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Senior Project Proposal  
**UNDERGRADUATE**

<b>Project Title:</b>	Integrating multiple technologies into a company Intranet
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## Background Information

PAETEC Communications is a Competitive Local Exchange Carrier (CLEC). This means that PAETEC competes with Incumbent Local Exchange Carriers (ILEC) such as Frontier and Verizon to sell local telephone services to its customers. The ILECs maintained a monopoly on selling these services until the Telecommunications Act of 1996 required them to open these markets to CLECs like PAETEC.

PAETEC, like other companies, maintain an every increasing amount of data for its employees. This data is stored in multiple formats and technologies. Delivering this data to the employee in a clear, consistent, and flexible way is a challenge that requires programming and design skills.

## Project Description

A corporate intranet is not only a bulletin board for company messages; it is a living entity that informs users with reports, portlets, web clips, and movies from other web sites. It is also the interface that employees use to fill out forms for everything from vacation requests to HR information. To create an Intranet companies must integrate data and technology from a variety of sources. This is can be difficult as these systems are usually based on software from vendors that support very different standards. For example, data is stored in databases from Oracle and Microsoft, existing Java based portlets are deployed in frameworks from different vendors or in ASP pages, or the CFO would like the daily financial reports delivered in the form of a Microsoft Excel Pivot table presented through an Office Web Component control.

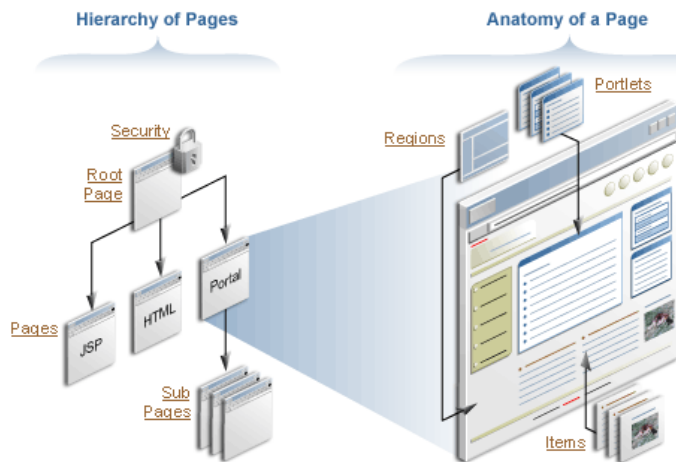
There are two standards that help solve part of the interpretability issue, but not completely, WSRP and JSR 168. These allow portlets to be created in any compliant development environment and displayed in a compliant container. Portlets can also be written that present the content from web pages that cannot be integrated except for content, i.e. Web Clipping.

This purpose of this project is to integrate disparate data sources into one Portal framework. Such sources include the following:

1. Static HTML
2. Portlets that are developed using WSRP and/or JSR168 specifications.
3. Reports stored as PDF or Excel workbooks.
4. Data from external web sites
5. Excel Pivot table/Pivot charts against live data.
6. Web Services

## 7. Documents that are stored on a LAN

An example of a Portal could be represented as such:



### Technical Constraints & Assumptions

- The Portal technology should be implemented in Java.
- Use of J2EE features should be considered above writing custom code. For example JAAS for security, container based persistence over direct JDBC calls...
- Use of existing standards based components should be considered above writing custom code.
- Web Services should be considered as the preferred interface between technologies.
- There may be components written against Microsoft's .Net technology, for example Office Web Components, but these should be considered data sources to the Java based Portlets.
- The preferred Java development environment is the Eclipse IDE.
- All configuration and permissions are to be stored in a relational database, Oracle is preferred.

### Project Scope

The team will be expected to collect and document requirements, create a design, and implement an Intranet application. The requirement gathering will determine the different sources of data that will need to be integrated. The milestones will be completion of the requirements, demonstration of a proof of concept, and delivery of the actual application.

### Expected Deliverables

There should be a minimum of three presentations made during the course of the project, in addition to the final presentation. These include requirements review and sign off, design review, and demonstration of a proof of concept.

The final delivery will be successful if it can demonstrate at least one portlet from each of the disparate data sources agreed upon in the requirement document.