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Simplicial completion of model categories and strictification

Simplicial completion is a general construction to turn a combinatorial model category into a Quillen equivalent simplicial model category, by considering its category of simplicial objects. It was introduced by Cisinski in the context of Cisinski's model structure, then extended by Dugger to general left proper combinatorial model categories, and it is easy to see that if we accept to work with left semi-model categories, then it can be applied to any combinatorial model category.

But, in fact, simplicial completion can be applied to categories that are not even model categories: Given any presentable category with two cofibrantly generated weak factorization systems, we always obtain a simplicial left semi-model structure on its category of simplicial objects.

Hence an immediate question: If we start with something that doesn't have a well-defined homotopy theory, what is the homotopy theory we get after simplicial completion? i.e. what does the resulting mode category actually models? In this talk, we will answer this question and explain how this corresponds to a large generalization of Badzioch's strictification theorem to the setting of infinitary dependently typed theories.