TERMS OF REFERENCE (TOR)

[Development of Mobile Daily Allowance and Travel App]

Ministry of Finance

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CONTENT

1. Background Information

To formulate and implement dynamic fiscal policy as well as strengthen public financial management (PFM) for effective resource mobilization, efficient allocation, prudent expenditure and debt management with proper accountability of public resources, the Department of Public Accounts (DPA) has developed and implemented Electronic Daily Allowance & Travel System (eDATS) since July, 2021 with more than 38000+ users, spread across the Country. eDATS has been developed on the Laravel framework of the PHP platform and DB for reporting purposes.

The system has helped replace manual TA/DA forms to reduce paper usage in the government, improve timeliness and convenience in processing individual claims, to bring uniformity in the application of the TA/DA rules in Budgetary Bodies, improve government reporting, prevent double claims/payments, pave way to cashless modality and minimize the risk of corruption. However the web based system is not capable of implementing some of the advanced features such as capturing images with geo-coordinate of location which would help maintain the integrity of the users such as curtailing under table tours.

To further enhance and to accommodate the feedback received from the users and to stabilize the system to bring fiscal transparency, effectiveness and efficiency in the disbursement of public servants' traveling allowances, the department has come to the conclusion of implementing the existing web based system into mobile application with more advanced features.

In this regard, the department intends to develop Mobile apps which can serve the users with the features already implemented in web based systems with ease and comfort as well as some of the advanced features to make the system more relevant and applicable.

2. Objective

The main objective for developing the Mobile Daily Allowance and Travel app are to:

a) Replicate the entire TA/DA functionalities and processes of the Web based application system to make it mobile friendly.
b) Add functionality to capture image/picture with geo-coordinate locations
c) To ensure interoperability and flexibility TA/DA over multiple platforms such as via mobile as well as web based.
d) Prevent double claims/payments and minimize under-table tours
e) Enhance user experience with the utilization of inbuilt features of mobile phones like GPS, camera, etc.

3. Scope of Work

The scope of the work is mentioned below but is not limited to the following:

(i) Develop a Mobile APP with all functionalities and functions of the current web-based Daily Allowance and Travel Allowance system with ease and comfort. The APP should have a main functionality to capture an image/ picture of location with geo-coordinates.

(ii) The vendor shall study all the necessary features and plot geo-coordinates on the base map to ensure validation and verification of locations.

(iii) Some of the functions and necessary features and requirements of the app are specified and should not be limited to those mentioned in the Technical Requirements. The vendors should understand the functionality and working of the proposed app in detail during the design phase.

(iv) The vendor shall follow Agile development methodology. Every MVP(Minimum Viable Product) should be demonstrated and sought validation from the client before proceeding to the next MVP development.

(v) Provide comprehensive training to the Procuring Agency in the operation of the application, backup and configuration including operation manual.

(vi) Provide complete source code with all the system files needed for installation and execution of the package including installation manual.

(vii) The SDV must provide support and assistance to the procuring Agency at least for a period of one year to gain necessary expertise and confidence in using the application developed by SDV.

(viii) Provide product warranty support for a period of five years from the time of acceptance of the application by the Procuring Agency and carry out revisions, if any, arising out of bugs or minor changes during the period. During the period, SDV shall also bear all the licenses and annual fees for operation of apps on android and ios platform.

(ix) Implement and provide the application with all the standard security features inbuilt to ensure integrity of data. The SDV will be responsible for the recovery of the data that is tampered with because of lack of standard security features.

(x) The application package must have user access roles through which it can assign or revoke rights of a user to a function or data.

(xi) Handle overall technical issues including hardware, software, storage, licensing and other technical requirements. Regularly check and implement system updates, security patches and hardware/software firmwares including updates in the android and iOS platform.

4. Deliverables

The vendor shall deliver the following:

i. Fully functional Mobile Daily Allowance & Travel app and all those mentioned in the Scope of Work.

ii. Hosting and managing necessary technical requirements for operation of the app.

iii. Complete licensing requirements for the operation of the mobile apps.

iv. Documentation and training for operation, maintenance and troubleshooting.

