

CASE STUDY 3.1: *Building the Better Mouse*

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You are sitting in on a meeting with the Acme Corp. new product development team. The team is comprised entirely of design engineers and is meeting in the engineering conference room. The team leader is the Chief Design Engineer, Michael Carroll, who invited you to sit in today.

Michael addresses the team. "We've been tasked with designing a new mouse to sell with the next generation of personal computers. We have six months to have working prototypes ready to present to marketing and three months after that to have the new mouse in production. It's a very aggressive schedule—we have no time to waste. Let's start by brainstorming ideas for the mouse. Please be as innovative as possible." Michael stepped to the white board prepared to write all of the ideas that emerged from the meeting.

Ideas began to surface:

"Why does a mouse have to have only 2 buttons and a scroller? Why not add an additional button for the thumb that can be programmed to serve as a function key?"

"Why not make the mouse available in many colors rather than just the drab black, grey, and off-white?"

"Why not send power to the mouse using RF rather than using a battery?"

"Why do we need a mouse anyway? Why not implant a chip into users' index fingers?"

"Let's make the mouse a glove. Just move your fingers to move the cursor."

As the ideas were offered, Michael wrote them on the white board. After about 30 minutes the flow of ideas had about stopped. There were a total of 28 ideas generated. Michael divided them loosely into categories: electrical; physical; functional. He asked the team to divide themselves into three groups along functional lines and each group to select a category to develop further. "Please pay particular attention to technical feasibility and manufacturing costs when you evaluate the ideas. Let's plan to meet again in two weeks with each group giving a report on their ideas. We'll try to narrow the ideas down and start rough prototyping the most promising ideas."

After the meeting, Michael asked you for comments about the process he is using to design the new mouse. What comments and suggestions would you make to Michael?