and Manual Preparation |  |  |  |  |  |  |  | |  |  |  |  |  |

# **Project Organization And Associated Responsibilities**

## **Project Organization**



## **Associated responsibilities**

|  |  |
| --- | --- |
| Body/Team | Responsibility |
| Project Manager: | * Actively participate in administering the work plan * Coordinate the works of the different teams * Follow daily activities of the team * Participate in the General Meeting of the team * Act as the key interface in the project |
| Team Leader/  Assistant Manager | * Control the system development helping the manager * Participate in the testing & reporting * Participate in the auditing & meeting * Help in preparing meetings and test cases * Acts as the public relations to the team |
| System Developer | * Actively participate in analyzing the system requirements * Actively participate in the development of the system * Develop the website based on the requirements met * Actively deliver the prototype when needed. * Take time to test the website at the end of completion * Actively participate at the hosting time with the clients * Help and Assist the system Administrator * Train the System Administrator * Submit the Source code to the team and then to client organization. |
| Data Collection | * Actively participate in the collection of data * Participate in the conversion and organizing of data * Upload Documents and other resources to the system * Provide the documents currently in use and any other relevant info when asked |
| System Analyst | * Actively participate in analyzing the system requirements * Develop the DB schema of the overall system when needed * Take time when testing the website at the end of completion * Actively participate at the development time with the developer * Help and Assist the Documentation expert * Actively participate in the testing * Maintain the overall system when needed |
| Auditing & Testing | * Provide the data currently in use and any other relevant info when asked * Make sure that the product satisfies the need of the organization * Actively participate in the testing * Acts as the public relations to the organization |
| Training and Support | * Participate in the training and support of the system after the time of development * Help and support the developer * Prepare the training materials and documents * Support the overall team to fulfill the objectives of the project |

# **Project Budget**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Position** | **Unit** | **Qty** | **Unit cost** | **Total** |
| 1. **Human cost** | | | | |
| Project Manager | Hrs | 480 | 100 | 48,000 |
| Assistant Manager | Hrs | 360 | 100 | 36,000 |
| System Analyst | Hrs | 360 | 100 | 36,000 |
| System designer | Hrs | 256 | 100 | 25,600 |
| Database designer | Hrs | 192 | 100 | 19,200 |
| User Interface Designer | Hrs | 144 | 100 | 14,400 |
| Developer | Hrs | 216 | 100 | 21,600 |
| Developer | Hrs | 216 | 100 | 21,600 |
| System integration expert | Hrs | 96 | 100 | 9,600 |
| System integration expert | Hrs | 96 | 100 | 9,600 |
| Quality testing and audit | Hrs | 72 | 100 | 7,200 |
| Quality testing and audit | Hrs | 72 | 100 | 7,200 |
| **Sub total human cost=256,000** | | | | |
| 1. **Running cost** | | | | |
| JAD session | | | | 100,000 |
| Application play store | | | | 1000 |
| Domain name payment | | | | 550 |
| Technical support | | | | 10,000 |
| Help and support( post-development) | | | | 30,000 |
| Communication cost | | | | 5,000 |
| Training (for staffs) | | | | 50,000 |
| Training (for stake holders) | | | | 100,000 |
| Document and Manual preparation | | | | 10,000 |
| Facilitation cost | | | | 50,000 |
| Travel cost | | | | 50,000 |
| **Sub-Total running cost=406,550** | | | | |
| **Total Project Cost=662,550** | | | | |

**Note That:** We assume that the target markets to be selected to be in the project are located in every corner of SNNPR. Hence, the running cost, including perdiem, is calculated in consideration of large target area and in an effort to avoid inconveniences which might compromise overall project quality and delivery time.

# **Support after deployment**

Swift response will be given to requests for problem of any kind (i.e. technical problem and within the scope of the after development described under the project description in this document). The team will be very kind to help and support any kind of requests. There would be a six month support from the team for any kind of requests from SPTIDB on issues related to the developed system. After the period of time the agreement is met, if SPTIDB needs any help more than six months it will insure all the human and /or professional costs.

# **Monitor and evaluation**

The project manager is the chair person of this project and is directly involved in the system development work, thus will monitor progress of the project on regular basis and make necessary report to SPTIDB representatives. Auditing & test team members will closely follow to ascertain the development is progressing as per their requirements and make necessary recommendations at all levels of the development. Timely progress reports and evaluation of the project against the plan will be prepared by the developers and submitted to the manager. The SPTIDB team, related staffs, higher officials and other partners will evaluate the final deliverable against the needs and requirements of SPTIDB.

# **Terms and conditions**

The project work shall officially commence only after the proposal has been approved and Memorandum of Understanding (MoU) has been signed. The SPTIDB in consultation with CDSC team as may be needed, shall prepare a MoU and project contract agreement, upon approval and agreement of which the project work is initiated. Both SPTIDB and CDSC team shall be guided by the ToR for every activity and deliverables of the project. Additional requirements outside the contract and the ToR is subjected to renegotiation both financially and in delivery time.

