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| nandimith inc. |
| Restaurant Order Management Mobile Application |
| Proposal for the Outsourcing Development – Version 0.1 |
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| **Chameera Wijebandara** |
| **4/9/2015** |

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| This proposal is forwarded to Retail IT (Pvt.) Ltd in response to Definition of requirements / specification for “Restaurant Order Management Mobile Application” communicated verbally on 07th of April, 2015. The scope of this proposal is to develop the above said functionality. |

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# Document History

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| --- | --- | --- | --- | --- |
| Ver. | Date | Description | Author | Approved by |
| v-0.1 | 05-April | Initial Draft | Nandimith Inc.(Chameera) | Nandimith Inc. |

Proposal for outsourcing development for Restaurant Order Management Mobile Application

# Introduction

Nandimith Inc. is delighted to submit a quote to supply software development services to implement a Restaurant Order Management Mobile Application to Retail IT (Pvt.) Ltd, Sri Lanka. Even though the project scope is less complex and the delivery schedule is 4 weeks, we still believe that a comprehensive proposal would ensure a risk free software delivery to the expectations of Retail IT (Pvt.) Ltd, Sri Lanka.

This proposal covers the requirement review, raise of clarifications, study of related technologies, effort estimation, development environment setup, project management and coordination, test plan, delivery plan, and project acceptance procedures.

To ensure the continuous visibility of the progress of the project to all the stakeholders involved, we would be following the best project management practices through Redmine.

Whilst appreciating the opportunity extended to us to provide this proposal for the above software development system, we believe that the information contained in this proposal would meet the requirements and the expectations of Retail IT (Pvt.) Ltd, Sri Lanka.

# Requirements

This is a project to build a mobile application for a restaurant management system. This would be an Android application. This will be an extension to the existing restaurant management system.

Application handle order placing process at restaurants. Customer can access the order catalogue from the application. Oder catalogue will be maintained offline. Customers can add, delete or edit the selections, under the assistance of a staff member at a restaurant. Once the selection is finalized, a confirmation is sent to the cashier and kitchen printer. Table number can be selected at the confirmation. Customer may order additional items later. Those will be added as additional invoices to the main invoice. Application will be connected via WIFI.

The developers are free to choose the technology and frameworks to build the product

# Functional Points

## Summary

The major requirement of this outsource development is to build a Windows desktop application that can handle restaurant. The restaurant order catalogs can be accessed using the android application and order selection can be made through the application. Details of each functional item are described below.

## Assumptions

* App will be deployed in 7” android tabs (Android versions 4.2+).
* Tab will have the required functionality.
* Database access will be provided using HTTP API.

## Limitations

* We are not proposing deformation calculations for a selected region of the vehicle.

## Development

### 3.4.1. CSV Reader

* Read the point vectors of different situations of the vehicle from a series of CSV files.

Outputs

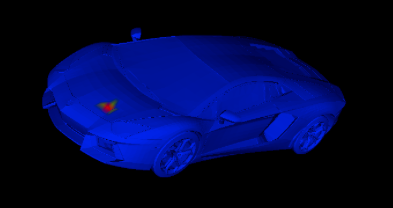
* Generate point clouds using the read data.

### 3.4.2. Deformation Calculation

* Compare the deformed objects with the original object and compute the deformations using based simple calculation.
* The deformation is considered as the vector distance between the original and the deformed locations.
* The point data will be written as STL files for faster reading.
* The color data will be written in a separate series of files.

Outputs

* Calculated deformation with a relevant color assigned



### 3.4.3. Reading/Writing Intermidiate Format

* Write to a series of intermediate files that contain the calculated deformation data. These files can be reused to visualize the deformations later on.
* Reading back and processing the intermediate files.

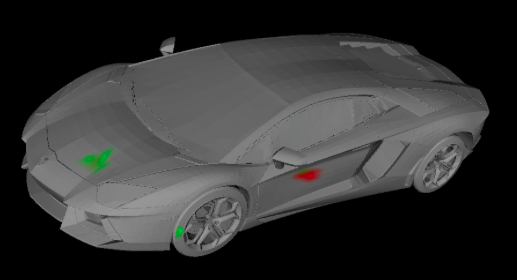
Outputs

* Processed intermediate files.

