Problem Statement for Tac-Com

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High Level Problem Summary:

A multiplayer game with a combat system similar to early final fantasy games does not currently exist.

Summary of Primary Success Criteria:

- Solid turn-based combat system for multiple characters
- Support for multiple teams
- Character creation/modification system for use in combat system in a future release
- Character customization through items and abilities (Items to be implemented in a future release)
- Intuitive user interface

Scope

We will restrict ourselves to two languages, English and German. We will not cover network capabilities, only two players on the same computer can play the game.

Detailed Problem Statement:

Function:

The solution must be playable, be usable in English and German, and must be simple, intuitive, and the core mechanics of the game must function.

Key Business Features:

- Intuitive User Interface
- Dual-language support
- Character customization (in a future release)
- Multiplayer support

Key Enabling Features:

- Clean, well documented code
- Sets of dynamic test cases
- User guide
- External configuration files

Key Concurrency Issues

- User Interface
- Game actions
- Language support

Form

Key Attributes:

- **Performance & capacity**
  The performance should be high, the response time of the game between user interactions should not be noticeable. No lag of any kind should be noticeable by the user.

- **Reliability & availability**
  The reliability should be fairly high, only minor bugs should make it through on the final product, which shouldn't deprecate game play.

- **Usability**
  The product should be intuitive and usable to a large audience, either English or German.

- **Security**
  The program will be a standalone application and is designed for customization for the user. The user should be aware of the fact that they could possibly break the game if they modify the game files too heavily.

- **Modifiability**
  The product will be very modifiable seeing as how we offer them the ability to modify most of the game data files. The core mechanics of the game won't be able to be modified, but most characteristics should be able to be changed. The code will be well documented if new features need to be added.

- **Testability**

  The product will be able to be tested. All of the calculations made in the game are numeric, and can be tested using an automated system. Any randomness used in the product will be tested using a range of averages. Gameplay could be simulated using a mocking system. User interface could also be tested by mocking.

- **Safety**

  The game is standalone and won't modify any files outside of the game files.

Hardware & Software Constraints:

The software constraints are that the program must be run on a Microsoft system. The hardware shouldn't matter as long as it runs a newer version of Microsoft, XP and above [1].

Key Interfaces:

The program will use a keyboard and mouse input and output graphics through a monitor.

Required Standards:

Adheres to C# and XNA coding standards, while following required testing standards [2] [3].

Economy

Business Context:

There has been a high demand for multiplayer game play, and customizable characteristics within the game, such as character abilities, character appearance, and items that the characters can carry and use.

Customer Organization Constraints:

The customer will have a wide range distribution of computer skills, and designed to be easily picked up by people with little experience or great experience with gaming. There will also be localization for German and English speaking customers.

Development Organization Constraints:

All development is internal to a central location, and the development team working on the project.

Key Risks and Uncertainty:

The look and feel will be a big factor in the success or failure. Ease of use will also be included in the success or failure factors.

Time

Historical Context:

This software will be a new creation not intended to replace existing software. It will operate locally on a user's computer without requiring network usage.

Current Context:

No current competitors can be thought of for this software system. The timeline of the project is restricted only by the remaining quarter for the class this project is for.

Future Context:

There are no current plans for a product line/family for this software. The application is intended to be very customizable, so any changes can be made on the local copy of the application.

Key Stakeholders

Karl Heidtbrink Matt Klaasse Brandon Knight	*Project Team*
Sriram Mohan	*Project Professor*
Game Players	*End Users of Application*
Game Testers	*Testers of Application before Release*
Digital Marketplace	*Possible Product Distributer*

Revision History

Date	Version	Reasons for change	Edited By
March 31, 2011	1.0	Document created	Project Team
May 12, 2011	1.1	Some milestones will not be met on first release	Matt Klaasse

Bibliography

[1] Microsoft Corporation. (2011, March) Windows XP. [Online]. http://www.microsoft.com/windows/windows-xp/default.aspx

[2] Microsoft Corporation. (2011, March) Design Guidelines for Class Library Developers. [Online]. http://msdn.microsoft.com/en-us/library/czefa0ke%28v=vs.71%29.aspx

[3] Microsoft Corporation. (2011, March) XNA Game Studio 4.0. [Online]. http://msdn.microsoft.com/en-us/library/bb200104.aspx