



Senior Project, 2014, Spring

Aero Engine Cloud

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Problem

The Aerospace Engine Industry is a thriving, multi-billion dollar industry. Every day there are people trading, selling, and leasing airplane engines and parts. Despite the fact that the industry is over ninety years old, there still isn't a single place on the web where all facets of commerce in this industry can be conducted. Knowing this, our group set out to create the very first e-commerce website for this commercial enterprise. With the help and guidance of our mentor we believe we have taken the first steps in bring this ninety year old industry into the twenty first century.

My Problem Space:

- Provide a Careers section.
- Provide users the ability to post jobs and resumes.
- Provide users the ability to search through the job and resume listings.
- Provide users the ability to upload and download resumes from the listings.

Current System

What TurbineEngine.org offers:

- ✓ Minimal Commerce Functionality.
- ✓ Users must contact admin by e-mail for any kind of transaction.
- ✓ No implemented listings whatsoever
- ✓ Poorly style website with outdated CSS design.

What AeroEngineCloud introduces:

- ✓ Fully integrated e-Commerce Functionality.
- ✓ Listings sections for Engines, Engine Parts, Jobs, Resumes, and Events.
- ✓ Crisp, modern CSS design that is both intuitive and easy to look at.
- ✓ Fully fleshed out membership system with varying levels of authorization and access.

Requirements

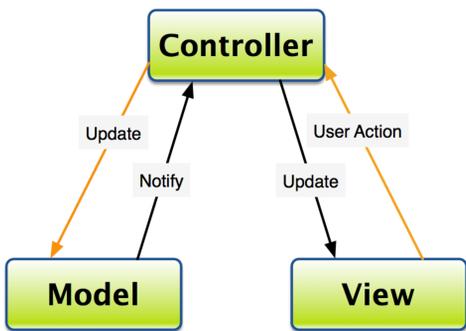
As a job poster, I want to:

- ✓ List my job where people in the industry can find it.
- ✓ Search for promising candidates within the same industry.
- ✓ Download resumes from listed candidates so I can keep a record.
- ✓ Update details of my job listing.

As an job seeker, I want to:

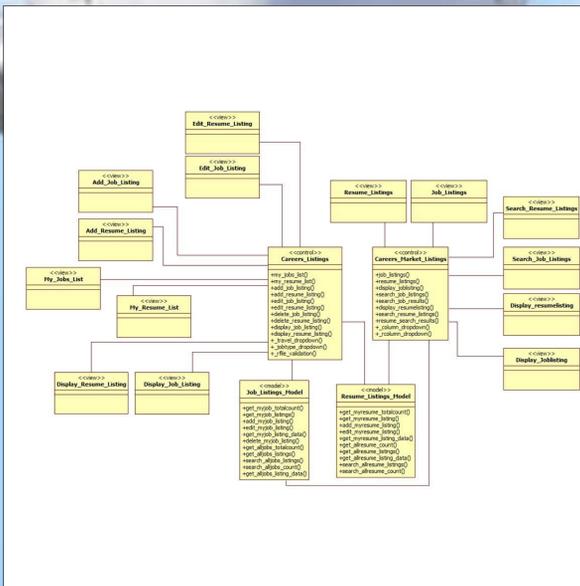
- ✓ List my resume where employers in the industry can find it.
- ✓ Search for various posted jobs that might meet my expertise..
- ✓ Update details of my resume as I gain more credentials.

System Design



Since MVC is the de-facto standard for all web design, it was clear from the start that our system would be designed around it. MVC also accomplishes the goal of our project perfectly as it provides a way to display large amounts of stored information in both a user friendly and varied way. With that in mind we chose the CodeIgniter framework which strictly enforces development in an MVC pattern.

Object Design



Implementation

As mentioned previously, we built our system with an MVC approach using the CodeIgniter framework. Most of the backend of the project was done by tailoring the functions provided by the framework to our specific needs. In fact, all of the control and model classes were built around the functions provided by CodeIgniter.

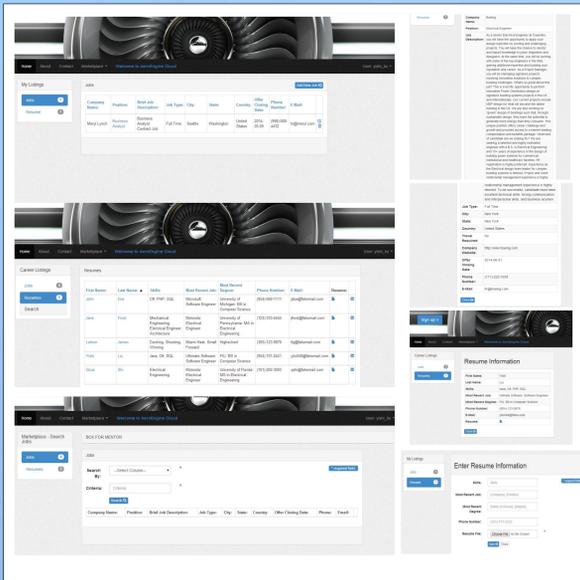
The front end was mainly designed around Bootstrap. Bootstrap is a modern and sleek CSS framework that allowed us to provide an intuitive and attractive user interface. All of the views were created around Bootstrap frames with embedded PHP code. For example, all of the buttons, tables, and input areas come from Bootstrap.

As far as division of work, the group chose to implement the project by splitting up into subsystems rather than a front end/back end approach. We felt that this way allowed each member to become intimately familiar with their system and thereby requiring less consistent contact within the short timeframe of the project.

Verification

- ✓ The project was conducted according to Scrum principles (iterative design and development).
- ✓ Integration testing using Big Bang was conducted. Three of the sub systems did not rely on one another so Big Bang was not a bad option. Time constraints of the semester and the size of the project also made Big Bang the only reasonable integration method.
- ✓ Searches were tested by running various test cases that hit exceptional cases as well as boundary cases.
- ✓ Testing of the overall system was conducted by the mentor and a group of his colleagues to make sure the product was satisfactory.

Screenshots



Summary

The Aero Engine Cloud provides a centralized e-commerce platform for all your Aerospace Industry needs:

- ✓ The platform provides for a quick and intuitive interface to buy, sell, trade, and lease Airplane engines and parts.
- ✓ The platform provides an environment in which industry specialists can find one another for future career opportunities.
- ✓ The platform allows members of the industry to form events where they can share information, conduct important business, and have fun together.
- ✓ The platform offers a secure membership service that allows for different levels of access as well as administrator oversight.

Acknowledgement

The material presented in this poster is based upon the work supported by Dr. Hooman Rezaei. I am thankful for the help that I received from my group members, Jerry Flores, Fernando Diaz, and Leandro Calderin.