

BIKAS ENTERPRISE

(Dealers in general suppliers, IT Infrastructure, Borehole drilling, Civil work and management)

Tel: 0543993690

INVOICE FOR DRILLING, CONSTRUCTION AND MECHANIZATION OF ONE BOREHOLE

INVOICE NO: 0623/11/12/2023

CUSTOMER NAME: Dr Zacharia Issahaku

ADDRESS: Jana, Tamale

DATE: 11/12/2023

QUANTITY	DESCRIPTION	UNIT PRICE(GHS)	AMOUNT(GHS)
1	Hydrogeological Survey	2,000.00	2,000.00
1	Drilling And Construction	15,000.00	15,000.00
1	25mm P.E. Pipe	1,500.00	1,500.00
1	2.5*3 100m Cable	1,500.00	1,500.00
1	1.5hp Submersible Pump	3,000.00	3,000.00
1	Installation	1,500.00	1,500.00
1	Plumbing Materials	400.00	400.00
1	Concrete Platform	3,000.00	3,000.00
TOTAL			27,900.00

Terms Of Payment

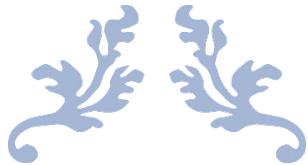
80% Initial Deposit before delivery and proforma Invoice last two weeks only. VAT INCLUSIVE.

Thank You For Doing Business With Us

Prepared by:

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FUNCTIONAL SPECIFICATION DOCUMENT

SOLIS FINANCIAL PRODUCT



OCTOBER 27, 2023



Document Change History

Version	Date	Description of changes	Author	Reviewer	Comments
1.0	27/10/2023	Initial draft of Functional Requirements	Louis Yelifari		

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1. Document Information

1.1 Context and Perspective

The purpose of this document is to outline the requirements for the Solis Finance Product that seeks to;

- Digitize a community-based savings & loans scheme (popularly known as SUSU) to track contributions of its members.
- Provide a report and dashboard for monitoring of activities and operations of the scheme.

1.2 Document Scope

The scope of this document is to provide a functional understanding of the features and functions required to satisfy the solution.

- Functional requirements
- Use Cases
- Business Rules & Logic
- Project Plan and Roadmap
- Product acceptance criteria.



1.3 Out of Scope

- Solution design and architecture
- Technology stack & implementation information

2. Solis Financial Product

2.1 Our understanding of the requirement.

The Savings and loans scheme as it is now.

- i. Members of the community make a savings contribution of an agreed amount every week into a joint Ledger.
- ii. A secretary is designated to collect and record each members contribution into the Ledger.
- iii. The Secretary records the date, name and amount of the contribution.
- iv. Contributions (funds) are saved in the Box as a way of safeguarding the money.
- v. At the end of each year, the Box is opened in the presence of all members and the money distributed accordingly, along with any interest accrued.
- vi. Members of the scheme are allowed to take a loan from the account, of not more than 10% of his/her individual contribution. The loan is repaid with an interest.
- vii. A duration of repayment and interest rate is agreed upon by all members of the scheme.
- viii. Repayment of the loan is expected within the specified period.

Requested solution will digitize the above scheme using Mobile App and USSD technology.

- i. Create a Mobile App to serve as a digital Ledger for collections and contributions.
- ii. Integrate the Mobile App solution with a Bank (Solis Bank) to provide real time accounts of the contributions.
- iii. Use the Mobile App as an avenue for members of the scheme to make contribution payments, track activities and request loan facilities.
- iv. Provide a detailed statement of accounts from both the Ledger and the Bank Account.

2.2 Proposed Solution

1. Features

The solution will comprise of 2 distinct parts; Mobile App & USSD Short code service

Mobile App

- i. The Mobile App will serve as a Ledger for members in the scheme.
- ii. It will keep records of payments made and the corresponding Bank balance from the Bank Account.



- iii. It will be enabled with a functionality to pay via MoMo (extendable to banks).
- iv. There will be 3 account types (screens) for this App; Admin account, Member account and Dashboard (web-based application).
- v. The admin account will have the privilege to pay on behalf of other members, set interest rates and initiate Loan request on behalf of members. Payments can be made via cash or Momo.
- vi. **Contribution:** Cash payments administered by the admin account will be required to be manually recorded into the Ledger. Successful log will trigger an SMS to the member as a form of a payment receipt.
- vii. **Loan Request:** Admin will initiate loan request on behalf of the requesting member in the presence of all members of the scheme. All members will be required to thump print to give approval for loan request. An SMS will be triggered to all members as a receipt. NB: The thumbprint of member will be captured during the sign-in period.

USSD Short code service

- i. Members Can make payment contribution via the USSD.
- ii. Member can view statement of accounts via the USSD.

