

Synergy Distributed Meeting
Scheduler

TEAM

**M**eeting **V**iew**P**oint

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Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 11/05/2008 | 1.0 | Initial document. | Junia Valente Bojan Knezevic |
| 11/05/2008 | 1.1 | Added content to section 1.3, 2.2 & 2.3. | Hector Irizarry |
| 11/07/2008 | 1.2 | Added content to section 2.1 and started section 3.2. | Yuhan TsengJunia Valente |
| 11/07/2008 | 1.3 | Finished section 3.2 and added 3.1, 3.3 and 3.4. | Hector Irizarry |
| 11/28/2008 | 1.4 | Added content to sections 3.5 though 10.4. | Hector Irizarry |
| 11/29/2008 | 1.5 | Removed template comments and modified content of sections: 1.1,2.2,3.2 &4.5 | Hector Irizarry |
| 12/01/2008 | 1.6 | Add content to section 3 | Haibo Shi |
|  |  |  |  |

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# Introduction

## Purpose

The purpose of this document is to collect, analyze, and define high-level needs and features of the ***Synergy Distributed Meeting Scheduler (SDMS).*** It focuses on the capabilities needed by the stakeholders and the target users, and why these needs exist. The details of how the ***SDMS*** fulfills these needs are detailed in the use-case and supplementary specifications

## Scope

This Vision Document applies to the ***SDMS,*** which will be developed by the ***Meeting ViewPoint (MVP)*** development team. The ***MVP*** team will develop a customizable, decentralized system that allows individuals or organizations; to easily, efficiently, and precisely schedule meetings in accordance with practical limitations of virtual and real-world meetings. The ***SDMS*** will be a web based application designed to support the meeting scheduling needs of an organization. It will not require a client based application; instead it will be accessible and conform to standard HTML Web Application practices. The ***SDMS*** will interface with and utilize third party resources to facilitate all of the users’ meeting scheduling needs (e.g. database services, email communication, etc.).

## Definitions, Acronyms, and Abbreviations

 **Active participant:** A user, who is also an attendee, whose role in the meeting requires them perform an action during the meeting (speaker, demo driver, etc). This user may also be asked provide requirements for equipment.

**Administrator:** is a privileged user who is responsible for managing user accounts, and managing resources (ex. adding or removing users, rooms, equipment, etc).

**Attendee:** a user, who receives a meeting invite, and is responsible for either accepting or declining the invite. In the case the invite is accepted, the attendee is required to provide an exclusion and preference set. An attendee can be furthermore classified as important or active participant.

**Concurrency:** the ability to handle more than one meeting requests at same time.

**Confirmation:** A notification sent to attendees by the initiator confirming the final meeting arrangements.

**COTS:** Commercial of-the-shelf. A software product that is ready-made and available for sale.

**Customer:** Synergy Soft Inc.

**Date conflict:** occurs when no available date can be found in the stated date range.

**Date range:** time interval specified by the initiator in which the meeting should take place, this also serves as the boundaries for the exclusion and preference sets.

**Date set:** a pair of input values, including calendar date and time period.

**End customer:** person, or organization, that buys the SDMS software.

**Equipment:** Any type of resource (e.g. projector, microphone, etc) that can be used in a meeting or event. They are further classified as movable or fixed. Movable equipment refers to equipment that can be transported from one location to another without requiring technician (hardware technician, electrician, handyman, etc) intervention. Fixed equipment refers to equipment that is assigned to a location (overhead projector, podium microphone, etc) wherein moving it to another location involves an installation that requires technician intervention.

**Exclusion set:** a set of dates on which the attendees are not available to attend a meeting.

**GUI:** Graphical User Interface.

**Internationalization (I18N)**: The process of designing a software application so that it can be adapted to various languages and regions without engineering changes.

**Important participant:**

A user, who is also an attendee, whose attendance at the meeting is necessary for the meeting to take place. This user may also be asked to provide their meeting location preferences.

**Initiator:** The user who calls for the meeting. The initiator is responsible for performing the meeting scheduling activities, or to delegate an initiator representative to perform this on their behalf.