### 3.4.4. Render Deformation Data

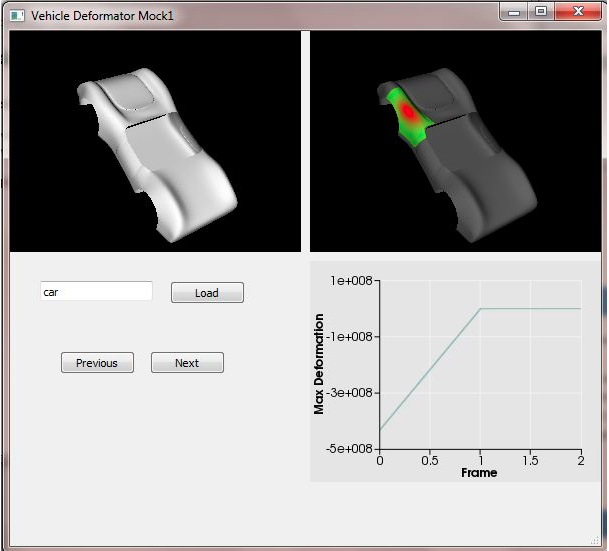
* Render the data computed previously using relevant color gradients.
* The color gradients generated by calculating the maximum and minimum values.
* Produce 2D graphs for deformation statistics like median deformation across the object.

Outputs

* 3D rendered image with deformation data   
    
    
  
* 2D graphs for deformation statistics.

### 3.4.5. GUI

* Qt-based GUI for visualizing the deformations. Contains several 2D/3D widgets including original vehicle view, accumulated deformation view and 2D graph view.
* Control panel to control the visualization.
* A dialog to open the files.



### 3.4.6. Animation

* Animate the visualization using defined time intervals.

# Testing procedures

* The GUI operations involved will be tested against simple test case document by a different person other than the developer to assure the intended functionality after developer confirmation.
* After the initial GUI testing application will provided to Retail IT (Pvt.) Ltd for further testing and feedbacks.
* The end-to-end functionality as per above functional points will be tested against system.
* Application will be provided for system testing to Retail IT (Pvt.) Ltd.

# Technologies to use

* Programming Language: Java
* Special libraries: Qt 4.8.5
* IDE: Android Studio
* Repository: GIT
* PM portal: Redmine (<https://redmine.aasait.com/redmine/projects/vehicle-deformation-simulator>)

# Environment Setup

## Testbed Specifications

* OS: Windows 7
* CPU: Intel Core i3-2350M @ 2.30 GHz
* RAM: 6GB
* HDD: 130 GB (free)
* Graphic Board: Intel HD Graphics 3000
* Monitor Resolution: 1366x768

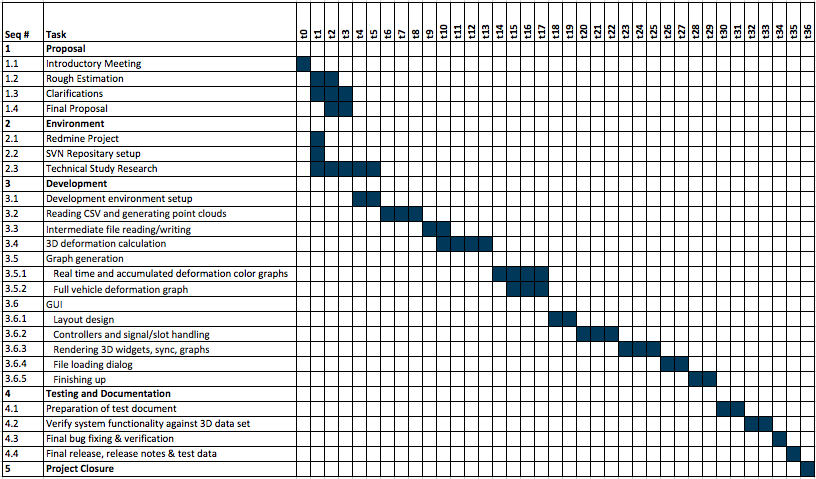
## Security

* All the TEAM members are back-to-back bound with an NDA with Nandimith Inc. for not disclosing any customer and project related information to 3rd parties.
* The code repository is access restricted and permitted only to the corresponding developers with password projection through GIT protocol.
* The project portal is also access restricted and password protected through secured HTTPS.
* Developer computers have source code on any encrypted partition which is password protected.
* On completion of project the corresponding encrypted partition file will be deleted from developer machines assuring removal of all source codes and related documents unless customer advised otherwise.

