Task Plan - SOA Project

Claudia Tanase, Razvan Alecsandrescu

1. **Objective**:
   The purpose of our project is to develop an advanced system used for file organization and localization that would integrate seamless with an existing OS. To accomplish that we will be using a combination of normal search, semantic labeling and Virtual Folders. Depending on time constraints the project can be further improved with a distributed component that would allow the same functionality over large networks of computers.

2. **Technologies and specifications:**
   The technologies used are as follows:
   - C for the following components:
     - Kernel Space module
     - User Space control application
   - Java for the following components:
     - Server
     - Server modules (that will parse different types of files)
   - Apache Lucene for text search engine library.
   - Python for any scripts required
   - MySQL for the database
   - JDBC will be used to acces the DB from the JAVA server.
   - Hadoop for the distributed part of the project.

   Specifications:
   The kernel module intercepts system calls and signals this to the server. The server receives these updates from kernel module and interacts with the user through our control application . The main function of the server is to index and retrieve files. It automatically extracts basic file information, such as the filename, path, size, modied date, time of creation, etc. Files are passed to appropriate modules for further metadata extraction and indexing. We will also provide full-text indexing on text files by using a search engine library called Lucene. The server also manages Virtual Folders and user-defined labels. Users interact with the server through our user-space control application to save queries as Virtual Folders, and to define their own labels and use them as organizational semantic tags.

3. **Task description and schedule:**
- Razvan
  - Database
    - Create the database which holds information about files: tags, indexed text and so on.
  - Server+modules
    - Implement the server which will process data and add/retrieve data to/from the database. Modules will be added to the server to allow parsing and indexing of different types of files.
  - Server control
    - Interface with the application (Java)
    - Interface with the module (Java)
  - Linux Integration
    - Integrate our new file system with Linux
  - Distributed
  - Optional: daemon+cache
- Claudia
  - Kernel Module
    - Monitor system calls to detect when a file is created, deleted, modified and create update packets which will be forwarded to the server
  - User Space control Application
    - Implement the control application which will interact with the kernel module, with the server and will offer an interface to the user.
    - Sub-tasks:
      - Allow the user to add/remove files(folders) from the list of monitored files(folders).
      - Allow the user to Create/add tags to files/folders
      - Allow the user to control the kernel module
      - Offer advanced search functionalities to the user
      - Allow the user to control the server
  - Server Module Interface (C)
    - Implement an interface between the module and the server
  - Server App Interface (C)
    - Implement an interface between the control application and the server
  - Linux Integration
    - Integrate our new file system with Linux

ID	ℹ	Task Name	Duration	Start	Finish	Predeces	Resource Names
1							
2		Database	2 days	Mon 11/3/08	Tue 11/4/08		Razvan Alecsandrescu[16]
3		Java Server	7 days	Wed 11/5/08	Thu 11/13/08	2	Razvan Alecsandrescu[56]
4		Testing	1 day?	Fri 11/14/08	Fri 11/14/08	3	Razvan Alecsandrescu[8]
5		Java Server Modules	7 days	Mon 11/17/08	Tue 11/25/08	4	Razvan Alecsandrescu[56]
6		Testing	1 day	Wed 11/26/08	Wed 11/26/08	5	Razvan Alecsandrescu[8]
7		Kernel Module	7 days	Mon 11/3/08	Tue 11/11/08		Claudia Tanase[56]
8		Testing	1 day	Wed 11/12/08	Wed 11/12/08	7	Claudia Tanase[8]
9		User Space Applications	7 days	Thu 11/13/08	Fri 11/21/08	8	Claudia Tanase[56]
10		Module-Application integration	7 days	Mon 11/24/08	Tue 12/2/08	9	Claudia Tanase[56]
11		Testing	1 day	Wed 12/3/08	Wed 12/3/08	10	Claudia Tanase[8]
12		Project Integration	5 days	Thu 12/4/08	Wed 12/10/08	6,11	Claudia Tanase[40],Razvan Alecsandrescu[40]
13		Distributed	10 days	Thu 12/11/08	Wed 12/24/08	12	Razvan Alecsandrescu[80]
14		Testing	1 day	Thu 12/25/08	Thu 12/25/08	13	Claudia Tanase[8],Razvan Alecsandrescu[8]

2 Nov 08	9 Nov 08	16 Nov 08	23 Nov 08	30 Nov 08	7 Dec 08	14 Dec 08	21 Dec 08	28 Dec 08
D L M M J V S	D L M M J V S	D L M M J V S	D L M M J V S	D L M M J V S	D L M M J V S	D L M M J V S	D L M M J V S	D L M M J V S

Razvan Alecsandrescu

Razvan Alecsandrescu

Razvan Alecsandrescu

Razvan Alecsandrescu

Razvan Alecsandrescu

Claudia Tanase

Claudia Tanase

Claudia Tanase

Claudia Tanase

Claudia Tanase

Claudia Tanase;Razvan Alecsandrescu

Razvan Alecsandrescu