**L.A.W.R.E.N.T.I.A.N.**

(Lawrence’s Astounding Web-Ready Eellogofusciouhipoppokunurious

News and Timely Information Assimilation Network)

*(“Eellogofusciou...” means simply “very good/fine/grand”)*

1. Provide a top-level, one-paragraph description of the **problem to be solved** by the system.

We will develop a system to streamline the creation and distribution of a newspaper (specifically The Lawrentian). This process includes:

* + - Submitting articles for editing
    - Submitting photographs, illustrations
    - Organizing the archives, adding new issues to it
    - Keeping track of employees and their contact information
    - Managing subscriptions, subscribers, and distribution locations.
    - Designing the layout of the newspaper
    - Prevent content overlap between articles
    - Keeping track of ideas
    - Assigning writers/photographers to articles
    - Keeping backups of old versions while editing articles, layout.

Currently, this process is done through a combination of manual, paper-based communication and ad-hoc digital interface. Ideas and topics are disorganized and haphazardly assigned, articles are editable by any employee, subscriptions are crudely managed, and archives beyond a few months are in hard-copy format only. We aim to streamline this process by implementing a system that digitally assimilates all these different processes in order to centralize, organize, and manage information. This allows for new possibilities such as efficient searches, version control, and secure mode of operation. It also allows for scalability and efficiency. In short, our application will smoothen the paper developmental process.

2. Give a one-paragraph description of the **system you envision** for solving the problem stated.

The LuD would be a GUI-based system that would streamline the creation and distribution of a private newspaper (specifically, the Lawrentian) by providing a space for user-friendly submission, organization, and tracking of materials. Ideas and chosen topics would be tracked, managed, and assigned by Editorial Staff after which articles and photographs are submitted by Writers and Photographers to the app for common, credential-based, or read-only access. This includes preventing content overlap between articles, or, for annual topics, between issues. It will also provide version control during the editing process for individual articles. Once ready, the material is sent for issue-specific layout design to the Layout and Section Editors. Finally, the completed paper is sent for publication by the Chief Editor. After printing, the Delivery-Employees are provided addresses and corresponding issues for delivery which have been updated by the Subscription and Circulation editors. Finally the published article is stored electronically in the archive.

3. Name five examples of **actors** in the proposed system. Are actors (especially computer systems, databases, etc.) physically or logically **distributed**?

|  |  |  |  |
| --- | --- | --- | --- |
| Actor | Description | Physically Dist. | Logically Dist. |
| Editor-in-Chief | * Submits the paper to the press and is the top-dog * In charge of everyone: Has final say * Can change layout as they see fit | YES | YES |
| Copy Chief | * In charge of all written text within the paper   + Grammar   + Structure   + Fact-checking | YES | YES |
| Business Manager | * Gets ad deals * Deals with monetary aspect of The Lawrentian | YES | YES |
| Managing Editor | * Deals with payroll | YES | YES |
| News Editor  Associate News Editor  Features Editor  Opinions & Editorials Editor  Arts & Entertainment Editor  Sports Editor  Variety Editor  Photo Editor | * Manage writers * Put articles into share drive * Check for content (and grammar if missed) * Layouts for their sections * Manage articles for their own section | YES | YES |
| Design Editor | * Draws/makes graphics for the different sections | YES | YES |
| Web Manager | * In charge of Social Media * Running on-line newspaper | YES | YES |
| Copy Editors | * Copy edit articles when they first come in   + Grammar and AP Style * BEFORE section editors read them | YES | YES |
| Circulation Manager | * In charge of (primarily) on-campus distributions | YES | YES |
| Subscriptions Manager | * In charge of off-campus subscriptions | YES | YES |
| Writer | * Writes the articles for publication. | YES | YES |
| Administrator | * Maintains system | YES | YES |
| <<Idea Database>> | * Pool of ideas for articles that can be time-sensitive or not | NO | YES |
| <<Issue Database>> | * Keeps track of articles to be published every issue (Flushed at the end of each week) | NO | YES |
| <<Archive Database>> | * Contains previous issues, articles, and relevant information to perform searches with. | NO | YES |
| <<Employee Database>> | * Keeps track of currently employed staff: contact information, LU ID, role(s) as employee. | NO | YES |
| <<Circulation Database>> | * List of on-campus subscription locations, number of issues to distribute. | NO | YES |
| <<Subscription Database>> | * List of active off-campus subscribers: location, contact information, number of issues, etc. | NO | YES |

4. Describe, in 1-2 paragraphs, where the **domain/business knowledge** will come from (e.g., experts on campus, public online source, your personal expertise, "made up", combination of specific sources, etc.).

All our information regarding the creation of the Lawrentian will come from interviews conducted with staff of the Lawrentian, and by observing staff meetings. We will/have conducted interviews with section editors and the editor-in-chief to learn about their responsibilities in the Lawrentian and to learn about the current system in which they create it.

5. Selecting a problem that is somewhat decomposable reduces risk. Describe,in 2-3 sentences each, at least **two high-priority use cases**, and at least two use cases that are desirable, but could be sacrificed depending on time constraints (i.e., **medium priority**).

High Priority Use Cases:

* Edit Articles: During the editing process, section editors will bring up a list of the most recent versions of the articles up for publication in the next issue, and be able to download, edit, and re-upload them. They also need to be able to see previous versions.
* Archive the Issue: Upon publication, issues must be archived in a digital database. They are archived along with all their articles, photographs, and other information that will allow them to be searched through in the digital archive.

Medium priority Use Cases:

* Text Search the Archive: While it may be desirable to be able to be able to search every issue of the Lawrentian for certain words in the articles, such would be computationally intensive and it may take a while to come up with an efficient design for this.
* Generate Newspaper Layout: We can’t automatically generate the newspaper for them, but it would be useful if we could generate a bare-bones design with the finished content. This is not strictly necessary to benefit the creation process, as they have a manual process in place.

6. Supply a **ballpark estimate** of how long it would take 3 students (taking 2 other concurrent classes) to do two iterations of requirements analysis, design, and implementation to achieve an implemented, usable system with all high-priority and 50% of the medium-priority requirements completed. Justify your estimate in a few sentences. (Note that this estimate is **not required to be 10 weeks or less!).**

Requirements analysis and design will take one week. Implementation will require three weeks. So, two iterations would ideally take 8 weeks. However, the first iteration will probably be lengthened, as we will still be learning new technologies, so we estimate that it will require 8.5-9 weeks for two iterations.

7. Details**:** Make a statement regarding what **language(s), IDE(s), and version control software** you have initially agreed to use as a software development team, and be prepared to **justify** your choices with regard to your proposed project.

We will be using C++ because of its interface and its comprehensive and clear STL. We will use the QT technology/IDE since it allows for platform-adapting GUI creation using C++. MySQL Workbench will be used for persistent data storage and retrieval, and was chosen because it is easy to use and it is a familiar technology. For version control, we will be using Git because of its cross-platform support. We will be using ICE for client/server communication because of its platform, IDE, and language independence.