5. Technical Requirements/Description of the Mobile Daily Allowance and Travel App

A. Mobile Daily Allowance and Travel App Functions

The Daily Allowance & Travel app shall consist of two important components;

1. General Users

1.1 Travel Authorization

In this function, the mobile app should be able to let the users apply for travel authorization in which a user can give the information on the purpose of the travel, start date and end date along with the approving authority and travel type.

1.2 Travel Extension

In this function, the mobile app should allow users to apply for extension of the travel if they need extra time for the completion of work or any other emergency reasons like roadblock.

1.3 Travel validation (Geo-Location)
In this function, the mobile app should allow users to update the current status of their travel along with the function to capture the image with geo coordinates which will locate the place in the map helping approving authority to validate the integrity of their employee.

1.4 Travel Report
In this function, the mobile app should allow users to submit their travel report along with the video and image evidence.

1.3 Travel Allowance Claim
In this function, the mobile app should auto generate a Travel Allowance Claim once the Travel Authorization is approved by the Approving Authority.

2. Approving Authority
1.1 Travel Authorization (Approval)
In this function, the mobile app should be able to let the users view the details of the application for travel and approve/reject it.

1.2 Travel Extension (Approval)
In this function, the mobile app should allow users to view the details of the extension for travel and approve/reject it.

1.3 Travel validation (validation)
In this function, the mobile app should allow users to view the report and constantly monitor the current status of their employee with the image they have uploaded which has geo coordinates which will locate the place in the map helping the approving authority to validate.

1.4 Travel Report (validation)
In this function, the mobile app should allow users to view the report of the travel and validate it.

1.3 Travel Allowance Claim (Approval)
In this function, the mobile app should allow the users to view the details of the claim of the travel and approve/reject it.

C. System Development Requirements

The Mobile app should be functional both in the iOS and Android platforms.

The Mobile app installed in the user device should be able to measure above technical parameters**.** The Mobile app along with the above measured results, should also send the following details to the data collecting server automatically:

1) Geo-coordinates of the location of the mobile phone from where the image is taken.
2) Time and Date of Image taken
3) Mapping: It should also be mapped with the google-map based on the geo-coordinates reading automatically.
4) Reporting: The data received (*data collected from the user's mobile phone*) needs to be generated as an individual report.

D. System Development Methodology

SDV should adopt the agile development methodology. The entire work should be broken down into smaller chunks of MVPs(Minimum Viable Products), and every MVP should be demonstrated to the client before proceeding to the next MVP development.

E. Software User Requirements

This development activity includes:

(i) Mobile app development with all existing web based features/functionalities replicated.

(ii) Integrate with the database system of the web based system.

(iii) Operational activity such as hosting, managing necessary technical requirements for the operation of Mobile App.

(iv) Licensing requirements including technical softwares for development, license for operation and other licensing requirements to fully operate Mobile Daily Allowance and Transfer app.

G. Platform and Technology

(i) The infrastructure for hosting the applications gateways, databases and platforms shall be provided by the Procuring Agency in the Government data center.

(ii) The proposed application must run on popular mobile OS (iOS and Android).

(iii) The recommended language for the application development is java with any cross platform framework.

H. Cost of Licenses

The cost of all licenses during the warranty period will be borne by the vendor including licenses required by the proposed application software during the development, hosting and production (including but not limited to the cost of IDE, databases, server OS, virtualisation, orchestration, storage, network equipment and other software/hardware/platform/technology).

The software development vendor should provide the necessary indemnity to the Procuring Agency that it processes bonafide for the same.

I. Concurrency, Browser Compatibility and Bandwidth Optimization

The application including the database/s must provide at least 9,000 concurrent accesses with load balancing/caching facilities for high performance.

The portal developed should run optimally on Android and iOS devices. The application must run on any screen size (tablets, phones). Using modern UI frameworks for responsive design is highly recommended.

6. Development Process Flow

The following are some of the activities required to successfully complete the assignment:

(i) The Vendor shall carry out a detailed assessment of the existing web-based TA/DA application and replicate all functionalities onto a mobile APP.

