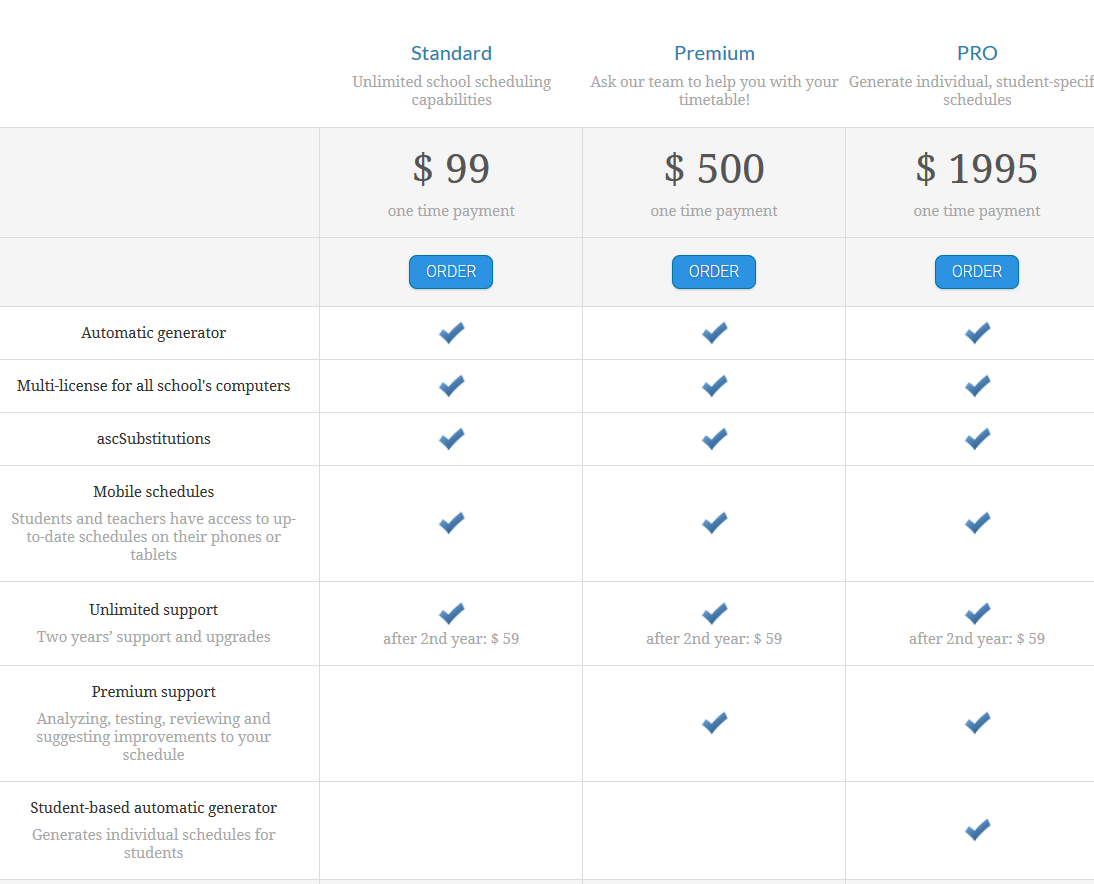
# AscTimetables

**List of Analyze:**

1. **Cost of system**

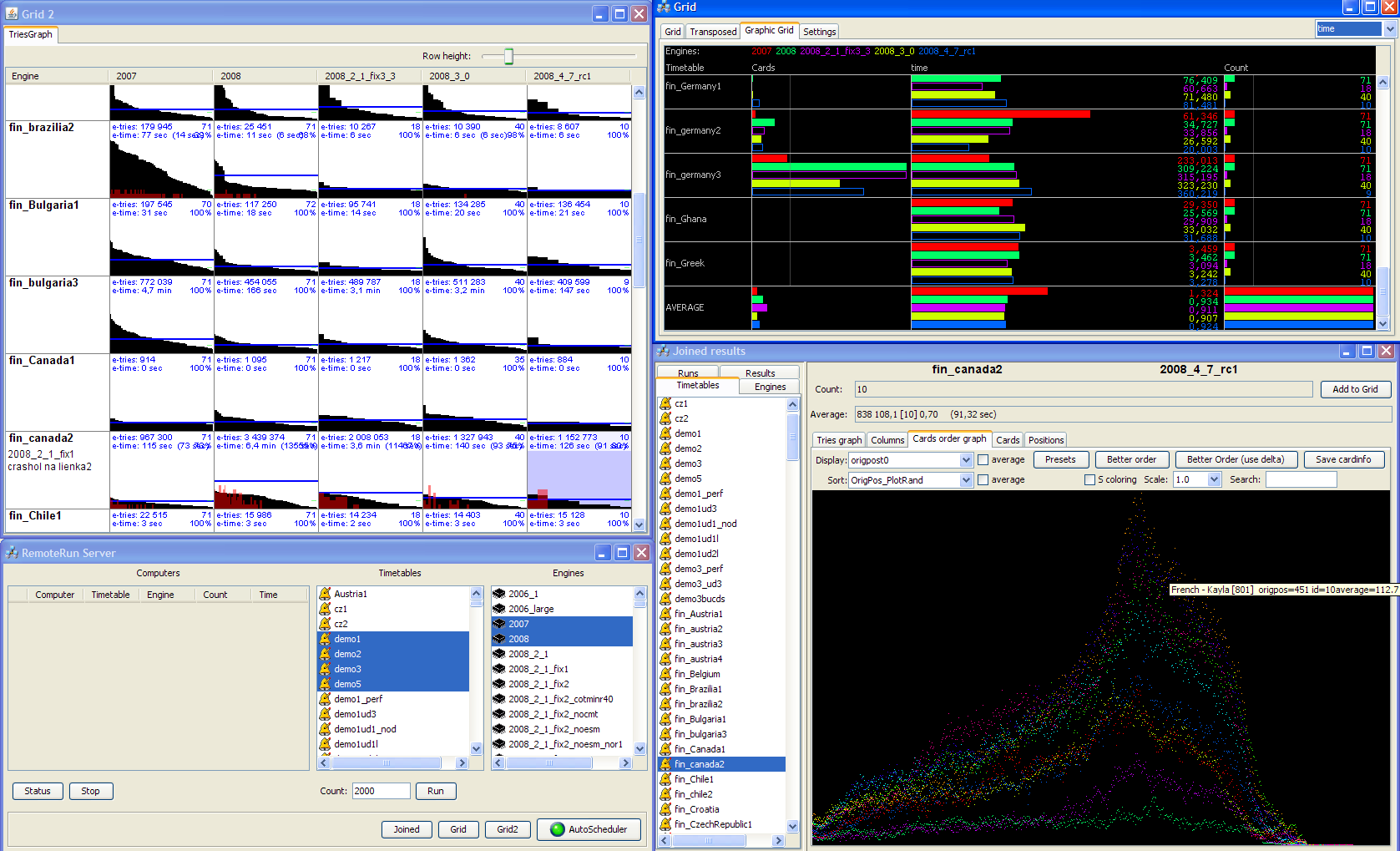
****

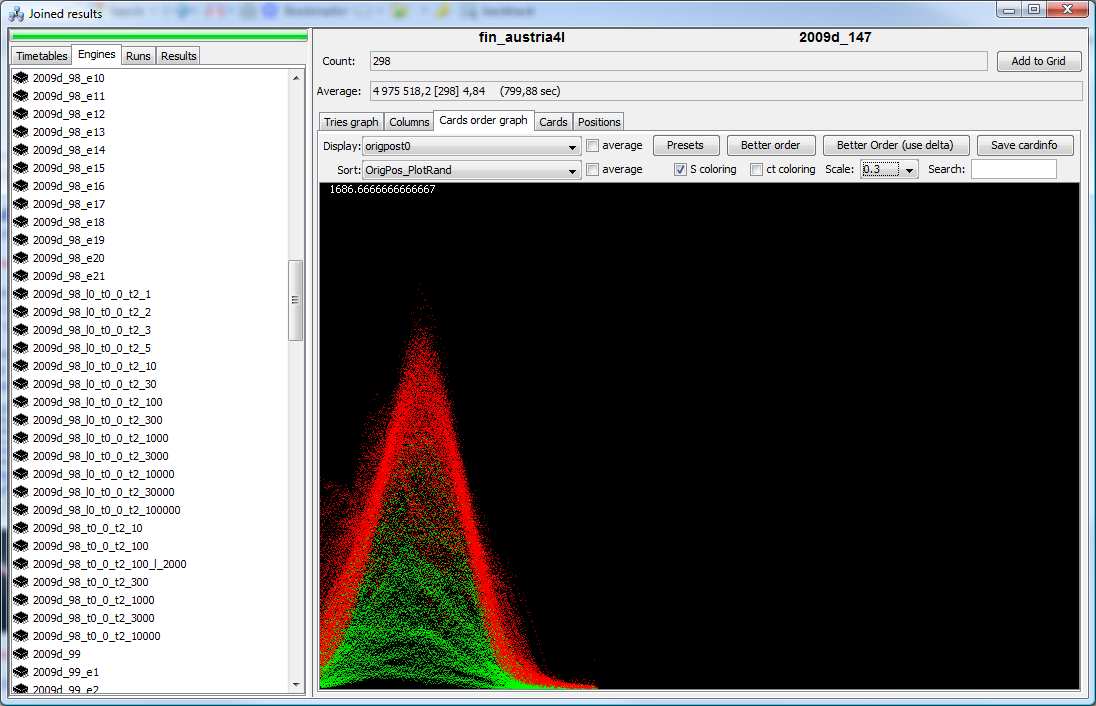
1. **Algorithms they use**

aSc Timetables timetable generator uses novel in-house developed algorithm. It is loosely based on [backtracking](http://en.wikipedia.org/wiki/Backtracking) with plenty of heuristics and special data structure optimized for maximum performace. It uses multithreading (one thread per physical core of CPU). Since version 2015 algorithm includes also JIT compiler of constraints.

It is programmed in C++.

Unfortunately we can not disclose more details about the generator, but below you can find some screenshots from development. They are from special application used to test various versions of the generator on a small farm of computers.





