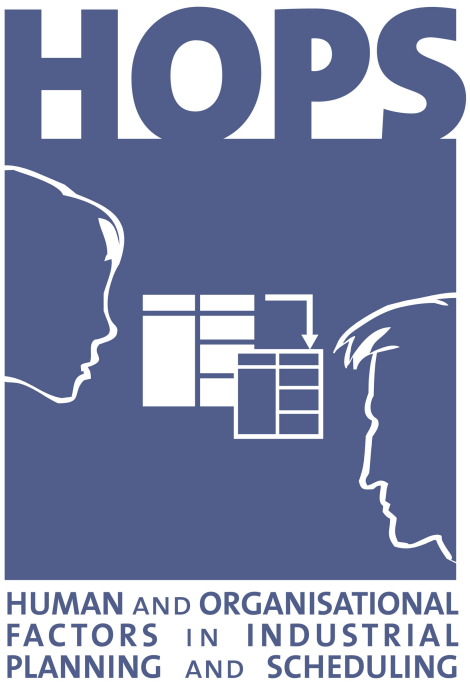

Cooperation between Human and Machine for Shop Rescheduling

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Introduction

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- Humans are good at relaxing constraints.
- Handmade schedules have good performances in general.
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Human and machine complement each other: they have a different vision of the shop. Uncertainties can be different for the human and for the machine.

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Example: a Job Shop Problem

i is the job, j is the operation (operations are sequenced), $M_{i,j}$ is the machine needed for the operation j of the job i, and $p_{i,j}$ is the time needed for the operation j of the job i.

Problem

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1	2	2	3
1	3	3	3
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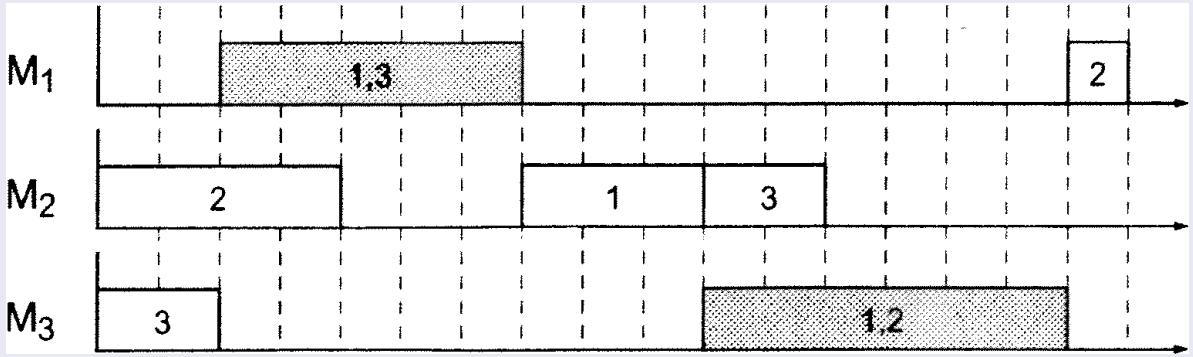
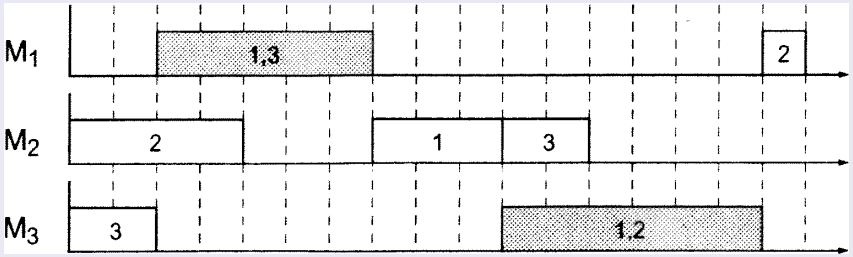
A Solution

