Project Statement

Company Name:
NAMMPSoft Inc.

Team Members
<<REMOVED>>

Detailed Description of Software:

NAMMPSoft Inc. is collaborating with a manufacturing company to develop a hand-held device, which performs the operations listed below. NAMMPSoft Inc. is developing a software application, which implements the following functionality along with a user-friendly GUI Interface. Ultimately, our goal with this project is to create a device, which will remove barriers to global communication. Many people, ranging from tourists to relief workers, will be able to use this device to facilitate their international activities.

1. Captures an image (containing text), recognizes text from it and translates it to required language. An exemplary use of this functionality is translating a restaurant menu or a sign at a market when the language is of a character set with which the user is unfamiliar.

2. Accepts typed in text, translates to foreign language, and displays translated text or audio output of corresponding text. This functionality is useful when the user wishes to translate a word from a known language to a foreign language. For example, somebody attempting to order soup at a restaurant could type in "soup" and then hear how to say the word for "soup" in the foreign language.

3. Accepts voice input from a microphone, performs recognition using a speech recognizer, translation using a machine translator, and generation of the translated audio output using a speech synthesizer. This is useful when attempting to understand foreign radio stations or television stations, or when attempting to converse with a speaker of the foreign language.

4. Provides interpretation of common road signs. The device's rapid translation algorithm provides a near-immediate translation of road signs to ensure safe transit.

5. Synchronizes to a computer to obtain databases previously downloaded from a web application developed by the company, using a password-protected secure login. The company will frequently update the database with new language research, ensuring that the customer will be have access to the most accurate language data.

6. Stores pictures in either a removable SD card or internal memory (2 GB). The device can then either have the SD card removed or be attached to a computer via USB2.0 to transfer the image files.

Other Systems/Applications Interactions:

- User's personal computer
- Master Text Database, managed by company, for the different languages

Users:

- The customers to whom the product will be very beneficial are:

  1. Frequent Travelers – International businessman, Tourists, Exchange Students

  2. Troops deployed in foreign countries

  3. Relief workers in foreign countries

4. People with speaking disabilities

- Database Administrator - The DBA commonly performs the following duties:

    1. Creating and testing Backups

    2. Verifying the integrity of data

    3. Defining and/or implementing access controls to the data

    4. Ensuring maximum uptime

    5. Ensuring maximum performance given budgetary constraints

    6. Helping programmers and engineers to efficiently utilize the database.

- Data Entry Personnel – these users work under the DBA and are entrusted with the following duties:

    1. Language Data processing / Data Entry services

    2. Master Language Database Maintenance

    3. Transcription Services

    4. Back office services

    5. Records Management

The data entry personnel update the language database with the alphabet and words of the languages.

Stakeholders:

- Customers/Clients

- Company manufacturing associated hardware

- Company providing embedded operating system

- Shareholders of NAMMPSoft Inc.

- Distributor who markets the finished product.

Reasons for Profitability:

Today, there are an increasing number of International businesses, which require overseas employment. Such businesses will be able to function more efficiently if they are able to communicate their ideas and expectations to their foreign counterparts. The device developed by NAMMPSoft Inc will definitely aid these businesses, and will therefore form a substantial portion of NAMMPSoft's clientele. The defense department of the government will also find it a viable option to better equip the troops in foreign countries. As shown by the recent surge in the sale of the Apple iPod phones, the general public is also looking for more compact technological devices with attractive multiple features. The device serves numerous purposes not available today and will therefore be profitable for the company.

High Level Schedule:

The estimated effort for the requirements and design-engineering phase of the project is estimated to be 120 hours over a period of 10 weeks (no. of weeks left in the semester). The implementation and testing phase take up the same time approximately. Therefore, the total estimated time for the project is 332800 person-hours or roughly 2 years. The effort estimation for each phase is prepared according to the 40-20-40 rule suggested in the textbook.

TASKS	EFFORT (person-hrs)

Requirements Engineering (10% of 332800 = 33280 person-hrs)

• Establishing basic understanding of the problem (10%)	3328
• Gathering requirements from customers/users (10%)	3328
• Analysis Modeling/ Use Case Analysis (35%)	11648
• Negotiation/ approval of requirements (10%)	3328
• Specification/Documentation of requirements (35%)	11648

Design Engineering (30% of 332800 = 99840 person-hrs)

• Data Design (25%)	24960
• Architectural Design (10%)	9984
• Interface Design (20%)	19968
• Component-Level Design (20%)	19968
• Deployment-Level Design (15%)	14976
• Design Review/Approval (10%)	9984

Implementation (20% of 332800 = 66560 person-hrs)

• Coding (80%)	53248
• Coding Review (20%)	13312

Testing (40% of 332800 = 133120 person-hrs)

• **Test Plan (10% = 13312 hrs)**	
1. Test Strategies (20%)	2662.4

2. Test Case Design (70%)   9318.4

3. Test Review/Approval (10%)   1331.2

- **Testing (30% 332800 = 9984 person-hrs)**

    1. Unit Testing (40%)   3993.6

    2. System testing (20%)   1996.8

    3. Integration Testing (10%)   998.4

    4. User Acceptance Testing (10%)   998.4

    5. Debugging (20%)   1996.8