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William M Farmer* (wmfarmer@mcmaster.ca), Computing and Software, ITB 202, McMaster University, 1280 Main Street West, Hamilton, Ontario L8S 4K1. *Modules for a Large Library of Formalized Mathematics*. Preliminary report.

Like any other complex system, a large library of formalized mathematics needs to be constructed from modular units. What requirements should a system of such modules satisfy? First, the system should include powerful methods for building complex knowledge structures by combining and relating modules. Second, the system should enable mathematical knowledge to be expressed both declaratively (using axioms) and procedurally (using algorithms). Third, the system should serve both the developers who build the library and the end users who use the library. We will discuss these requirements and present several ideas for satisfying them. We will also argue that a module system that satisfies these requirements must contain a variety of different kinds of modules.

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