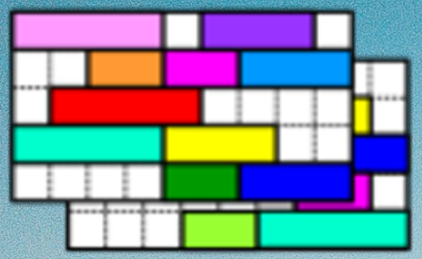


UniTime

OPEN APEREO 2019

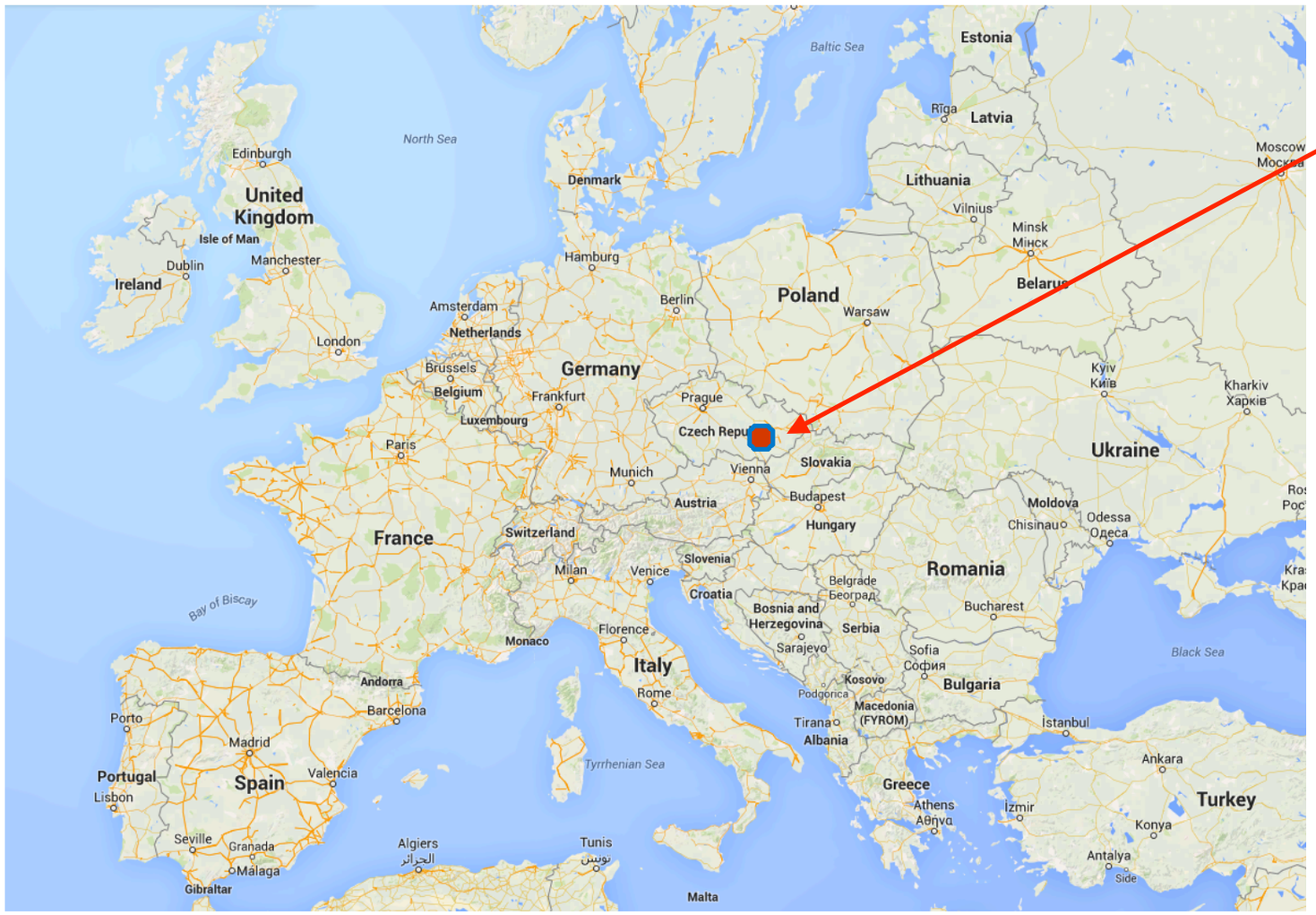
The Higher Education Open-Source Conference Los Angeles, CA June 2-6