**Initiator representative:** A user who is delegated to act on behalf of the initiator.

**Invite:** A meeting request sent by an initiator or representative to the potential attendees, which includes meeting topic, date range and requires attendees to respond with their preferences regarding date. For active participants the invite will require the attendee to provide equipment requirements. For important participants the invite will require the attendee to provide location preferences.

**Localization (L10N):** The process of adapting software for a specific region or language by adding locale-specific components and translating text.

**Mediator:** A user who has privileges to schedule resources (e.g. locations & equipment). This user also is tasked with determining meeting priority in the event of an irresolvable scheduling conflict.

**Meeting scheduling activities:** The tasks required in order to schedule a meeting. These usually involve the following tasks: planning the meeting, sending the invites, monitoring the responses, resolving conflicts, and confirming the final arrangements.

**Nomadicity:** The ability to move from one location to another and start communications from any location.

**Preference set:** a set of dates on which the attendees would prefer the meeting to take place.

**Private meeting:** a meeting that concerns only to the user. The attendee’s availability is marked as unavailable in their calendar and no details are given to other users.

**Professional meeting:** A meeting that concerns the user’s organization. The attendee’s availability is marked as unavailable in their calendar and general information about the meeting is visible to other users.

**SDMS:** Synergy Distributed Meeting Scheduler

**Strong date conflict:** Thisoccurs when no date can be found within the date range and outside all exclusion sets.

**Strong location conflict:** This occurs when there are no available locations which coincide with acceptable dates.

**Time interval:** a period of time with defined limits. For the purposes of the system, limits are defined in 15 minutes increments (e.g. 8:15 am, 8:30 am, 8:45 am & 9:00am)

**UML:** Unified Modeling Language

**User:** A person who interacts directly with the product. A user can have different roles with respect to the system (e.g. administrator, mediator, regular user) and meeting events (e.g. initiator, attendee, active participant, or important participant).

**Virtual location:** A meeting place which corresponds to a non–physical location where the meeting could take place (e.g. teleconferencing).

**Weak date conflict:** Thisoccurs whendates can be found within the date range and outside all exclusion sets, but no date can be found which coincides with all preference sets.

**Weak location conflict:** This occurs when the available locations do not coincide with the preferred locations.

## References

 [1] <http://utdallas.edu/~chung/RE/vision-doc-UTDCS-17-04.pdf>

[2] <http://www.ts.mah.se/RUP/RationalUnifiedProcess/>

## Overview

The vision document is composed of the Positioning, Stakeholder and User Descriptions, Product Overview, Product Features, Constraints, Quality Ranges, Precedence and Priority, Other Product Requirements, and Documentation Requirements.

Positioning briefly describes the business opportunity being met by this project and provides a statement summarizing the problem being solved by this project.

Stakeholder and User Descriptions section provides a profile of the stakeholders and users involved in the project, and the key problems that they perceive to be addressed by the proposed solution.

Product Overview section provides a high level view of the product capabilities, interfaces to other applications, and system configurations.

Product Features section describes features and capabilities of the system that are necessary to deliver benefits to the users.

Constraints section describes design constraints, external constraints or other dependencies

Quality Ranges describes performance, robustness, fault tolerance, and usability.

 Precedence and Priority section describes priority of the different system features.

 Other Product Requirements describes standards, hardware or platform requirements, performance requirements, and environmental requirements

 Documentation Requirements section describes the documentation that must be developed to support successful application deployment

# Positioning

## Business Opportunity

A facility for scheduling meetings has many potential applications, such as scheduling courses and flights, room assignments at hospitals and hotels, scheduling national and international meetings, logistics, job scheduling in production systems, as well as command and control systems. The particular type of systems this project is intended for is supporting people to schedule their meetings. Many software vendors are eager to offer such a system, especially one with a powerful vantage point (cf., Microsoft, IBM-Lotus, etc.). In particular, Synergy Soft, Inc. aims to provide such a facility which would outperform any such system that is currently available in the highly competitive market. Synergy Distributed Meeting Scheduler is aimed towards organizations with frequent meeting scheduling, organization, and administration needs. The SDMS will facilitate meeting management for both traditional and distributed meeting styles to meet the needs of modern work environments.

