

# AI for Business Process Modelling

## MARKET NEED

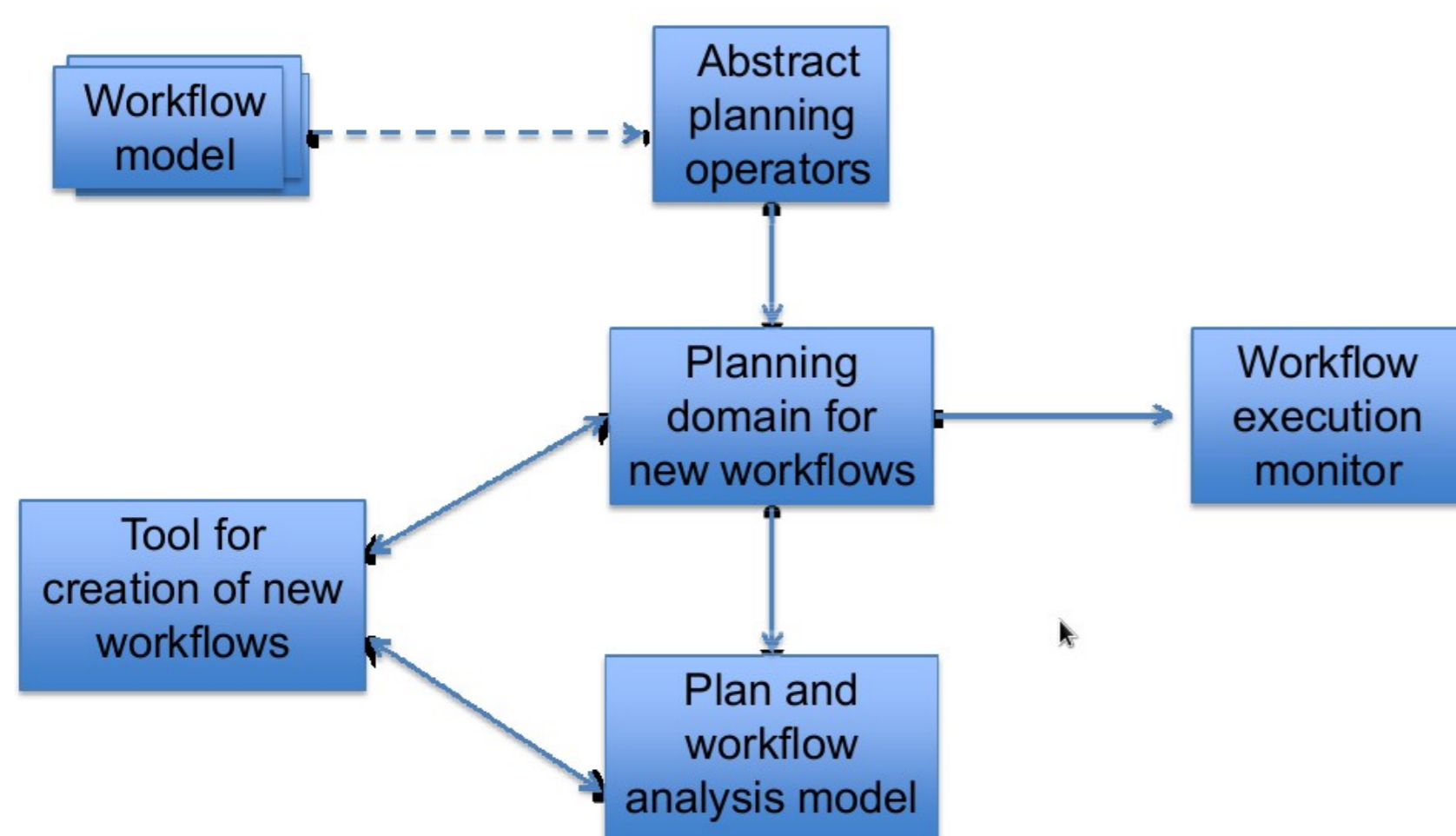
Business process modelling is a technique for representing existing or future processes within an organisation, particularly with a view to documenting and improving them. Many business processes manipulate sophisticated data sources to generate a data set that will be subject to subsequent data analytics tasks, and their study falls within the general field of data management. User-friendly editors are available which allow business users to define business processes as a structured collection of tasks towards a specific goal. What they do not provide, however, is the ability to verify and optimise those processes or the data that they produce.