Photo by Bart Jaillet on Unsplash

UniTime at Faculty of Medicine

Zuzana Müllerová

Masaryk University



Masaryk University
Brno, Czech Republic

- Since 1919
- 2nd largest university in the Czech Republic
- 38 000 students
- 9 colleges,
  200 departments
- An early adopter of UniTime

This presentation is available at www.unitime.org/present/apereo19-casestudy.pdf

Photo by David Mark from Pixabay

Faculty of Medicine

Faculty of Medicine

- 7th out of 9 faculties at MU to adopt UniTime
- Around 4 000 students
  - General medicine
  - Dentistry
  - Nursing and other undergraduate degrees
- Programs in both Czech and English
- 100th anniversary this year

Photo of Echo Park Lake provided by L.A. Tourism

Faculty of Medicine

Types of instructions

- **Lectures** in shared classrooms in two buildings
- **Labs** in specialized laboratories at various departments in two buildings
- **Practical trainings** in several hospitals

Photo of Echo Park Lake provided by L.A. Tourism

Faculty of Medicine

Timetabling before UniTime

- **Excel tables** for
  - Each year of general medicine or dentistry
  - Each program for undergrads
- Timetabling: minor **manual modifications** of these tables

Photo of Echo Park Lake provided by L.A. Tourism

Timetabling in UniTime

- The process of assigning **times** and **rooms** to **classes**
- Creating a course timetable for **students**
- Respecting various **restrictions** and **preferences**
  - Courses: size, room equipment, structure, …
  - Instructors: availability, preferred times, …
  - Students: curricula, pre-registrations, …
  - Other: number of rooms available and their sizes, …
- It is a difficult optimization problem

Photo of Echo Park Lake provided by L.A. Tourism

Reasons to adopt UniTime

- All timetabling information in one place
- Significant changes in timetables needed
  - Change of **start times** - not **any time** but **on the hour**

Kamenice 5 A11/228 (24, 30,67)	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00
Pondělí		CJV aVLLT0121s Sem 37 Základy lékařské terminologie 8:00 - 9:40		CJV aVLLT0121s Sem 32 Základy lékařské terminologie 9:50 - 11:30		CJV aVLLT0121s Sem 30 Základy lékařské terminologie 11:40 - 13:20		CJV aVLLT0121s Sem 34 Základy lékařské terminologie 13:30 - 15:10		
Úterý	CJV aVLCJ0181 Sem 35 Čeština pro cizince I 7:30 - 10:00			CJV aVLLT0121s Sem 31 Základy lékařské terminologie 10:10 - 11:50		CJV VLLT0121c Sem 11 Základy lékařské terminologie 12:10 - 13:50		CJV aVLCJ0181 Sem 37 Čeština pro cizince I 14:10 - 16:40		

Kamenice 5 A16/211 (20, 28,50)	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00
Pondělí		BiochemÚ VLBC0422c Sem 1 - 01 Biochemie II - cvičení 8:00 - 10:30			BiochemÚ aVLBC0422c Sem 9 - 38 Biochemie II - cvičení 11:00 - 13:30			BiochemÚ VLBC0422c Sem 3 - 03 Biochemie II - cvičení 14:00 - 16:30		
Úterý		BiochemÚ aVLBC0422c Sem 2 - 31 Biochemie II - cvičení 8:00 - 10:30			BiochemÚ VLBC0422c Sem 10 Biochemie II - cvičení 11:00 - 13:30					

- Expected **increase in** the number of **students**
- Building a **new Simulation Center**

apereo

Photo of Echo Park Lake provided by L.A. Tourism

Implementation

Implementation process

- Started in 2018

1. Import of data for Fall 2017 from the student inf. system
    - Including existing timetable for Fall 2017

        Weeks of instructions, possible times, rooms, …
2. Setup of Fall 2018 based on Fall 2017
    - Without the course timetable
3. Collecting information from departments and clinics
    - Locations, possible times, …
4. Building a course timetable
5. Collecting feedback, adjusting timetable