## Problem Statement

|  |  |
| --- | --- |
| The problem of | Complexity in organizing meetings.  |
| affects | Any organization or individuals that need organized meetings in order to fulfill their goals. |
| the impact of which is | Entities spend a significant amount of time and resources organizing meetings due:-difficulty in contacting attendees and collecting their availability and preferences data.-complexity of processing and analyzing data in order to make a decision about meeting arrangements.- Re- planning and interactions that occur as result negotiation activities. The effects of all the factors above are amplified as the number of participants’ increases. |
| a successful solution would be | A system that will contact and collect participant availability data. Aid the user to decide on the meeting arrangement by ranking alternatives based user configurable criteria. Allow for re-planning and support interactions for negotiation activities. |

## Product Position Statement

|  |  |
| --- | --- |
| For | Any organization or individuals.  |
| Who | That needs organized meetings in order to fulfill their goals. |
| The (product name) |  Is a software product |
| That | Supports the meeting organization activities. |
| Unlike | Unlike IBM Lotus Notes and Microsoft Outlook will provide support for conflict negotiation and make suggestions for meeting arrangements based on user defined criteria. |
| Our product |  Provides mechanisms to distribute meeting requests and collects participant responses. Ranks meeting alternatives based user configurable preferences. Allow for re-planning and provides a mechanisms to perform conflict resolution. |

# Stakeholder and User Descriptions

## Market Demographics

The target market includes organizations with members or subdivision distributed across several geographic locations. The users are expected to be familiar with basic computers usage tasks and popular business software suites (MS Office, IBM Lotus, etc).

Our customer Synergy Soft Inc has a well-established reputation as a software solutions provider across the industry and is looking to enter this new market with the SMDS.

## Stakeholder Summary

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Responsibilities** |
| SynergySoft Inc | This stakeholder that contracted a requirements engineer of a consulting firm to refine the scheduling meeting system requirements.  | Ensures that the consulting firm provides such a facility which would outperform any other software vendors that is currently available in the highly competitive market.Ensure that the consulting firm will come up with detailed requirements description that captures customers’ real needs and wants as precisely, concisely and conceptually as possible. |
| Requirement Engineer | This is a stakeholder that works with the stakeholders to gather their needs. and delimiting and correctly translate requests/needs into requirements to be used for design. | Leads and coordinates requirements elicitation efforts. Leads and coordinates use-case modeling by outlining the system's functionality the system Specifies the details of one or more a parts of the system's functionality by describing one or the aspects of the requirements, this will include functional and non-functional. |
| Software Architect | This is a stakeholder that is primary for leading the system development from a technical perspective. | Generates software architecture artifacts, derived from key technical decisions that constrain the overall design and implementation for the project.Ensures that the system is going to be maintainable and the architectural solution supports the functional and non-requirements. |
| Project Manager | This is a stakeholder that is primary for leading the system development from a management perspective. | Plans, manages and allocates resources, specifies priorities, coordinates interactions with customers and users, and keeps the team focused. Also establishes a set of practices that ensure the integrity and quality of project artifacts. |
| Software Developer | This is a stakeholder that is primary for producing the actual software products.  | Generates software artifacts according to the design.Follows the project process.  |
| Software tester  | This is a stakeholder that is primary for validation and verification of the system. | Ensures that the system is works correctly and fulfills the design specifications.Generates test plans and procedures.Documents and report bugs encountered. Follows the project process. |
| Software Maintenance  | This is a stakeholder that is primary for resolving problems with software after released. | Generates software patches of fixed to resolve problems (non-related with installation of configuration) with system between releases.Generates software patch installation procedures.Documents changes and updates design documents to reflect changes.Follows the project process.  |
| Market Analyst | This is a stakeholder that will assist our abilities to position our product successfully. | Ensures that there is going to be a market demand for the product's features. |
| Customer | Entity that buys the software. | Purchase the SDMS and use it in the current IT environment |

## User Summary

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Description** | **Responsibilities** | **Stakeholder** |
| Users | Primary end user of the software. | schedule meetings, respond to meetings invites, view meetings, send/receive meeting confirmations, specify contact information, assign representative, negotiate/solve conflicts | Self |
| System administrator | End user of the software. | In addition to the regular User responsibilities. Manages user’s accounts, locations and equipment. Installs, repairs, starts and stops system.  | Self |

## User Environment

Typically only one user is involve performing a task (send invite, respond to invite, assign delegate, etc) and should take from 5-30 minutes.