(ii) The Design and development of the APP should be as per the Agile development methodology. The vendor will develop and present a non-functional prototype of the system to the client and obtain approval for each module. This will help in better user acceptance of the system.

(iii) The vendor will build on the approved prototype, the new system which will be fully functional at its own premises. The vendor must have its own Software Development Laboratory within its local premises with adequate Hardware and Software.

(iv) After the development is over, the apps will be first tested from the vendor's side. Any reported bugs shall be fixed.

(v) The final testing of the software package will be done by the procuring agency. After the user acceptance test succeeds, the software will be deployed for live operation.

7. Training

The vendor must provide comprehensive training to officials of the Procuring Agency in the operation of the app and all reporting options.

8. Warranty, Support, Maintenance & Change Management

(i) The vendor must provide free support for a period of 5 years from the time of acceptance of the software by the Procuring Agency (Warranty support).

(ii) During the warranty period, the vendor will be responsible for licensing, making necessary changes as well as fixing the bugs, if any.

(iii) If there is a major change (as defined in iv) in the requirements of the system, the vendor must provide post implementation support for five years from the date of acceptance of the software package by the Procuring Agency.

(iv) The changes will be considered major if the change brings about a major impact on the database or adds more input screens.

9. Backup and Recovery

The vendor must propose solutions for high availability and a model for data recovery with appropriate backup solutions.

10. Ownership of Source Code and other Intellectual Property

The Procuring Agency will be the rightful owner of the Source Code and all Intellectual Property associated with the system and they will have full rights over the ways they can use these resources. The information system so developed will be the sole property of the Procuring Agency or any agencies designated by them. The Software Development Vendor (SDV) will have no right to commercially use or apply the software elsewhere.

11. Re-engineering of the Processes

The vendor must try to re-engineer the processes wherever possible so that the system can be optimally utilized.

12. Obsolescence

The vendor undertakes to continuously and unfailingly advise the procuring agency of new technologies (hardware & system software) in regard to the Solution during the currency of this Contract. If the Client decides to introduce any such new technologies in replacement of the Solution or along with the Solution or as the case may be, the work that may arise therefrom shall be considered beyond the purview of this Contract. The Client shall enter into a change request contract (CRC) for the purpose; provided that such work scope is not being covered under the license agreement.

13. Naming Convention /Standard

In order to keep source codes organized, vendors must strictly follow standards for forms, reports, database, triggers, views, stored procedures, coding etc.

14. Collaboration, Partnerships with Foreign Firms & Subcontracting

(i) The local vendor is allowed for collaboration or partnership with the foreign firms on their own discretion. However, the procuring agency shall not have any stake with the foreign firms. The local vendor shall be fully responsible for the deliverables.

(ii) The vendor shall have local staff as key members in the project team which is necessary conditions to accept the proposal for evaluation.

(iii) The vendor awarded the contract shall not subcontract the awarded work partly or in full to any National/International Firms.

15. Patent and Copyright

(i) The Vendor represents that the Solution or any product/component, supplied by the Vendor does not infringe any patents and copyright. If, however, a third party claims that the Solution or any product/component thereunder, supplied by the Vendor under this Contract, infringes a patent or copyright ("IP Claim"), the Vendor shall defend the Client against the IP Claim at the Vendor's expense and pay all costs, damages and legal fees that a court finally awards.

(ii) If the Vendor determines that no alternative is reasonably available, and the Client agrees to return the Product/Component/Solution to the Vendor on the Vendor's written request, an appropriate compensation has to be proposed and be acceptable to the client.

(iii) The Vendor has and will have no obligation to the Client regarding any "IP Claim" based on:

- the Client's modification of a Product/Component under the Solution unilaterally;
- use of the program in other than its specified operating environment;
- the combination, operation or use of a product/component under the Solution with any other product, program, data or apparatus, not furnished by the Vendor, provided that the use of such product, program, data or apparatus has not been envisaged in this Contract and such product, program, data or apparatus is solely responsible for such infringement.

16. Quality of Work

The Vendor must ensure quality while implementing the system at all times.

17. Timely Completion

The entire work of software development, testing and training should be completed and ready for hosting within *[November, 2022]* from the date of receipt of letter of award. Training may be conducted only after acceptance of the software by the Procuring Agency.

