# Make



*goal:* concretize ideas into tangible prototypes which are approximations of a product in some aspects

*artifacts:* prototypes

generate

### 1) set an achievable goal

what should the prototype **achieve**? what are the specific **criteria for success**? break a larger goal into parts with clearer feature sets.

An important goal or step is to represent the metabolic network (or subsets of it) in a node-link graph with automatic layout. That is a high priority and necessity for the success of this query-subset-based project.

!! break a goal apart into multiple and create a worksheet for each sub-goal

### 2) plan encodings & layouts

what are good visualization **encodings** or **layouts** for which data? use the ideas you just came up with, and remember to justify for users and their tasks.

Users need to understand the relations between entities, the connectivity and topology of the network.
Encode connectivity by position in node-link graph.

### 3) plan support for interactions

what can the user do? what is required given the chosen encodings? justify your design decisions.

The user ~~could~~ can drag nodes to reposition the force-directed node-link graph. The user can specify nodes to replicate to simplify graph topology. The user can highlight nodes and links and access their properties.

### 4) sketching additional views

what other parts of the data must be seen? brainstorm how to show this data in the tool.

It is useful for the user to see nodes of high degree in order to decide whether or not to replicate them.

!! if you are thinking up new ideas to visualize, go back to the Ideate activity!

evaluate

### 5) build the prototype and check-in

are your **goals met** by the prototype? test with users if possible. are design decisions properly justified? do any need to be revisited? were any new constraints or limitations discovered? write down your progress and additional justifications below. review this progress and the prototype with a partner or your group.

The note for sketch 2016-11-11_1 in note_sketch.txt discusses the goals for visual design and functionality of the prototype.

As of 11 November 2016, the prototype represents small subsets of the metabolic network well with reasonable clarity and decent automatic layout.
I want to improve labeling of nodes and give the user more detail on demand about metabolites and reactions.
I want to give the user an interface to decide which nodes to replicate for simplicity.

!! did the prototype meet its goal? measure its success and make sure you have addressed the design requirement. does it do what you set out to do too much?

U / I / M / D