Since system will follow client-server architecture there are two operating environments to be consider client and server side. The client-side is platform independent and only requires web browsing capabilities. The server-side platform requirements correspond to those of the underling application server (Microsoft IIS 6.0 Web Server).

Users are expected to access the system through a browser-enable device and have network access to server.

System administrators depending on the task are expected to access the system remotely through its web interface or locally.

The SMDS interacts with:

#### Microsoft SQL Server for database interactions.

* Microsoft IIS 6.0 Web Server to deliver HTML content to clients.
* Microsoft Active Directory via the LDAP protocol for user authentication.
* Microsoft Exchange Servers e-mail notification and calendar synchronization.

## Stakeholder Profiles

### User

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | A commercial individual that will use the system to support scheduling and attending meetings. |
| **Type** | Business. |
| **Responsibilities** | Provide necessary information to create invites and responses. |
| **Success Criteria** | The success is completely defined by the customers continuing using our system. |
| **Involvement** | We will have sample customers to help evaluate our design and market research results will also guide our vision. |
| **Deliverables** | Not specified. |
| **Comments / Issues** | User could be a participant or an initiator. |

### Mediator

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | A commercial individual that will use the system to support conflict resolution between other users. |
| **Type** | Business. |
| **Responsibilities** | Make determination based on organization policy concerning resource usage conflicts and enforce such policies in the system.  |
| **Success Criteria** | The success is completely defined by the customers continuing using our system. |
| **Involvement** | We will have sample customers to help evaluate our design and market research results will also guide our vision. |
| **Deliverables** | Not specified. |
| **Comments / Issues** | Not specified. |

### Administrator

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | A commercial individual that will task managing and maintaining the system |
| **Type** | Expert.  |
| **Responsibilities** | Perform system maintenance; manage user and resources over all system availability and usage. |
| **Success Criteria** | The success is completely defined by the customers continuing using our system. |
| **Involvement** | We will have sample customers to help evaluate our design and market research results will also guide our vision. |
| **Deliverables** | Not specified. |
| **Comments / Issues** | Not specified. |

### SynergySoft Inc

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | The company who will develop SDMS |
| **Type** | Experienced in developing web based information system |
| **Responsibilities** | Developing, testing and maintaining the system. Selling the system to customers and providing support |
| **Success Criteria** | The software system is successfully released within a certain amount of budget and time.The software system is sold to a massive number of customers and make a certain amount of profit. |
| **Involvement** | Analysis and DesignImplementationTestProject ManagementEnvironmentConfiguration and Change Mgt |
| **Deliverables** | The proptype |
| **Comments / Issues** | none |

### Customer

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | Organization that will purchase and use the SDMS system |
| **Type** | Experienced in use similar information management system |
| **Responsibilities** | Deploy the system to current IT environment and do regular maintenance |
| **Success Criteria** | The system improved the productivity of the employees.Important meetings can be ensured |
| **Involvement** | Customer that will purchase the software |
| **Deliverables** | None |
| **Comments / Issues** | none |

### Requirement Engineer

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | Analyze system and specify requirements |
| **Type** | Expert in requirement engineering |
| **Responsibilities** | Following the Unified Process, generate related documents |
| **Success Criteria** | Make qualified deliverables based on the Unified Process |
| **Involvement** | Business ModelingRequirements |
| **Deliverables** | none |
| **Comments / Issues** | none |

### Developer

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | Design, Implement, review and unit test the software system |
| **Type** | Expert in development of similar software system |
| **Responsibilities** | Design, implement and unit test for the system |
| **Success Criteria** | The system is well designed and implemented |
| **Involvement** | Analysis and DesignImplementationTest |
| **Deliverables** | None |
| **Comments / Issues** | None |

