

# Approach Used for Track II of International Timetabling Competition

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## Approach

1. Slots ordered hour wise for all days dissecting them in the middle meaning that this ordering goes from fifth to first, then from sixth to ninth slot.
2. Rooms identified for events using the features needed for events and those available in the rooms.
3. Sizes of events are calculated along with the displacement factor which means number of events affected by students in an event.
4. Number of students common with each of other events was also identified and titled as Null Event Locks. These numbers can be zero to n. The probability of events mixing with other events in a same slot is the number of zeroes encountered in this array.
5. To form a group of events which can be allotted in a slot we find an event that can be accommodated in lesser number of rooms, within that the event having least number of zeroes, within that the size of event. All events are ordered using this approach.
6. The ordered events are picked up one by one in the above order in the first slot which are valid in this slot and all other events are removed out that have students common with them. This is done till all rooms are exhausted for a slot or no events are left. In case we have an event left out which can not be scheduled in last room, then the following approach is used
7. An allocated room is searched which can house the unscheduled event and the already scheduled event can be accommodated in unallocated room then the rooms are shuffled to schedule the unscheduled event.
8. In case of a tie at the room selection point the un scheduled room is stored for future purpose. These rooms are allocated the left out events by again ordering them according to the current data as in step 5.
9. In the end the ordering is checked and one with a lesser number of students is unscheduled.