Once the project agreement has been made and the contract has been signed, the following are financial milestones:

|  |  |  |
| --- | --- | --- |
| **Payment** | **Description of conditions** | **Percent of total** |
| 1st Payment | On the approval of the proposal and signing of contract agreement | 50% |
| 2nd Payment | On approval of:   * Requirement Analysis document, Terms of reference, software architecture design * The evaluation of the detailed design * The Alpha testing (final phase before releasing the software to external customers in the Beta phase) | 30% |
| 3rd Payment | * After all testing activities has been performed and approved, and all knowledge transfer activities completed and approved. * After completion of all deliverables of the project and deliverables and validation of the Final report. | 20% |

# **Conclusion**

CDSC is highly enthusiastic about the opportunity to work with SPTIDB on such value adding project for our regions market information. As can be evidenced by our prior works with Hawassa University, SNNPR ICT Agency and Farm Africa NGO we can proudly say we have proven track record of providing organizations with quality solutions that are effective and easy to mange. We look forward to working with SPTIDB on this exciting project and welcome any questions in regard to this proposal.

HRMS

REQUIRED FEATURES

* 1. Personnel Management

• Record basic demographics

• Organizational structuring

• Track performance, training, skills and education

• Accommodate 100 employees with option to grow

* 1. Payroll

• Ability to process payroll with various salaries, bonuses, taxes and several deductions/earning codes

• Maintain job codes and salary ranges

• Generate manual/off cycle checks

• Ability for direct deposit and live checks in same payroll cycle

• Interface with Abila MIP Fund Accounting system

* 1. Attendance

• Track multiple accrual levels

• Automate attendance transactions

• Have ability to manually enter in transactions

• Forward accrued balances

* 1. Leave Administration

• Ability to track leaves of absence following State or Federal Leave Laws

• Notifies user when leaves are close to expiring

* 1. Job and Pay History

• Ability to track historical data for employee pay and job histories

* 1. Benefit Administration

• Ability to administer and track employees participating in medical, dental and vision programs

• Ability to administer and track participation in life insurance, CalPERS retirement (i.e. formula), supplemental insurance programs, flexible benefit plans

• ACA tracking

• Update benefit yearly rates prior to the new year

• Track compensation limits for CalPERS retirement at all levels

* 1. Employee Self Service

o Add/delete dependents

• Ability for employee to make changes

• Robust reporting system that is intuitive to the user and easy to create

o Basic employee information (i.e. phone number, birthday, years of service) o Benefit related reports on employees

• Ability to export information into Word and Excel documents (i.e. merit/bonus letters)

7 Employee Data Management

• Employee general information, photo, note attachment files, medical information, tax information, monthly timesheet, payroll reports (based on the tax information and timesheet), and medical insurance and emergency contacts

• Employee benefits form helps you record all medical and detail insurance programs that your company have for your employees.

• Create HR payroll report, phone list, employee list, department list reports, and you can add your own report later based on your need.

• Employee vacation and sick leave management

• Employee job history information management

• Employee certification and awards management

• Employee performance evaluations information management

• Employee equipment tracking • Employee resume and training records management

•You can output your employee data and payroll data to Microsoft® Excel® file and PDF file as well. •The database records all employee information and you can review it by name list, phone list, or department lists.

•Create Employee Performance Review Forms and employee EEO Forms and keep these form records at document management system.

•Benefits information management

•Grievance history information (e.g complaints, dispute etc.) management

•Generate organization chart by using MS Visio and drag to employees management form Job Opening Management

•Job opening Information, job functions, requirements and skills information and staffing status •Department job opening list management

•Printing job opening information Applicants Management

•Recording all applicants records and contact information

•Applicant status management

•Applicants interview setup

•Create Employee Application Form and Employee Record Audit Form for all applicants and keep those document records on document management system. Employee Training Data Management •List all training program that company has.

•Training class information description and registration information

•Printing training class information sheet

•Records all the employes's training records. Employee Benefit Information Management

•Benefit plan list and provider information management

•Benefit plan for each employee

•Benefit cost information management

8. Company Information Management

•Company business documents management

•Company legal documents management

•Company holiday schedule management

•Company wise health and dental care insurance benefits information HR Documents Management •Managing all employees and applicants documents by their name or document types

•All documents can be convert to PDF format and print out

•All documents data can be export to Excel or PDF format for other applications Employee termination process

•Employee termination process check list

•Generate employee termination process notification

•Employee status change information management Years ago if HR departments wanted to keep electronic records on their employees their only option was an HR system, hosted on-site and accessible to a select few HR administrators.