For the creation of timetables the program uses dynamic and heuristic algorithms, which allow it to follow the same procedure a person would, with two substantial differences: The first one is speed. The aScTimeTables’ algorithm can move tens of thousands of cards, representing individual lessons, within a second. The second difference is the possibility to create dynamically large tables and statistics about the current status of the created timetable. This subsequently allows it to assess which cards are worth moving and which cards have to be moved to other places. At the same time, it knows which places it is worth moving them to.

1. **OpenSourse?**

No

1. **Installation**

aSc TimeTables will run fine on any PC that is able to run Windows 2000 or higher(2003/ME/NT/XP/Vista/7/10).As always: the better the computer, the faster the software will generate the timetable.The speed of the processor is most important. More system memory or a bigger hard disk will not help.Note: The software automatically supports MultiCore processors. MultiCore computers will generate your schedule fast

1. **Web/Desktop**

Desktop

1. **Configure your own Rules**

This default rules are like:

1. If it is possible, program will put cards of subject on different days.

2. If number of cards of subject is more than number of days (e.g. 8 single lessons and 5 days), it will distribute it so that numberof periods with this subject per day is nearly equal for every day (in our example of 8 lessons, it will require 1 or 2 lessons perday).

3.If subject is 2 or 3 times per week, it can not be on consecutive days (you can configure this in menu - Timetable/Paramet