### Tester

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | The person who will test the software system |
| **Type** | Expert in testing similar software system |
| **Responsibilities** | Test the software system and report bugs |
| **Success Criteria** | Discover as more bugs as possible to ensure the quality of the software |
| **Involvement** | Test |
| **Deliverables** | None |
| **Comments / Issues** | None |

### Maintenance

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | Maintain the software system |
| **Type** | Experience in maintain similar software |
| **Responsibilities** | Maintain the SDMS after release |
| **Success Criteria** | Defects discovered after release can be quickly fixed |
| **Involvement** | ImplementationTest |
| **Deliverables** | None |
| **Comments / Issues** | None |

## User Profiles

### End User

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | End user of the SDMS |
| **Type** | Familiar with similar web based information management system. |
| **Responsibilities** | Use the SDMS to help scheduling meetings. |
| **Success Criteria** | Meetings can be scheduled quicklyConflicts can be kept minimalImportant meeting are ensured. |
| **Involvement** | End User |
| **Deliverables** | User manual/help |
| **Comments / Issues** | None |

### Administrator

|  |  |
| --- | --- |
| **Representative** | N/A |
| **Description** | Administrator of the SDMS |
| **Type** | Experienced in maintain and deploy web based information management system. |
| **Responsibilities** | Deploy and do regular maintenance for SDMS |
| **Success Criteria** | All administrator operations should be done quickly |
| **Involvement** | System administrator |
| **Deliverables** | Deployment manual |
| **Comments / Issues** | None |

## Key Stakeholder or User Needs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Need** | **Priority** | **Concerns** | **Current Solution** | **Proposed Solutions** |
| Schedule meetings  | Critical | Efficient, easy –to-use, accurate & faster. | Use of one competitor software or simply email interaction. | Provide a invite form were the users can specify the information required for an appropriate meeting invitation. |
| Respond Meetings | Critical | Efficient, easy –to- use & accurate. | Use of one competitor software or simply email interaction. | Provide an invite response were the users can specify the information required for an appropriate response. |
| View Meetings Schedule | High | Obtaining accurate and up-to-date information. | Use of one competitor software or simply online calendar. | Provide a calendar view in the application were the user can view his/her meetings. |
| Conflict Resolution | Medium | Rapid & efficient conflict resolution | Email interaction, phone calls or in person. | All interaction will be managed through the system. Introduce concept of mediator. |
| Security | Medium | Confidentiality, integrity & availability | User name and password |  |
| Ensure important meetings | High |  | Cancel current low important meeting/Keep room for important meeting usage | Use priority for meetings. |
| Enhance the efficiency of communication | High | Avoid too much information | Face to face talk or online chat or email | Automatic message and email for important information |
| Store past meeting information for query | medium |  | Paper or sheet Files | Store in database and view/edit through SDMS |
| Personal preference | Medium |  | None | Customize personal preference |
| Easy to use simple and easy business process | medium |  | None | Web based system, step by step operations for each action. |
| Good User manual/help | Medium |  | None | Provide help link on each page |

## Alternatives and Competition

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Product Name** | **Equipment** | **Location** | **Email** | **Preference set** | **Negotiation** | **Exclusion set** | **Representative set** |
| MS Outlook | X(connected with MS Exchange) | X (connected with MS Exchange) | X |  |  | X | X |
| IBM Lotus Notes |  | X | X |  |  | X | X |
| GoogleCalendar |  |  | X |  |  |  |  |
| SDMS | X | X |  | X | X | X | X |

# Product Overview

## Product Perspective

The SDMS will interface with the existing Users and database as shown in the context diagram below (see Figure 1).

The SDMS will consist of a thin-client component and server component as illustrated in Figure 1. The server component runs on Microsoft ISS Server 7.0. The server component must interface with the Users through web interface and to a Microsoft SQL Server 2008 running.

The client component is accessible to any web browser that supports ASP.NET and .Net Framework 3.5. The web interface should be compliant to current and emerging HTML designs. A valid username and password must be entered in order for access to be granted.



