CSCI-511 Object-Oriented Programming

Project Materials
Gavelton Library

February 8, 2011

Applicant
74583 Edney Ct.
Fenster, CO 32638-2700

Dear Applicant,

Please accept this offer to join our company as a C++ developer. Your successful completion of our rigorous recruitment and interview process means that we believe you are among the top in your field and a valuable addition to our team.

The first six months of employment is a probationary period. At six months, there will be a technical evaluation of your performance. After successful completion of this probationary period, you will become a permanent full-time employee. Please indicate your acceptance of this offer by signing below and returning this letter to us as soon as possible.

Thank you very much,

J. Tipps
President
Object-ive Software, Inc.

Patron-Friendly Computer System to be Installed in New Library

GAVELTON, CO - Next week's closing of the outdated branch library on Finch Street will nearly double the available materials at the new Gleetus Main Library downtown. "[Some] may miss the old branch, but we won't miss the cost of maintaining it," said Library Facilities Manager Ben Romedies, "and the savings is going towards a great computer system [for Gleetus]."

The new computerized card catalog system is expected to delight patrons. With the vast shelf and storage space at Gleetus, materials which were languishing in storage at Finch Street and in warehouses will be available immediately or on short notice at the new downtown branch. "This whole project is a win all the way around," said the Director of Libraries Dr. Charles L. Mackay. "We're making so much material available, our patrons may get lost! Although we have an old mainframe system, it was only designed to be used by the administrative staff. This new computer system will be for patron use and will help make the transition from using a small card catalog system to high-tech computers and printers a smooth one."

An UNIX computer with 25 terminals and printers were recently donated to the new library by CortleCo. This multi-terminal setup should address a number of previous patron complaints including first-come, first-serve access to catalog information and insufficient lookup capability. "With this new system, patrons will be able to easily do searches across all media types and print out their results! It should be really popular," explains Gleetus' Information Systems Manager Lynne Bash. "In addition, we are looking into supporting a Web service."

The new computerized card catalog system is expected to delight patrons

How will patrons respond to the new modern library system? "We think it might be a bit of a shock at first for patrons accustomed to using the card catalog system, but the developers working on the new system have assured us that the on-screen directions will be highly intuitive because of the system's graphical user interface," according to Dr. Mackay. "We're all excited about the new library and computer system around here. I'm convinced we'll now be able to provide the type of service the community expects from a modern, downtown library."

From: Margaret Alders (Project Manager)
To: Gavelton Library project team members
RE: Team Assignments

As you are all aware by now, we have won the Gavelton library contract. I have broken down the project members into the following teams:

Interface Team

Lead: Fred Dorty
Randy Afuwape
Dallas Christiansen
Maureen Keen

The interface team will be responsible for both the graphical interface as well as the web interface provided to Internet library customers.

Data Conversion and Maintenance team

Lead: Anita Schwartz
Carol Girardi
Leo Ghosal
Sugata Vlahinos

The data team will be responsible for the administrative functions required by the library staff and the conversion of data from the mainframe to the deployment environment.

Search Engine team

Lead: Karen Miller
[Your
Names
Here]

The search engine team will be responsible for meeting the primary requirements of the system– namely, searching. This team is also responsible for designing the subject area classes that the other teams will use.

Good luck. Remember that we must be ready for sub-system testing by March 2, 2011. Let me know if you have any questions.

-Margaret

M E M O R A N D U M

To: Search Engine Team

From: Margaret Alders (Project Manager)

Date: February 9, 2011

Subject: Interview With Head Librarian

Based on recent interviews with the head librarian and other personnel at the library, I have come up with a set of requirements that we must meet for the search engine. The searches need to be "contains" searches. That is, if the user enters a phrase, then all applicable fields (see below) in the search that contains the phrase are considered a match.

Each of the searches must span all media types. So, if "future" was entered for a subject search, then all books, magazines films, and videos with the word "future" in the subject would be returned.

Four searches need to be supported:

Search by call number

Search by title

Search by subject

Search Other

The "search other" will differ depending on the media type:

Books–Description, Notes, and Year

Periodicals–Description, Notes, Series, and Related Titles

Film–Notes, Director, and Year

Video–Description, Notes, and Distributor

Search Other is just like the first three searches. For example, if the user enters "future" for an "other search", all books with "future" in the description, notes, or year would be returned; all periodicals with "future" in the description, notes, series, or related titles would be returned; etc.

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To:  searchteam
Subject:  Notes from Meeting
Content-Type:  text
Content-Length:  1536

Hello,
I wanted to follow up on the meeting we had earlier today.  Since we are the
team responsible for the bulk of the design, I wanted to reiterate the need
for properly encapsulating our code and effectively using inheritance.

Quality Assurance has sent me a reminder (attached at end) that we need to
provide them with both a test program to run our code as well as a copy of the
design documents.
-Karen

> From:  QA Tue Feb   1 13:05 MDT 2011
> To:  kmiller, fdorty, aschwartz
> Subject:  What QA needs
> Content-Type:  text
> Content-Length:  836
>
> In order to avoid any surprises, we've been doing some
> investigating into the requirements of the library system.
>
> They want performance to be close to the performance they
> have been enjoying on the mainframe system.  In order
> to do this, it is important to minimize disk access.
> We've got a sizable amount of RAM so load all of the data
> into memory at start-up.
>
> The last time a project went into integration testing it
> failed miserably because of bad file management of source
> code.  We've got a file system so take advantage of it.
> Break up your code into appropriate source and header files.
>
> We will need a copy of your design when testing your code
> so please keep it up to date.  Also, be sure to include
> code to test your search engine.  We need you to supply
> code that will allow us to do searches and print out the
> results of the searches.
>
> That's all for now.  Thanks,
>
> -The folks in QA
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To:  kmiller
Subject:  GUI Requirements
Content-Type:  text
Content-Length:  621

Hi Karen,
We just got done with some preliminary design so I wanted to let you know what
we need.  For the Web interface have your team develop the code to print
an item to the screen.  Later we will redirect the stream to our interface.
Just make sure the output for each item looks nice since that is what a
Remote user will see.

Regarding the GUI interface that will be displayed on the terminals in the
library, it will be easiest if we just receive a list of data.  For each
requested search we would like you to build a single list of all items found.
That is, place all items matching a search into a single list.  Don't create a
separate list for each media type.

Thank You,
Freddo
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To: kmiller
Subject: Requested Information
Content-Type: text
Content-Length: 1389

Here is the information you requested on the library's data. Once we are in production we will run a job about once a week to grab any new data from the mainframe and update the files on the UNIX machine.

In the meantime we have provided some sample files for you to work with during development: book.txt, film.txt, periodic.txt, video.txt

Each field in a record is pipe delimited. A record is terminated by a newline. Here is the format for each of the files:

File: book.txt

FIELD	MAX. NO. OF CHARS
call number	64
title	200
subjects	500
author	100
description	64
publisher	64
city	64
year	32
series	300
notes	2400

File: periodic.txt

FIELD	MAX. NO. OF CHARS
call number	64
title	200
subjects	500
author	100
description	64
publisher	255
publishing history	64
series	300
notes	2400
related titles	400
other forms of title	300
govt doc number	12

File: video.txt

FIELD	MAX. NO. OF CHARS
call number	64
title	64
subjects	500
description	64
distributor	400
notes	2400
series	300
label	400

File: film.txt

FIELD	MAX. NO. OF CHARS
call number	64
title	64
subjects	500
director	32
notes	2400
year	32

Some testing we have done so far has indicated that the file transfer from the mainframe may not work correctly every time so be sure to check that the files exist.