# Clarifications

* Naming convention of the CSV files

# Delivery Schedule

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# Effort Estimation

|  |  |  |
| --- | --- | --- |
| Outsource Development of Addition of volume data STL export function to Neo3D | | |
|
| Seq # | **Task** | **Effort Estimation (Days)** |
| 1 | **Preparation** |  |
| 1.1 | Study | 6 |
| 1.2 | PM environment setup | 1 |
| 1.3 | Estimation | 1 |
| 1.4 | Proposal | 3 |
| 1.5 | Communication | 1 |
|  |  |  |
| 2 | **Development** |  |
| 2.1 | Reading CSV and generating point clouds | 3 |
| 2.2 | Intermediate file reading/writing | 2 |
| 2.3 | 3D deformation calculation | 4 |
| 2.4 | Graph generation |  |
| 2.4.1 | Real time and accumulated deformation color graphs | 4 |
| 2.4.2 | Full vehicle deformation graph | 3 |
| 2.5 | GUI |  |
| 2.5.1 | Layout design | 2 |
| 2.5.2 | Controllers and signal/slot handling | 3 |
| 2.5.3 | Rendering 3D widgets, sync, graphs | 4 |
| 2.5.4 | File loading dialog | 2 |
| 2.5.5 | Finishing up | 1 |
|  |  |  |
| 3 | **Testing** |  |
| 3.1 | Testing the product | 2 |
| 3.2 | Bug fixing, verification | 2 |
|  |  |  |
| 4 | **Overhead** |  |
| 4.1 | Weekly release (x4) | 2 |
| 4.2 | Project Management, reporting & communication | 7 |
|  |  |  |
| 5. Total |  | **53** |

# Progress Reporting

* Aasa IT use progress update on Redmine with provision for the customer to see live progress of the project at any time through the web portal (<https://redmine.aasait.com/redmine>).
* Additionally, Nandimith Inc. project team is available to contact via email and phone during usual office hours when the customer needed.
* Nandimith Inc. gives weekly update on project including a buildable release of the software (if any).
* Nandimith Inc. has a dedicated technical project manager for this project, who will arrange weekly online progress meetings in addition to regular weekly update via emails.
* At any point of time customer can request for an online meeting. Nandimith Inc. will arrange the same within a day, depending on the team availability.

# Commercials

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Effort** | **Description** | |  | **Unit Price (RS)** | **Total (RS)** |
| **(Days)** |  |  |  | **(Per Man Month)** |  |
| 53.00 | **Outsource development work** | |  |  |  |

# Company Profile

* Company name Nandimith Incorporated.
* Location No 146/7, Pasal Mawatha, Attidiya, Dehiwala, Sri Lanka
* Telephone +94 78 386 6853(Chameera) / +94 71 591 3556(Buddhika)
* Business Outsourced and in-house software development, ICT solutions for non-IT organizations, ICT consultancy for government and semi-government organizations
* Current TEAM 8 members
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# Conclusion

Based on the specifications we received by now, we have done certain assumption as stated above. Hope this proposal meets your requirements.

But we are flexible to amend the scope according to your requirements. We will see the feasibility of utilizing available resources to meet your delivery schedule requirements. We have done our best to provide the most optimized schedule and effort estimation to provide the most attractive pricing for the job.

We would like to make this a win-win opportunity to both Nandimith Inc. and 3D Incorporated to continue the businesses with better and quality service to the end users of the project and services. We at Nandimith Inc. are bound to do our best in achieving this objective.

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