Figure SDMS overview

## Summary of Capabilities

**Table 4-1 Customer Support System**

|  |  |
| --- | --- |
| **Customer Benefit** | **Supporting Features** |
| Access to up-to-date schedule information | The system accesses the database for the latest schedule information.The Users will be able to review their schedule.  |
| Instant feedback on meeting status. | All responses and interactions are instantly capture and made availability. |
| Secure and confidential | A valid username and password is required to access to the SDMS.Users’ information and schedule protected from unauthorized access. |
| Access from web enable device. | Users may access the SMDS from any computer or from mobile device via the internet. No installation is required since it accessed through a web interface. |
| Easy and timely access to meeting schedule | Users can view their schedules in by providing their username and password. Users may access the SMDS from any computer or from mobile device via the internet. |
| Easy way to schedule meetings | Users can provide the meeting data and system will provide suggestions on potential date/location options.The system will distribute meeting invites and collect all responses. |
| Support for conflict resolution | Users can choose from several conflicts resolution options including mediation and conventional methods.The system will support conflict resolution by managing user iterations and providing special privileges to the Mediator user. |

## Assumptions and Dependencies

The following assumptions and dependencies relate to the capabilities of the SDMS as outlined in this Vision Document:

* It is assumed that the organization will operate and support the Microsoft IIS Server 7.0.
* It is assumed that the organization will operate and support the Microsoft SQL Server 2008.
* It is assumed that popular web browser vendors will support ASP.net 3.5 and .NET 3.5 Framework.

## Cost and Pricing

The product will be part of open source under GNU GPL (GNU General Public License).

Optional support fee for subscribed users of $15,000 per year will be provided.

##

## Licensing and Installation

No professional installation required. Support is available at extra cost.

#

# Product Features

## Start System

## Shutdown System

## Maintenance System

## Schedule meeting

## Cancel meeting

## Update meeting

## Send meeting invite

## Respond to invite (accept, decline)

## Send invite response

## Collect user responses

## Send negotiation message

## Send remainder message

## View virtual meeting templates

## Create virtual meeting

## Attend to virtual meeting

## View past meetings

## View schedule

## View future schedule

## View equipment

## Specify equipment

## View location

## Specify location

## Manage Users

## Manage locations

## Manage equipment

## Resolve conflict (mediator)

# Constraints

## Security

The SDMS security includes authentication, access control, data integrity, and data privacy.

User authentication will be provided through username and password.

Transmissions should be encrypted using HTTPS for privacy.

## Usability

The SDMS HMI should be easy to use.

## Capacity

The SDMS should allow as many users as the underling application server allows.

## Responsiveness

<TBD in next release>

# Quality Ranges

<TBD in next release >

# Precedence and Priority

The schedule meeting and respond to meeting invite functionality should be completed by December 4, 2008. Priorities for remaining system features will be determine at the beginning of each development cycle. For more information refer to Use Case Specification.

# Other Product Requirements

## Applicable Standards

The SDMS should be compliant with supports HTML, ASP.net 3.5 and .NET 3.5 Framework standards.

## System Requirements

Client system must satisfy the requirement for a web browser that supports HTML, ASP.net 3.5 and .NET 3.5 Framework and have connection to the internet.

Server system must satisfy the system requirements for Microsoft IIS Server 7.0 and Microsoft SQL Server 2008.

## Performance Requirements

### The SDMS web application shall add no more than 5 seconds of perceivable overhead time to any necessary web and database transaction time.

### In the event the complete SDMS transaction requires longer than 5 seconds, the system shall display an informational messages requesting they continue waiting for a response.

### In the event the complete SDMS transaction takes more than twice the expected duration, derived from empirical data (system characterization), for a given type of transaction, the SDMS will inform the user that the transaction has failed.

## Environmental Requirements

None, if the user adheres to environmentally friendly practices for disposing user manuals and other documentation.

# Documentation Requirements

## User Manual

User documentation will only be available online in form of “How to” guides and “Tip of the Day” short steps.

## Online Help

Online support concerning administration issues & user tutorials including “How to” guides and “Tip of the Day” will be available.

## Installation Guides, Configuration, and Read Me File

Step-by-step installation & administration guides, user manuals and configuration will be provided with the software and also be will available online to obtain the latest versions.

## Labeling and Packaging

All tasks concerning to labeling, logos and copyrights are deferred to Synergy Soft Inc.

# A Models

## A.1 Domain Model



## A.2 Role Model

