

Towards an Agile Lifecycle in Operations Research Projects

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Introduction

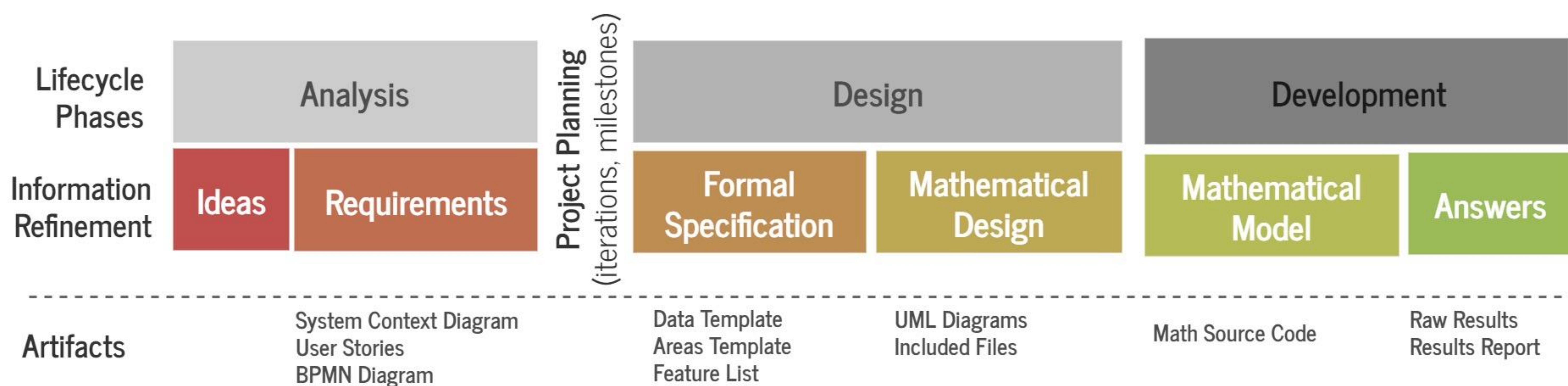
PROBLEM

- Operations Research (OR) interventions lose the integral vision of the project, and focus only on the mathematical code.
- The lack of a methodology guiding the OR project complicates the introduction of changes in the model due to alterations on the requirements.
- Similar issues have already been acknowledged and approached in Software Engineering (SE), but this is not applied in OR models development.

PROPOSAL

- To use the experience obtained in SE practices regarding agility and project management, and applies it in OR projects.
- Identify phases, information refinements and artifacts to provide a conceptual base to allow generating a framework to adapt existing agile methodologies into OR projects.
- Use these concepts to establish a base to fully apply agile concepts Operations Research.

Every OR project implies a transformation of information: it starts with an idea and aims to obtain specific answers, but in order to go from one to another there must be a refinement and evolution of information, with intermediate states. This becomes the goal of a given phase during the development, and contributes to the validation and verification of the obtained model.

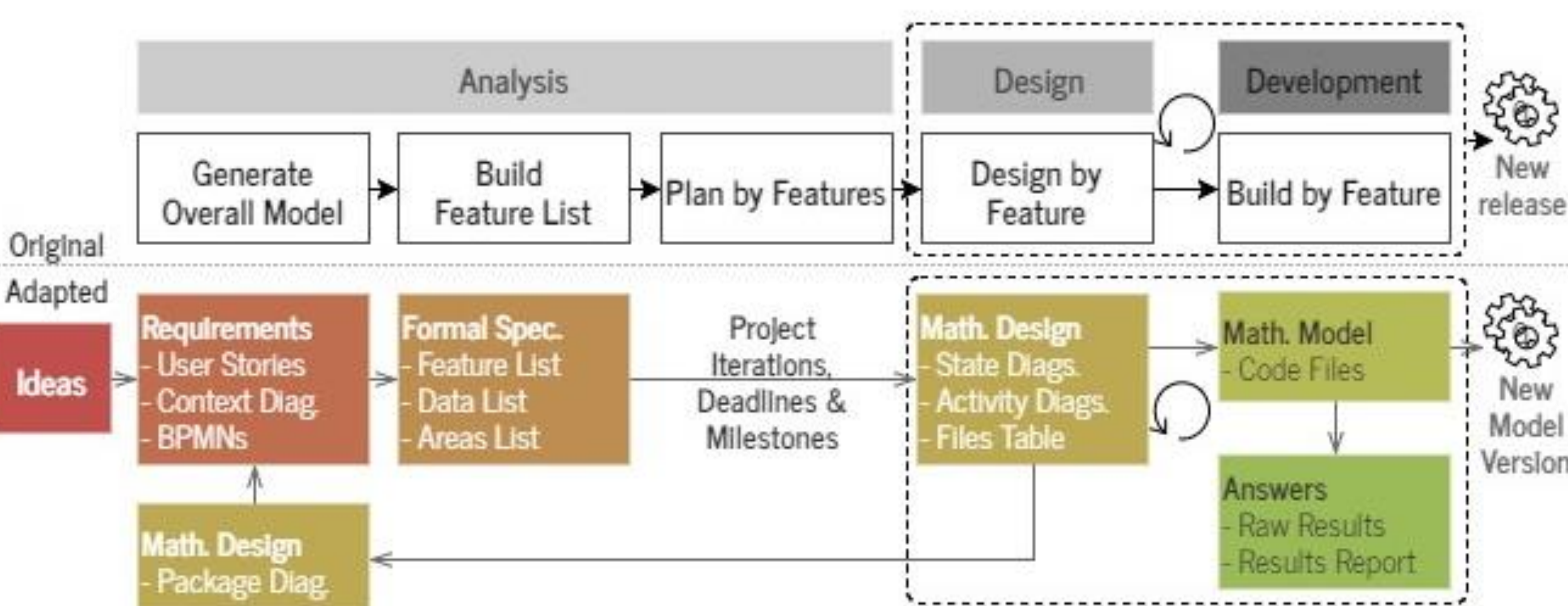


POSITION GOALS

- Identifying and establishing the process of an OR project as a whole, and define its intermediate goals and type of information used, to -as future work- define specific practices and technical recommendations.
- Allow adapting an OR model development to a software development lifecycle, to unify the project's processes and goals.
- To extend the project management approach to OR discipline, to improve the development of models, increase their quality attributes and enhance their adaptability to changes.

Example Case: Feature Driven Development

FDD is selected due to being widely used, accepted, and adaptable to a wide range of projects and teams sizes. Also, FDD does not require extensive knowledge about the method itself, unlike other methodologies such as Scrum.



CONCLUSIONS

Extending SE lifecycles to OR projects implies a change of paradigm and working practices.

Creating information refinements previous to coding favors the integration with other areas, such as when developing a model as part of a Decision Support System.

Information refinements and artifacts do not invalidate existing methods, but provides a consistent link between them.

Future Work

Generating a framework to bring agility into OR projects, allowing the possibility of using a wide range of methods and knowledge already available in SE practice.