

TECHNICAL PROPOSAL
For the Work
BMTL Lab Management Systems Software



Submitted to

*BMTL Office, Dhaka/Bangladesh
Submission Date: May 05, 2023*

Submitted by

Raven Systems Ltd.



Address	33, 37 Milk Vita Road, Dhaka 1216 Tel:+880-2-982221, 9822334, 9820594, 9822333. Mob: 01819-556043 Email: info@ravensystemsltd.com
---------	--

05th June, 2023

To

Mashuk Arman

Deputy General Manager

Bangladesh Material Testing Lab

33 & 37, Milk Vita, Mirpur Section 7, Dhaka-1216, Bangladesh

Sub: Submission of RFP for “BMTL Lab Management Systems Software”.

Dear Sir,

I would like to state that our company, Raven Systems Ltd is an IT Firm renowned for the successful conduction of IT projects very much like this.

Raven Systems Ltd is very much interested to have the valuable opportunity for Submission of RFP for “BMTL Lab Management Systems Software” for your renowned Organization. I strongly believe that Raven Systems Ltd is qualified to meet your demand.

We hereby submit our RFP Document

We are very excited about this project and would like to look forward to do this work on this project. Thanking you in expectation.

Thanking You

Easir Arafat | Deputy General Manager |

[Raven Systems Ltd](#) | [DIRD Group](#)

Mobile: 01819556043

E-Mail: arafat@dirdgroup.org

Web: www.ravensystemsltd.com

Functional analysis:

SL	Task	Category		Functional Type
1	Login			Transaction
2	Dashboard			Transaction
3	Order	Entry		Transaction
4		Invoice		Report
5		Order list		Transaction
6	Payment	Payment receive		Transaction
7		Invoice		Report
8	Sample	Receive from client		Transaction
9		Transfer		Transaction
10		Transfer list		Transaction
11		Transfer receive		Transaction
12		Stock		Report
13		Challan		Report
14	Specimen	Creation		Transaction
15		Transfer		Transaction
16		Transfer list		Transaction
17		Transfer receive		Transaction
18		Stock		Report
19		Challan		Report
20	Test data entry	GSM		Transaction
21		CBR		Transaction
22		Characteristics opening size	Base form	Transaction
23			n Specimen wise glass beads passing	Transaction
24		Water permeability		Transaction
25		Tensile test		Transaction
26		Thickness		Transaction
27	Report	Approval	Queue	Report
28			GSM	Report
29			CBR	Report
30			Characteristics opening size	Report
31			Water permeability	Report
32			Tensile test	Report

33			Thickness	Report
34		Delivery	Top page	Report
35			Summary	Report
36			GSM	Report
37			CBR	Report
38			Characteristics opening size	Report
39			n Specimen wise	Report
40			Water permeability	Report
41			Tensile test (x2)	Report
42			Thickness	Report
43		Sells report		Report
44		Order history		Report
45	Configuration Form	User		Configuration
46		Producer		Configuration
47		Permission		Configuration
48		Section		Configuration
49		Unit		Configuration
50		Machine		Configuration
51		Currency		Configuration
52		Physical condition of sample		Configuration
53		Test name & standards		Configuration
54		Payment method		Configuration

Achievements of milestones:

[illegible]

Responsibility Assignment Matrix

SL	Phase	Activity	Client Role	Vendor Role
1	Requirement analysis and SRS approval	Arrange Meeting with concerned department	R	P
		Collect requirement	I	R
		Analyze and specify requirement		R
		Submission of SRS for Approval	P	R
		Approval of SRS	R	
		Introduction of external system, Sharing of sample API/ interfaces with integration process and documentation.	R	P
2	System Design	Presentation of business process flow	P	R
		System architecture design		R
		Database Design		R
		UI Design		R
		Approval of UI	R	P
3	Development and Integration with External System	Define sprint and estimate the effort to complete the sprint.		R
		Provide required interface/ APIs/sms gateway for development and proper documentation with clear guidelines for integration of APIs/ Interfaces. APIs/ Interfaces should be tested and functional.	R	P
		Development of sprint		R
		White box testing		R
		Deploy in testing environment		R
		Provide same interfaces/ APIs for test environment	R	
4	Testing and QA	Prepare test cases		R
		Execute testing according to test case		R
		Publish test result		R
		Bug fixing and retest		R
5	Deployment and UAT	Deployment for UAT in test environment		R
		Use and provide feedback	R	
		Tuning and minor changes as per UAT		R
6	Training	Arrange training session with required infrastructure	R	
		Provide training	P	R
	Go Live and handover	Deploy in live server		R

		Provide all the required interfaces in live environment with same specification as supplied in development phase.	R	P
		Change all default passwords, create user, permit users to different functionality	R	
		Handover documents and deliverables		R

Flag Definition:

R = Responsible

P = Participant

I = Input

Technical Specifications

Technical Specification

Frontend	Angular, Bootstrap 5, Kendo UI
Backend	.Net Core
Database	MS SQL
Cloud Hosting	Microsoft Azure
Data visualization	Microsoft Power BI
Testing Tools	Selenium WebDriver, JMeter
Bug Reporting Tools	JIRA
Version Control	Git

Project Architecture

Architectural pattern	MVC (Model-View-Controller)
Architecture	Microservices
Design Principle	SOLID
Governance Framework (BNDAS Standard)	Maintain (Business , Application,Data &Technology Architecture) for governance & security

Security Specifications

- Cross Site Request Forgery (CRSF)
- Cross Site Scripting (XSS)
- Session hi-jacking

- Session Fixation
- SQL Injection
- Input Validation/Filtering
- Code Injection
- Secure File Access

Nonfunctional Requirements

Performance and scalability

The system will be developed in such a way so that maximum transaction time of transactions will not more than few seconds. Also, it will be scalable if the number of users and transactions increases significantly. Multiple servers can be used in such case.