18. Tentative Time Frame for completion

Activities	Aug 2022	Sept 2022	Oct 2022	Nov 2022
Float tender				
Evaluation and Awarding of work				
Study, Understand, Develop SRS, FS, Approval of SRS, FS, Develop non-functional prototype, testing, finalization and ready for hosting.				
Installation in iOS and Android platform and ready for operation.				

19. Minimum Mandatory Eligibility Criteria for Bidder

Sl. No	Mandatory Requirement	Details
1.	Valid Trade License to perform the consultancy service in the software development.	
2.	Valid Tax Clearance Certificate	
3.	Experience of the Firm	1. Bidder must be a Bhutanese IT firm with a minimum 3 years of active existence in software development. 2. Minimum 2 Mobile Apps developed by the firm. Must submit a copy of Work Order/Completion. Certificate/Acceptance Letter from clients as proof.
4.	Technical Resources of the Firm	1. Minimum of two local technical resource persons with minimum 2 years of work experience in Mobile App development. Must submit signed CVs of employees along with required certificates. Must submit a copy of TDS Certificate at least for the last 2 years.

20. Evaluation Criteria

If the mandatory requirements are not fulfilled, the consultant will be excluded from evaluation of the proposal.

The minimum technical score required to pass is *70%*.

A. The criteria for technical proposal evaluation:

For the technical evaluation, the criteria, sub-criteria and points systems for evaluating the technical proposal are as follows:

S.N.	Criteria	Maximum Score	In Percentage
1	**Specific experience of the firm relevant to the assignment (20)**		
a.	Above 2 years with 4 more similar projects on Mobile App development.	**20**	80-100
b.	Above 2 years with 2 - 3 similar projects.		60-80
2	**Understanding on the Assignment, Methodology with regards to the Terms of Reference, Organization and staffing.** The firm shall demonstrate clear understanding of the assignment topic, objectives and scope of the task and expected outcome, any technical requirements of this task. This should be demonstrated through a written technical proposal. **(For this, there should be a detailed write-up (essay) on your understanding of the assignment and the presentation also should be made to the evaluation members.** **(Presentation)**		
2.1	**Understanding on the assignment - Presentation (25)**		
2.2	**Technical approach and methodology (25)** Development methodology with technical details of logic and formulas required for reading, measuring and collecting the network parameters - **Presentation**	**50**	
2.3	**Organization and staffing pattern (5)**	**5**	

a	Proposed team/s allocation for handling different departments is/are adequate			70-100
b	Proposed team/s allocation for handling different departments is/are fairly adequate			40-69
c	Proposed team/s allocation for handling different departments is/are not adequate.			10-39
3	**Key professional staff (25)**			
3.1	**General Qualifications (10)**		**10**	
a	Bachelor's Degree in relevant field with 5 years Experience in relevant field.			80-100
b	Diploma in relevant field/ other Degree with 3 years Experience			60-79
c	Certificate/Diploma in relevant fields.			30-59
3.2	**Adequacy for the assignment (10)**		**10**	
a	Relevant trainings or certifications with documentary evidence			40- 100
3.3	**Bhutanese Developer (5)**		**5**	
a	More than 3 developers			75-100
b	2-3 developers			50-75

21. Payment Method:

1) 20% of total amount on acceptance of non-functional prototype.
2) 20% of the total amount on finalization and ready for hosting.
3) 30% of the total amount on installation and ready for operation.
4) Remaining 30% after 30 days of Operation.

Payment shall be based on the work progress determined by the procuring agency.

22. Termination of Work

The contract shall be terminated if the selected consultant breaches any of the terms and conditions stipulated under the contract.

23. Award Letter and Contract Signing

1. If required, negotiations shall be conducted with the firms based on ranking.
2. The selected firm is required to produce a Performance Security equivalent to 10% of the work award amount while presenting itself to sign the Contract.
3. The Performance Guarantee shall be in the form of Cash Warrant/Demand Draft/Bank Guarantee in favor of procuring agency and shall have a validity of 1 year. Bank Guarantees shall be availed from Banks.