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Modelling homotopy type theory in cartesian cubical sets

Starting from the observation that Voevodsky's model [KL12] of homotopy type theory is not constructive, Coquand et al. [BCH14] developed a constructive model in a category of cubical sets, with the aim of solving the *canonicity problem*.

I will present work in progress on a variation of this model in the presheaf category of *cartesian cubical sets* [Awo16] where types are interpreted as uniform Kan complexes, and identity types are interpreted using an algebraic weak factorization system [BG16] based on a notion of path object given by exponentiation by an interval object.

A goal of our work is to construct a univalent universe that can be internalized in a topos with a small complete subcategory, such as Hyland's effective topos [Hyl82]. This construction is based on recent work of Gambino and Sattler [GS17, Sat17].

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