2. Use case Scenarios.

Case 1 – Registration of Service

- i. Admin downloads App/ Installs APK unto Tablet & creates Group Account eg. Songtaaba SUSU group.
- ii. Members are registered by the Admin. (Members can also register by themselves provided they know/have the Group account ID).
- iii. Members register by providing the following information; Name, Age, Mobile Number, thumbprint, etc
- iv. **Joint Bank account is created.**
- v. Service is fully set up

Case 2 – Contribution of savings

- i. Contribution is made to Admin. Admin logs payment information on the Mobile App.
- ii. SMS is triggered to Member as a form of a payment receipt.
- iii. Contribution can also be made directly from member's Mobile App or MoMo wallet.
- iv. Ledger is automatically updated, and all users of the App will be able to view payment Status.

Case 3 – Requesting for Loan

- i. Member puts in a request for a loan.
- ii. Admin enters the details in the app: Requester, Amount, etc.
- iii. Other members of the scheme provide approval by thumbprinting onto the App.



- iv. Funds are withdrawn into a mobile money wallet or any POS.
- v. Notification alert is sent to all members via SMS.
- vi. Computation is done at the backend.

Case 4 – Repayment of loan.

- i. Repayment of loan is done to the Admin.
- ii. Admin logs it in under loan repayment.
- iii. Notification alert is sent to all members via SMS.
- iv. Computation of loan repayment is done at the back end.

Case 5 – Disbursement of funds at the end of the cycle.

- i. At the end of the savings cycle, total receivables include principal and interest is automatically computed and disbursed into single Momo account for subsequent disbursal.
- ii. Funds could also be disbursed into member MoMo wallets.
- iii. Or total cash withdrawn from Bank Account and subsequently disbursed.

2.3 Business Rules/ Logic

- i. Only members should have access to the app.....
- ii.
- iii.

3. Project Plan/Roadmap

1. Requirement gathering, analysis and approval – 1 week
2. User interface design – 3 weeks
3. Contract Negotiations and Signoff
4. Mobile App & Dashboard planning and development – 3 weeks
5. Backend planning and development – 3 weeks.
6. Technical Testing and fine tuning – 1 week
7. User Acceptance testing – 1 Month
8. Final contract commitment.
9. Go-live.

4. Acceptance Criteria

- i. Fully functional digital solution of the above requirements.
- ii.
- iii.



5. Approvals

Position	Name	Signature	Date



1. The current cost of hosting the backend servers is estimated to be in the range of \$25-\$35 a month.

A vendor named Contabo offers VPS at a rate of \$5.50 a month.

CLOUD VPS S \$5.50 / month 4 vCPU Cores 8 GB RAM 50 GB NVMe or 200 GB SSD 1 Snapshot 32 TB Traffic* Unlimited Incoming Select	CLOUD VPS M \$12.50 / month 6 vCPU Cores 16 GB RAM 100 GB NVMe or 400 GB SSD 2 Snapshots 32 TB Traffic* Unlimited Incoming Select	CLOUD VPS L \$21.50 / month 8 vCPU Cores 30 GB RAM 200 GB NVMe or 800 GB SSD 3 Snapshots 32 TB Traffic* Unlimited Incoming Select	CLOUD VPS XL \$40.00 / month 10 vCPU Cores 60 GB RAM 400 GB NVMe or 1.6 TB SSD 4 Snapshots 32 TB Traffic* Unlimited Incoming Select	CLOUD VPS XXXL \$77.00 / month 24 vCPU Cores 120 GB RAM 600 GB NVMe or 2.4 TB SSD 1 Snapshot 32 TB Traffic* Unlimited Incoming Select
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They have 4 packages available.

1 Month
3 Months
6 Months
12 Months

2. We would need to purchase a domain with SSL connection in order to secure requests between the app and backend. Domain prices are not fixed but typically range between \$8 and \$20 per year.
3. Internet cost is about GHS 520 a month. Vodafone network was recently reconnected.



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CLOUD VPS S	CLOUD VPS M	CLOUD VPS L	CLOUD VPS XL	CLOUD VPS XXXL
\$5.50 / month	\$12.50 / month	\$21.50 / month	\$40.00 / month	\$77.00 / month
4 vCPU Cores	6 vCPU Cores	8 vCPU Cores	10 vCPU Cores	24 vCPU Cores
8 GB RAM	16 GB RAM	30 GB RAM	60 GB RAM	120 GB RAM
50 GB NVMe or 200 GB SSD	100 GB NVMe or 400 GB SSD	200 GB NVMe or 800 GB SSD	400 GB NVMe or 1.6 TB SSD	600 GB NVMe or 2.4 TB SSD
1 Snapshot	2 Snapshots	3 Snapshots	4 Snapshots	1 Snapshot
32 TB Traffic* Unlimited Incoming				
Select	Select	Select	Select	Select
Our Recommendation				

They have 4 packages available.

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SUMMARY

Skilled Software Engineer and Application Support Engineer with knowledge in DevOps tools as well as systems solutions architecture. I have gathered valuable years of experience with a desire to learn in this rapidly growing technological environment.