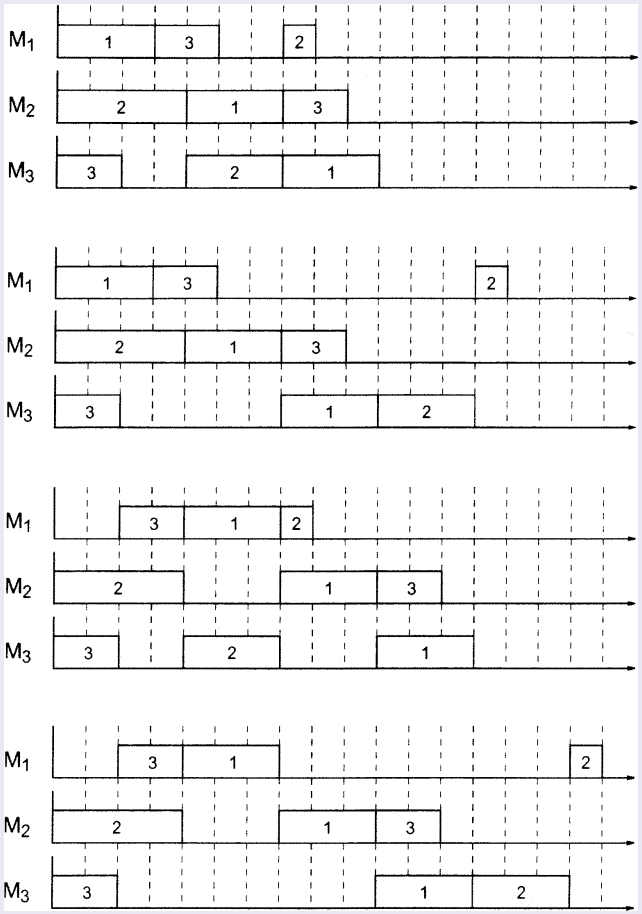


Execution of the Example

The group schedule



The Different Schedules



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- Predictive-reactive method;
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- Evaluation of the worst schedule in polynomial time;
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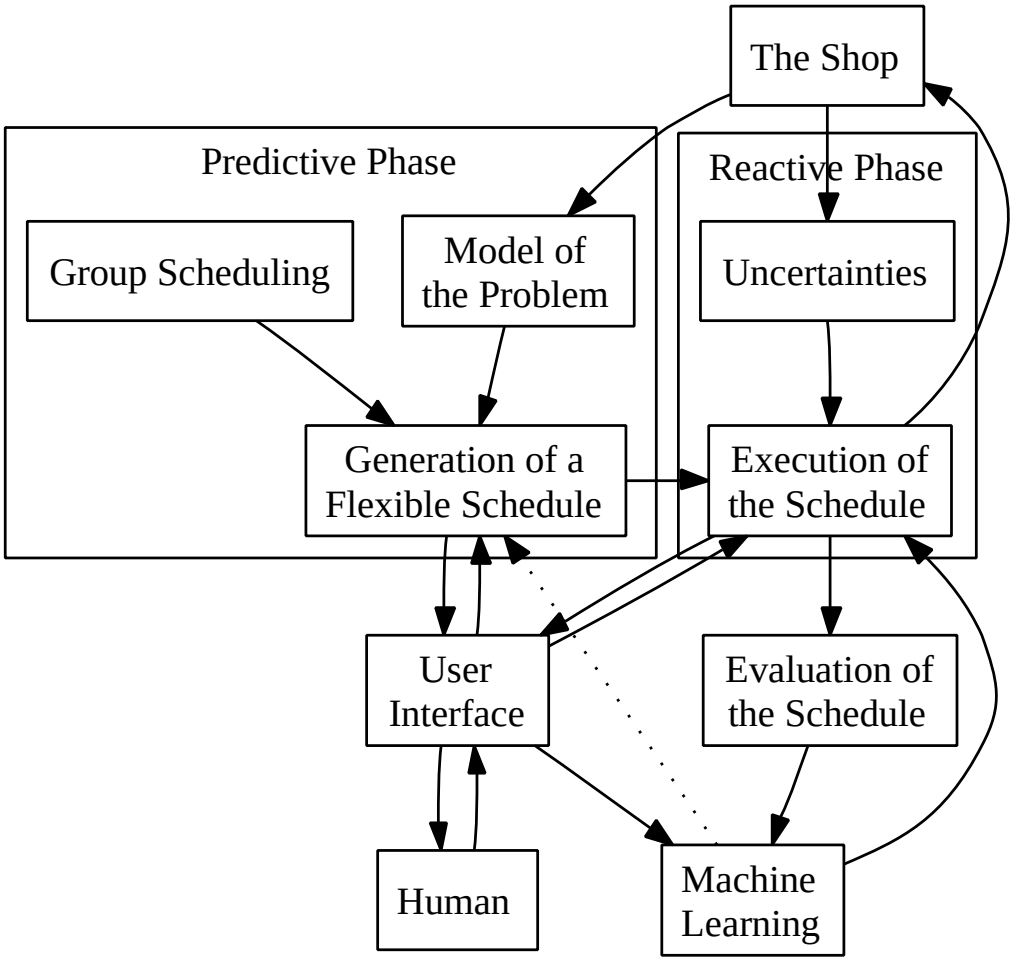

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Conclusion

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We have proposed an architecture for a future method of resolution of this problem using:

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