

MEMORANDUM

To: Matthias ^2

From: Matthias

Date: September 11, 2018

Subject: Specification for Spreadsheet Module

We need a spreadsheet Node.js module. The spreadsheet should be represented as 2D array of cells, which each contain a formula, an x position, and a y position. A formula is another Node.js module we need to support numbers, references to the cells in the spreadsheet, and functions including addition and multiplication.

The modules will be required where we will store spreadsheets in our MongoDB database and render them in Angular on the client side. The spreadsheet UI is rendered by looping over the 2D array of cells in a representative table of the formulas.

Determining the value of of a position in such a rectangle would be handled through a calculateValue(var x, var y) function. This should take in the desired coordinates of the desired formula, compute the formula at that location, and return the value.

Placing a formula into a specific position should be done through the placeFormula(var x, var y, Formula f) function. This takes in the desired x and y location in the table, and stores the given formula there. If x and y are not provided, it should be inserted into the first available space in the table.

The product needs to be written in JavaScript (Node.js v8.11.3, npm 5.6.0, Angular CLI 6.1.1.). Please let us know if you have any questions.