I have worked with multiple systems and technologies including AWS, nagios, Kubernetes and docker which combined with my software development experience using languages like PHP, Python and React have given me a good understanding of application functionalities and integrations.

PROJECTS

PERSONAL PROJECTS

www.solisfinance.com

Payment system for a nedco project

[Readils.com](http://readils.com)

reedafrika.org

EXPERIENCE

Mialat Company Limited, mialatcompanyltd.com Accra, Ghana
— Communications Manager

DECEMBER 2014 - PRESENT

- Software development
- Application operations management

Projects worked on

- Development of the GeoMining application for data collection

SKILLS

- Unix proficiency
- Troubleshooting
- Web designing with html and CSS
- PHP
- Reactjs / Javascript / Jquery
- Python
- Java
- MySQL / database management

HOBBIES

- Programming
- Gaming
- Drawing
- Swimming
- Listening to music
- Watching movies

PLATFORMS/FRAMEWORKS WORKED WITH

- Laravel, Django, Spring
- Docker & Kubernetes
- Kibana
- Flutter



- Payments gateway development
- Several other website/application developments including ecommerce, Pharmaceuticals, invoice management, POS etc

LANGUAGES

English

Cellulant, GACC Building, 1st Floor room 125, Airport Bypass Rd, Accra — *Senior DevOps Engineer (Consultant)*

JULY 2018 - PRESENT

- Ecobank application backend support
- Support projects and operations of the mobile app for the bank
- Provide solutions for continual improvement of the service
- Manage client communication with Technical, Business and Sr Management
- Carry out system tests for new products
- Implementation of configurational or policy changes as per guidelines given by client.

Projects worked on

- Application setup on IBM/AWS cloud
- Setup of Ecobank mobile application on the UAT servers.
- Data migration from old to new application servers

Mahindra Comviva Technologies, AirtelTigo Ghana Head Office, Accra — *Senior associate support engineer*

MAY 2014 - JUNE 2018

- Airtel Money backend support
- Monitoring and implementation and operation of defined controls and recommendations on ongoing basis via client team
- Support all project and Operations
- Creating/changing and deleting users on the GUI application as per request.
- Contributing and maintaining system standards
- Make Policy changes as per guidelines given by client
- Patch updating and signature pattern updating required for firewall/IDS
- Password Policy Enforcement and server and Database



- hardening
- Application of security patches for OS/DB and other applications
 - Report generation from oracle database
 - Backup of system information
 - Manage client communication with Technical, Business and Sr Management
 - Responsible to deliver all Contractual scope and meeting KPIs/SLAs with no penalty
 - Develop and maintain documentation for supported infrastructure
 - Carry out System integration testing (SIT) of Value Added Services
 - Resolve applications problem within agreed SLA's and coordinates users' requirements
 - Contribute to quarterly interest payments of customers on the mobile money platform.

Other tasks

- Churn management of ported out customers
- Reconciliation on customer balances to ensure there is no variance

Projects worked on

- Mobile Money Interoperability Project to allow transfer of funds between customers of different mobile money operators
- AirtelTigo mobile money merger
- Multiple bank integrations with AirtelTigo Money including Barclays bank, Fidelity bank, First Atlantic bank, Ecobank, GT Bank, Zenith Bank etc
- Third party integrations with AirtelTigo Money

Nodes Managed

- MobiQuity ecommerce platform for AirtelTigo Money
- Symantec Backup Exec 2012

Airtel Ghana, AirtelTigo Ghana Head Office, Accra — IT Support

OCT 2013 - MAY 2014

- Maintenance of Computer hardware equipment in Airtel



shops and data centres

- Software management of Airtel computers
- Network maintenance on staff computers

Tigo Ghana, Tigo Ghana Limited, Sunyani — *Site Engineer*

JUNE 2011 - AUGUST 2011

- Maintenance and supervision of power equipment at Tigo cell sites
- Compiling of equipment information

EDUCATION

Ghana Technology University College, Tesano, Accra — *BSC Telecommunications Engineering*

SEPTEMBER 2009 - JUNE 2013

Selected Courses: Antenna and Wave Propagation, Signals and Systems, Opto-Electronics, Digital Signal Processing, Mobile and Satellite Communication, Electromagnetic Wave Theory, Programming.

NIIT, Ring Road Central, Kokomlemle, Accra — *Certificate in software engineering*

FEBRUARY 2015 - FEBRUARY 2016

Selected Courses: Java, Java EE, Jquery, database management, microsoft office

Transmission Engineering, Adjiringanor, Accra — *Certificate in transmission*

JUNE 2013

Fibre Optics Splicing and testing, Adjiringanor, Accra — *Certificate in Fibre optics splicing and testing*

JUNE 2013

Pope John Senior High School, Koforidua

AUGUST 2005 - MAY 2008

