CASE STUDY - GRAND EAGLE SERVICES DISPATCH BOARD

Ideate, LLC - Developer

Situation

Grand Eagle is North America's largest independent supplier of comprehensive motor, switchgear and transformer services.

Grand Eagle's Power Systems Group provides on-site field service and upgrades for power switchgear from more than 55 dispatch points across the nation. Skilled power systems technicians and engineers provide maintenance, scheduled and unscheduled outage services, project management, power systems studies, as well as design and upgrade engineering services. This group also specializes in the repair and remanufacturing of low- and medium-voltage circuit breakers used in manufacturing, processing, utility, and nuclear power facilities. The company responds to scheduled service calls as well as emergency calls from it's clients.

With varied technical expertise scattered in over 55 dispatch points, the company thought it could improve customer service by sharing the hourly availability and areas of expertise of each and every engineer between all the dispatch points. In this way, the company could import it's own expertise from anywhere in the country to respond to the needs of it's customers.

Problem Definition

The developer, Ideate LLC, partnered with one of the dispatch points to work with the managers, administrators and engineers to define the scope of the project. It was clear that the success of the project depended upon the benefits it provided to every individual user-type.

Existing web-based solutions were reviewed, and found to be too generic or too expensive for company-wide implementation. All were proprietary solutions, which would be a risky investment given the volatility of web-based service providers' business models. Grand Eagle decided it was important to have access to both the data and the source code to ensure maintainability in the future.

Upper Management: Senior managers needed to track the efficiency and utilization of each division, region, plant and engineer. They required these figures to be calculated by administrators at each dispatch point on a monthly basis, with spreadsheets sent to the main office for further analysis. This meant the figures were over a month old before they were seen. The developer felt that up to the minute engineer efficiency pipeline reporting would be a compelling benefit to upper management.

Manager-Scheduler: The manager, responding to service calls from customers, traditionally used a magnetic whiteboard to keep track of engineer schedules. The schedule for each engineer from that dispatch point - for a two-week period - was tracked with colored erasable markers. At the end of each week, the board was erased and redrawn for the new week. Work scheduled more than two weeks ahead were noted elsewhere and transferred to the board when the time came. Those without access to the

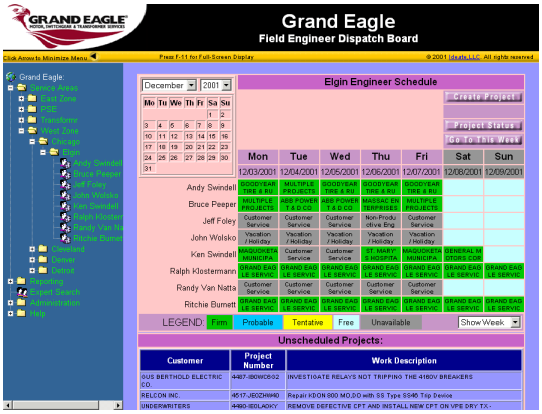
whiteboard could not reliably schedule work. The managers also had to transfer this information to their internal job-cost system and to written schedules sent or faxed to each field engineer. The managers primarily wanted to be able to see the schedules of the engineers from other dispatch points. The developer felt that creating a perpetual calendar for scheduling accessible to all qualified schedulers, sharing schedules for all dispatch points, and eliminating unnecessary hand copying would be a compelling benefit for dispatch managers and schedulers.

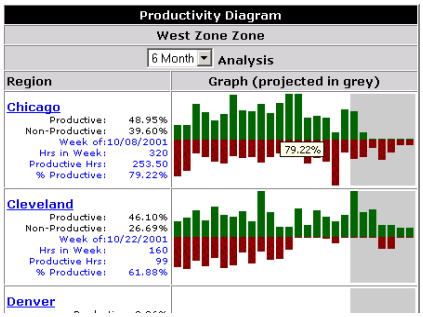
Administrators: Administrators were responsible for transferring information to and from the field engineers, transcribing schedules, time sheets and expense sheets to an internally developed job costing system. The developer felt that eliminating transcription and telephone tag would be a compelling benefit for dispatch point administrators.

Field Engineers: Field Engineers working evenings and weekends often could not reach the dispatch point during business hours for schedule updates. They had to fax or phone in timesheet and expense information, and practiced telephone tag for updates to their schedules. The developer felt that the ability for the engineer to check his schedule and enter time sheet and expense data at any time of the day or night would be a compelling benefit for the field engineers. Response time would also be a factor for engineers, since some would be calling in from phone lines of varying quality and line speeds.