## TECHNOLOGY SOLUTION

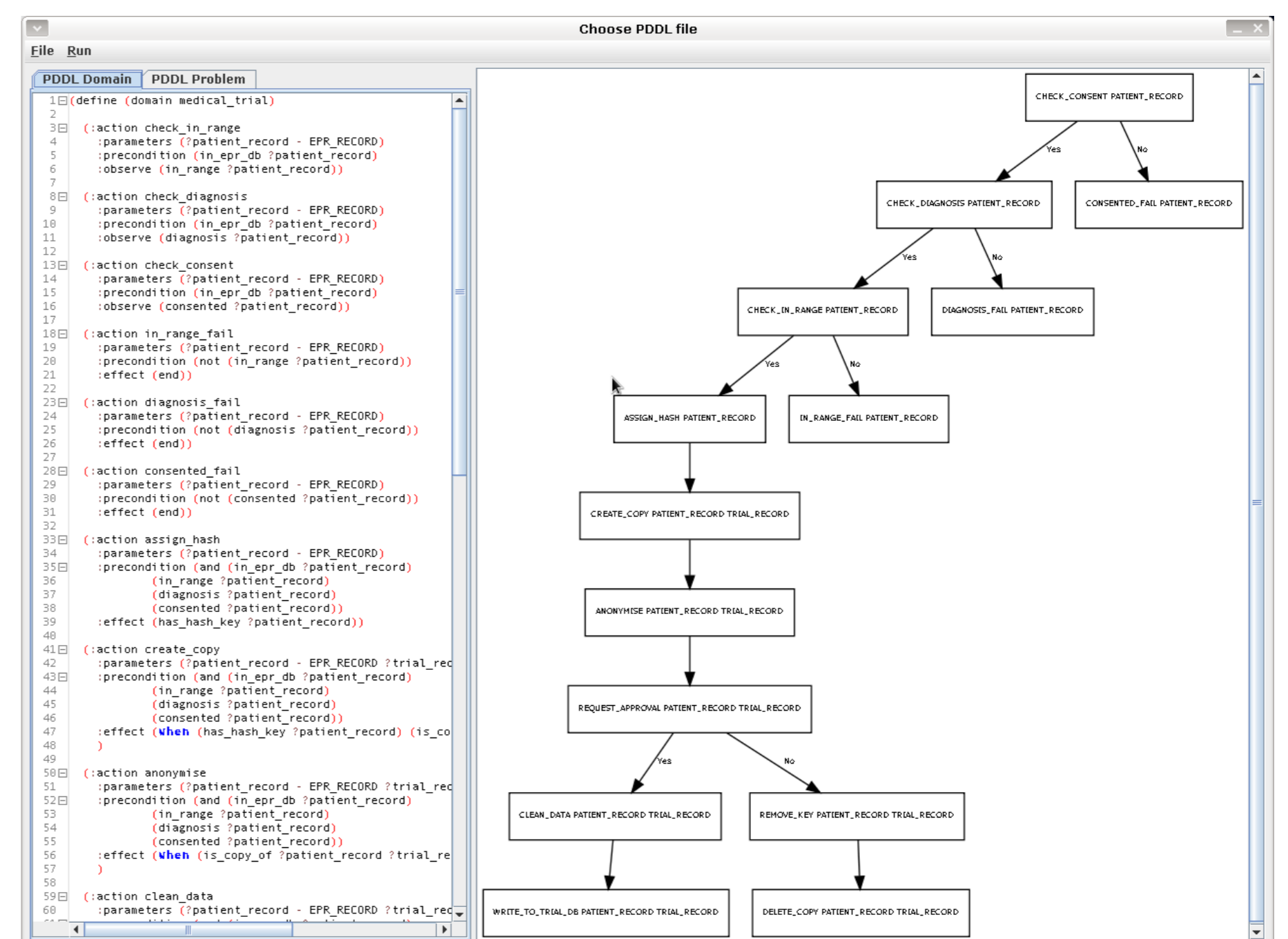
Our approach is to apply the theory of automated planning, which is a branch of artificial intelligence. In a planning problem, we are given a set of possible initial states, the desired goal, and a set of possible actions. Each action has a precondition and achieves a certain effect. The planning problem consists of finding a sequence of actions that leads to the desired goal from an initial state.

By formulating a business process model as a planning problem, we can answer questions such as:

- Is the business process guaranteed to deliver the required outcome?
- Are there other ways of arriving at the same outcome?
- Does the business process contain redundant steps?



A demonstration of the software we have developed can be found at <https://ceadar.ucd.ie/video/> (click on 'Reduce data management effort for analytics').



## APPLICABILITY

Business process models are ubiquitous in the enterprise, in government, in the health and education sectors, etc. All sectors can benefit from a more formal approach to process modelling.

## RESEARCH TEAM

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