# Intelligent Scheduling For Real-World Problems





# **AURORA**

### PRODUCT OVERVIEW

- Intelligent Resource-Constrained Scheduling
- Increased throughput
- Complex constraint support
- Forward & backward scheduling
- Schedule Rationale
- Designed for Customization

Aurora is a sophisticated scheduling system that combines a variety of scheduling techniques, intelligent conflict resolution, and decision support to make scheduling faster and easier. The software's scheduling decisions take into account resource requirements, a variety of constraints, and any pertinant domain knowledge.

Once Aurora has created a schedule, it is displayed in a series of graphical displays that allow the user to see the resource allocations and the temporal relationships among the elements. These displays also allows the user to edit the schedule directly and easily.

As well as allowing rapid, easy schedule development, Aurora addresses issues overlooked by many scheduling systems.

Aurora focuses on resource requirements and temporal scheduling in combination. Considering these different scheduling aspects in combination is especially important in domains such as class and curriculum planning, where there are a range of resource requirements, the time frame may be rather flexible but there are a number of temporal constraints, and each improvement in the schedule translates to a large pecuniary advantage for the client.

Aurora was also designed to allow extensive customization. Many systems are incapable of taking the client's special needs into account, and so many of the benefits of an automated system are lost. Needs and priorities vary widely from one company to another, even within a single domain, and the scheduler needs to be able to reflect that. This customizability also allows the program to take expert domain knowledge into account, because this knowledge can easily be encoded into the heuristics that the system relies upon to make its decisions.

In all cases the system assumes that the user knows best. It respects all changes he makes to the schedule, maintaining the resource alloctions and temporal placement that he specified.

### **About Us**

Stottler Henke Associates, Inc. is committed to solving problems that defy solution through traditional methods. We accomplish this by applying a variety of sophisticated algorithms and novel approaches, often including Artificial Intelligence, to our clients' most difficult problems. We deliver intelligent software solutions for education and training, planning and scheduling, knowledge management and discovery, decision support, and software development. Stottler Henke's clients include manufacturers, retailers, educational media companies and government agencies.

Our technology consulting, feasibility studies, and rapid prototypes help companies identify and validate promising approaches. Our software development, implementation, and technology transfer services ensure the successful deploment of effective, long-term solutions.

Stottler Henke is headquartered in San Mateo, CA and operates software development offices in Seattle, WA and Boston, MA. The company was founded in 1988, and continues to grow. All technical employees have advanced degrees in AI and Computer Science from top notch universities and were carefully selected from hundreds of applicants.

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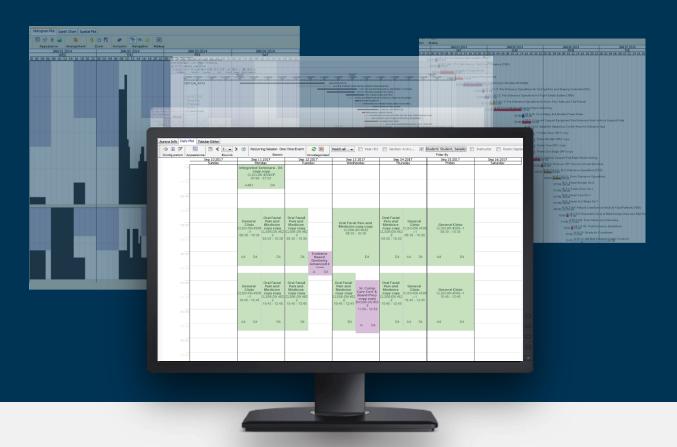


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## Aurora was designed to be flexible and easily extensible



# **FEATURES**

**Resource Sets** - Group related resources into different sets to take advantage of all useful attributes.

**Resource Requirements** - Associate resource requirements with both resources and activities to control their needs and preferences.

**Constraints** - Define temporal constraints, resource constraints, and spatial constraints to regulate the relationships among the scheuled elements.

**Freezing** - Specify elements that should not be moved, either individually or by specifying the frozen time window.

**Reports** - Create reports of resource usage that can then be loaded into a standard spreadsheet.

**User-Defined Slots** - Create additional element properties as needed, either for your own reference or in combination with software customization for easily extended functionality.

**Calendars** - Associate a calendar with an activity or resource to dictate its standard schedule, and any exceptions that schedule might have. These may include yearly holidays or one-time events.

**Hierarchical Relationships** - Edit element groups quickly and efficiently by taking advantage of the hierarchical element structure.

**Graphical Schedule Display** - The resulting schedule may be viewed either by resource or temporal relatioships. The results can be manipulated directly on the display.

- Update the schedule quickly and easily by graphically editing it from the display using standard drag and drop funtionality, or click on elements to make broader editing changes.
- Expand the schedule easily by creating new activities and resources from the schedule display