The Solution:

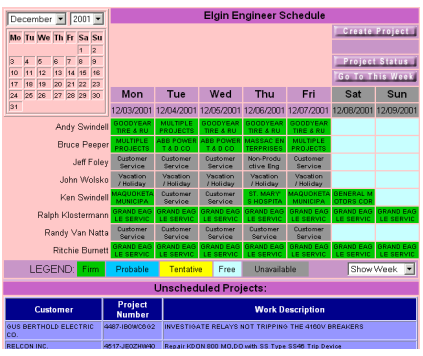
The solution is a custom web application built with Microsoft Visual FoxPro, Windows 2000 Server, Internet Information Services 5, West Wind Web Connect, and Amyuni PDF Creator (to generate dynamic PDF reports) - using Internet Explorer and Acrobat Reader for the client application. The Grand Eagle Dispatch Board is accessible from any location with Internet access.

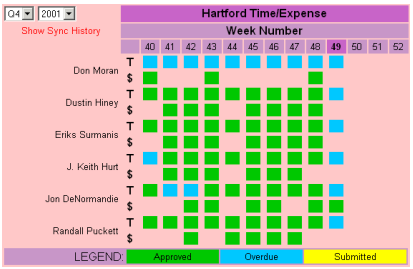




Pipeline Reporting: Upper management can monitor up to the minute efficiency reports company wide or drill down to reports by zone, by region, by plant, and by individual engineer - including projected efficiency for scheduled projects. They can also compare schedules for all plants on a single screen.

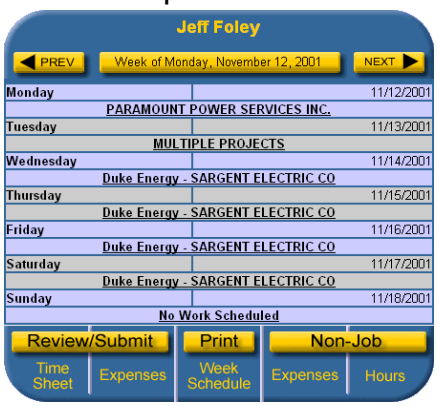
Instant Scheduling: Plant managers schedule new projects and track project expenses and hours. They can also verify engineer availability for specific projects, and search the resumes of all Grand Eagle Field Engineers worldwide for those with a particular expertise. They no longer need to spend hours assembling monthly efficiency reports. Their plant's bookings are intuitively displayed using color-coding.





Administrative Process Dashboard: Plant administrators can review and approve timesheets and expense reports on-line. A single diagram indicates the status of each employee's timesheets and expenses by week. Hours and expenses are downloaded to their accounting applications with a single click - and no re-keying is required.

Project Summary Reports: Project managers can review the status of each of their projects at a glance using color-coded status flags. They can drill-down to a detailed report of their project's hours and expenses. When they mark a project as complete, e-mail notification is launched to initiate the close-out process.



Schedule, Timesheet and Expense Reporting: Field engineers can check their schedules at any time of the day or night, and can post their hours and expenses against the estimated amounts for each project. They can view job details, and print out their daily or weekly schedule. They can review and submit their timesheets and expenses on-line without faxes.

Benefits:

The dispatch board's intuitive, web-based interface is easy to use and learn. To train new users, team leaders call each dispatch point for an hour or two of training. Ease of training is enhanced through compartmentalization of features for each user group. The system - with sub-second response times - allows everyone a global overview of engineer schedules and availability - as well as drill-down access to details of every job. The skills and experience of each engineer is searchable, so that any scheduler can list all engineers meeting the skill requirements of any prospective job - as well as launch an e-mail to that engineer's plant manager to reserve his time.

Management can now schedule engineers regardless of location - making dispatch point locations and company organization more flexible. Engineers enter their hours and expenses once on the system - and administrators later synchronize new information to their local job-costing system with no transcription necessary. Salesmen know engineer availability at a glance - by dispatch point, by region, or globally.

Updates and modifications are made transparently to the users - with no client software except their browser and Acrobat Reader. Support has proved to be minimal.

Development was rapid. Development progress was accessible at all times on the web for the team at the first planned dispatch point - allowing for dynamic feedback, quick response and the ability to rapidly narrow on the ideal solution. Suggestions continue to be quickly rolled into the product with no downtime. This kind of immediate gratification leads to interest and commitment on the part of the end users. According to the VP in

charge, "**It was the most progressive task accomplished during the restructuring of the Breaker BDU at Grand Eagle.**"