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Problem

**500 panelists, 200 Panels,
12 venues, 4 days.**

Schedule it!

The Conference on World Affairs has been running annually since 1948, scheduling all panels by hand. This process took two weeks. Our task was to automate this and produce a better schedule in seconds.



Challenges

- Creating the best possible schedule in less than a minute
- Early deadline
- Support many different constraints on panels/panelists



Solution

The Rener-Alshakh Algorithm:

1. Score and sort the panels based on the difficulty of its constraints
2. Filter out venue timeslots based on the panel's constraints
3. Schedule in the best fit venue timeslot

Future

- Build a user interface
- Generalizing the algorithm



CU NEWS

Computer science students help solve scheduling challenge for CU's Conference on World Affairs

Senior capstone class helped develop, deploy scheduling algorithm

By Sarah Kuta
Staff Writer

66TH CONFERENCE ON WORLD AFFAIRS

Monday, April 4, 2016

	Mackey Auditorium	UMC Center Ballroom	UMC East Ballroom	UMC West Ballroom
9		Impacts of the Aging Population Panel: Chingling, Larry Greenwald, Wendy Lofthouse Moderator: Ron Chertoff	How to Raise Money for Your 501(c)(3) Non-Profit Panel: Carlson, David Carlson, David Greenbaum, David Greenbaum Moderator: Andy Franklin	Technology is a Fetish Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin
10	Challenges: Easy to Repeat, Hard to Replace Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin			
11		The 27 Words in the Second Amendment Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin	Do Something! Become an Activist Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin	Balancing Health & Environment Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin
12	HOWARD HIGMAN MEMORIAL, A CHAIRMAN Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin	How Free Enterprise Can Solve Climate Change Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin	How Free Enterprise Can Solve Climate Change Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin	How Free Enterprise Can Solve Climate Change Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin
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2		How Free Enterprise Can Solve Climate Change Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin	How Free Enterprise Can Solve Climate Change Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin	How Free Enterprise Can Solve Climate Change Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin
3	SHORT UNIVERSITY OF THE AMERICAS Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin	Trigger Warning: This is a Political Correctness Panel Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin	Modern Corruption Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin	Girl Geeks Unite! Panel: Carlson, David Greenbaum, David Greenbaum, David Greenbaum Moderator: Andy Franklin