Photo of Griffith Observatory provided by Los Angeles Tourism & Convention

Implementation

Implementation process - continued

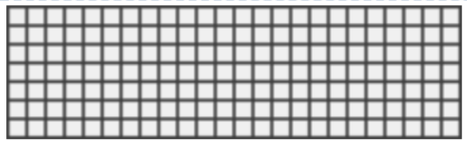
6. Spring 2019
   - Similar as Fall 2018
   - Data entered centrally
7. Fall 2019
   - Still in progress
   - Department schedule managers enter data
   - Central course timetabling

Photo of Griffith Observatory provided by Los Angeles Tourism & Convention

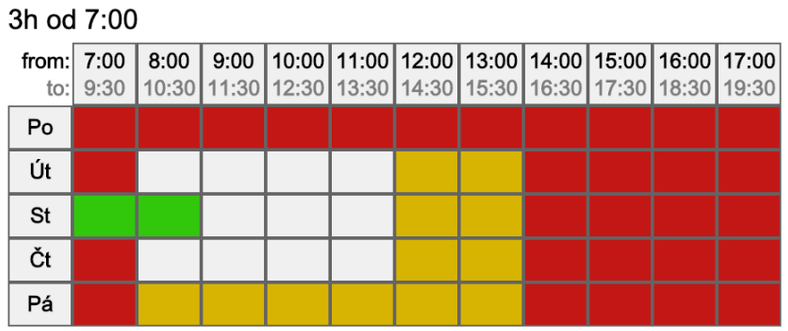
Challenges

Data

- Rooms and other locations

Název	Kapacita	Dostupnost	Katedry
Pekařská B-5.022 NeuroKl	30	 cvičebna I. neurologické kliniky …	KPO NeurolK NeurKl

- Possible times for classes (lectures, labs, practicals)



- Practical trainings in medicine
  - 4th and 5th year of study in blocks of 1-2 weeks

Photo by David Mark from Pixabay

Challenges

Concept of course timetabling

- "Old" process at Faculty of Medicine
  - Take previous timetable and modify
- UniTime
  - Enter information about possible times and rooms
  - Let UniTime create a new timetable (manual changes possible)
- Misconception
  - Many people expect UniTime to just record the times and rooms they want

Photo by David Mark from Pixabay

Challenges

Conflict-free timetables for students

- Students must be able to attend all of their classes
- Current solution
  - Groups of 20 students (15 in foreign language programs)
  - Follow plans of study
- Issues
  - Not all rooms are for 20 or 40 - some are for 15, some for 32, …
  - Repeating students do not follow the plan of study 100%
- Possible future solution
  - Student scheduling in UniTime

    = Putting students to classes individually, not in groups of 20

Photo by David Mark from Pixabay

Challenges

Personnel

- Before UniTime
  - Coordinators for each year (medicine) or program of study (undergraduate studies)
  - Central management of shared classrooms only
- With UniTime
  - **Central timetabling manager needed**
  - A new person hired
    - Did not know the faculty, but knew UniTime
  - In January 2019 another change
    - The new person did not know the faculty nor UniTime

Photo by David Mark from Pixabay

UniTime

Demo

Examples in UniTime

Photo by Free-Photos from Pixabay

Conclusion

UniTime at Faculty of Medicine

- Quite complicated, but doable
- Discussing the implementation of student scheduling in the future
- Another faculty of medicine in the Czech Republic interested

For more details, please see us at the conference

- ~~Introducing UniTime (Sunday, 1:30pm - 4:30pm in Crocker)~~
- ~~UniTime: State of the Project (Monday, 11:15am - 12:00pm in Watercourt A)~~
- UniTime at Faculty of Medicine (Monday, 1:30pm - 2:15 pm in Watercourt A)
- Student Scheduling at Purdue (Tuesday, 11:15am - 12:00pm in Watercourt A)
- Event Management in UniTime (Wed, 11:00am - 11:45am in Watercourt A)

- Or visit www.unitime.org

An online demo is available at https://demo.unitime.org

Photo of Santa Monica Pier provided by Los Angeles Tourism & Convention Board