Portability and compatibility

The system will be developed in such a way so that it can ensure maximum compatibility. It will be useable in PC as well as smart phones and tabs. It will also ensure the capacity of running different browsers.

Reliability, availability, maintainability

If needed backup server can be remaining stand by to reduce downtime and critical failures.

Usability

The system will be designed in such a way that user can perform each operation with minimum effort. User-friendly UIs will help users to increase their efficiencies.

Deliverables

- Full Software Requirements Specification (SRS)
- Source code for all modules and DB backup
- Deployment guidelines
- Transfer admin and demo accounts
- Transfer accounts & credentials ownership
- Test case and Test report
- User training (5)
- User manual
- Support in contract period

Financial Proposal

Functional breakdown

SL	Task	Category	Required Man Hour				Budget (800 TK per hour)
			Analysis	Development	QA	Total	
1	Login		2	10	5	17	13600
2	Dashboard		5	20	8	33	26400
3	Order	Entry	8	25	8	41	32800
4		Invoice	5	10	5	20	16000
5		Order list	5	15	5	25	20000
6	Payment	Payment receive	5	15	5	25	20000
7		Invoice	5	10	3	18	14400
8	Sample	Receive from client	5	20	10	35	28000
9		Transfer	5	20	10	35	28000
10		Transfer list	5	20	10	35	28000
11		Transfer receive	5	20	10	35	28000
12		Stock	5	15	8	28	22400
13		Challan	5	15	8	28	22400
14	Specimen	Creation	15	25	5	45	36000
15		Transfer	3	10	5	18	14400
16		Transfer list	3	10	5	18	14400

17		Transfer receive		3	10	5	18	14400
18		Stock		3	8	5	16	12800
19		Challan		3	8	5	16	12800
20	Test data entry	GSM		5	25	5	35	28000
21		CBR		5	20	3	28	22400
22		Characteristics opening size	Base form	10	30	10	50	40000
23			n Specimen wise glass beads passing	5	25	5	35	28000
24		Water permeability		5	15	5	25	20000
25		Tensile test		5	20	5	30	24000
26		Thickness		5	15	5	25	20000
27	Report	Approval	Queue	5	15	5	25	20000
28			GSM	2	10	4	16	12800
29			CBR	2	10	4	16	12800
30			Characteristics opening size	5	20	10	35	28000
31			Water permeability	2	10	4	16	12800
32			Tensile test	2	10	4	16	12800
33			Thickness	2	10	4	16	12800
34		Delivery	Top page	5	15	5	25	20000
35			Summary	5	15	5	25	20000
36			GSM	5	15	5	25	20000
37			CBR	5	15	5	25	20000
38			Characteristics opening size	5	15	5	25	20000
39			n Specimen wise	5	15	5	25	20000

40			Water permeability	5	15	5	25	20000
41			Tensile test (x2)	5	15	5	25	20000
42			Thickness	5	15	5	25	20000
43		Sells report		5	25	10	40	32000
44		Order history		5	25	10	40	32000
45	Configuration Form	User		2	8	3	13	10400
46		Producer		2	8	3	13	10400
47		Permission		2	8	3	13	10400
48		Section		2	8	3	13	10400
49		Unit		2	8	3	13	10400
50		Machine		2	8	3	13	10400
51		Currency		2	8	3	13	10400
52		Physical condition of sample		2	8	3	13	10400
53		Test name & standards		2	8	3	13	10400
54		Payment method		2	8	3	13	10400
Total (man hour vs cost)				230	786	293	1309	1,047,200
Documentation (SRS and Technical documentation)				N/A				100,000
Deployment & Installation								50,000
Grand Total:								1,197,200

Summary of Costs

SL	Description	Amount in BDT
1	BMTL lab management systems web application	12,00,000.00
Grand Total		12,000,00.00
Maintenance & Support		
1	Annual Maintenance (20% of the Proposed Price)	

Payment Schedule

On Submission/completion of		Payment
1	Advance (After SRS approved)	50% of Work Order Value
2	Deployment of System	35% of Work Order Value
3	After Training & Handover	15% of Work Order Value

Training

Two resources will be allocated for on-site training. Training will be scheduled as per client's requirement. 5 (Five) training will be conducted at BMTL office.

Support and Maintenance

Vendor (Raven Systems Ltd.) will support and maintenance for the contract period (12 months). Support & maintenance includes:

- Bug fixing of the Web Application.
- Technical Support for databases: scheduled backup, restore
- Troubleshooting, tuning, data export-import, backup etc. for databases.
- Technical Support for installation, configuration, and deployment of application servers.

Terms and Conditions

- Payment will be received through A/C Pay check to Raven Systems Ltd.
- Additional bills will be charged for the requirements that are not covered by the approved SRS.
- AMC will not cover additional requirements/development.
- Quoted price does not include the following elements of the site development:
 - a. Domain name registration costs and fees
 - b. Content Generation.
 - c. Hosting charge.