1. **Limitation for scheduling(Rooms, classes, teachers)**

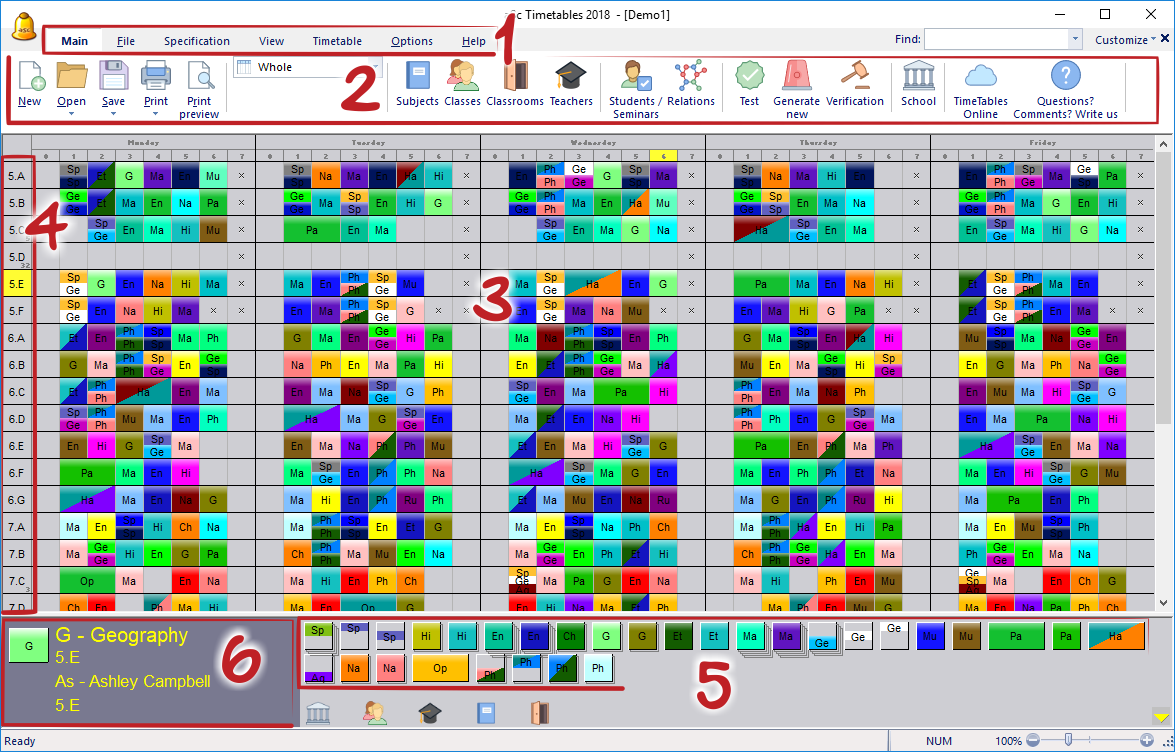
Limits only hardware

1. **Time spend to schedule**

1. **Integration with other systems(API) - DATA EXCHANGE**

<https://docs.google.com/document/pub?id=1zCYlTigQeo1YSz9poZVAj02-08MikJ9sJSZEMgvjicg>

1. **Interface:**



1. **Model they use(Constraint based or what)**

Constraints based

1. **Functional abilities:**

Main features of aScTimeTables:

•Easy to use - the program uses standard MS Windows™, simple and straightforward operation, and full graphic environment;

•Effectiveness - aScTimeTables is designed for effective entering and checking of data;

•Respected psycho-hygienic requirements – the program watches the timing possibilities of individual lessons, subjects, and teachers, availability of specialized classrooms, gymnasiums, shared classrooms, etc.;

•Automatic timetable generation – on the basis of your data, the program will automatically generate the optimal timetable;

•Summary tables – the program will automatically compile summary timetable for forms1 as well as timetables for individual forms, classrooms, and teachers;

•Archiving - storage, copying and modification of existing timetables.

•Substitution – based on the created schedule you can manage teachers substitutions over the whole school year.

Links

<https://skolaris.net/download/paper01.pdf>

<https://www.asctimetables.com/#!/home/download>

<https://www.capterra.com/scheduling-software/>

<http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0123-21262014000100004>

<https://www.cmich.edu/colleges/se/Documents/Hanover%20Research%20-%20Best%20Practices%20in%20Course%20Scheduling.pdf>

<http://www.automatictimetable.com/aScTimeTables_Manual_English.pdf>

<http://help.asctimetables.com/pdf/asc_timetables_en_P1.pdf> ---- Manual