This slide deck is a very brief synopsis of Bill Buxton’s main message, as found in:

Fundamental idea:

• Sketching is about design.
• It is a fundamental tool that helps designers express, develop and communicate design ideas.
• It is a critical part of a process that begins with idea generation, to idea design, to design choices, to engineering.
Getting the right design is about starting with a single design idea – usually the first idea you generate -…
Why Sketch?

Getting the Design Right
- generate an idea
- iterate and develop it

But is it the best idea?

… and iteratively developing it until its as good as it can get. If you are really good, it will be the optimal design for that idea.

<animate>
But is it the best idea possible? Unlikely.
The problem is that the design can only be as good as that particular idea. If the idea is not a good one, the best solution will only be so so.

In Computer Science, this is known as *local hill climbing*, where the local maxima is potentially much less than the optimal or global maxima.

The point is that if you look at many ideas rather than a single one, you may find a better overall solution.
This is called Getting the Right Design vs. Getting the Design Right, that is Getting the right design:
- generate many ideas and variations
- reflect and choose
- *then* iterate and develop your choice
then  Get the design right:
- iterate and develop your choices
- continually refine your choices as the better solutions become apparent
- of course, add in new ideas as they come up
Exploring a single idea will propel you down one path, towards a single convergence point.
With alternatives, you can compare multiple solutions at any point in time, and choose one or more branches to follow.
As an example, consider the many design variations of the traditional keypad cell phone.
The iPhone design was a radical shift, as it was based on a different idea for input: touch
Here’s another way to look at it. The design process is a symbiotic relationship between idea elaboration and reduction.

**Elaboration:** generate solutions. These are the opportunities

**Reduction:** decide on the ones worth pursuing, and then elaborate on those solutions
Design is choice. There are two places where there is room for creativity:

1. the creativity that you bring to enumerating meaningfully distinct options from which to choose

2. the creativity that you bring to defining the criteria, or heuristics, according to which you make your choices.

Bill Buxton

Bill Buxton’s quote about design as choice stresses creativity in both generating meaningful ideas, and in choosing between these ideas.
This is yet another variation on representing the design funnel, by S. Pugh. Of importance, is that the generation of ideas and the convergence of ideas alternate, with the process gradually converging to the final concept.
Here’s a more detailed look at this design funnel.

First, each stage is iterative, where one constantly generates and reduces ideas until resolution

Second, the granularity of exploration and development is finer as these iterations progress
Lets now consider the importance of design in software product lifecycle. The ‘status quo’ is that projects get a green light right at the start, and go directly to engineering where they are built.

The next phase is when they ship – usually late, with bugs, over budget, and missing functionality.
By inserting an explicit design process prior to the green light, many designs can be considered before any commitment is made.

The design funnel generates and develops ideas in parallel, where it filters, and eliminates designs until convergence.

At that point one or more designs can be considered for green light.
This is perhaps a more accurate picture, as it shows the interplay between design, engineering, management, marketing and sales throughout the entire product cycle.
You now know

Sketching
- is about design

The design process is about
- getting the right design, and then getting the design right

The design funnel is about iteratively
- generating and elaborating designs
- choosing and reducing between designs

Design in product development is about
- using the design funnel to develop ideas for green/red light appraisal