

The Marino Filter: Phase I

(Based on a sequence of scenarios which originally appeared in Chemical Engineer (May, 1980) by Roy V. Hughson and Philip M. Kohn)

A recent graduate of Loyola Marymount University (LMU), you have been employed in the Digital Signal Processing Group of Larom, Inc. for the past several months. You were hired because of the promising research you did with the Marino digital filter as a student at LMU.

Alex Smith, the head of your group, showed immediate interest in your research on the Marino filter when you arrived at Larom, asking to see the results of the research you did at LMU. Although he said he found your work promising, your work assignments during the first several months at Larom have mainly been in other areas. You have had little time to pursue your research on the Marino filter since your arrival at Larom.

Alex calls a meeting of engineers in your group and announces that it must make a recommendation within the next two days on what filter Larom should use in the implementation of a voice recognition system. The overwhelming consensus in the group, based on many years of experience, is that a Butterworth approximation filter is the best filter for the job. However, the research you have been conducting provides preliminary evidence that the Marino filter may actually be better. So, you suggest that the recommendation be delayed another month to see if firmer evidence can be found. If the Marino filter is better, Larom will greatly improve the accuracy and reliability of their system if it opts for the Marino filter over the Butterworth approximation filter.

Alex replies, "We don't have a month. We have two days." He then asks you to write up the report, leaving out the preliminary data you have gathered about the Marino filter. He says, "It would be nice to do some more research on the Marino filter, but we just don't have the time. Besides, I doubt if anything would show up in the next month to change our minds. This is one of those times we have to be decisive—and we have to *look* decisive. They're really getting impatient with us on this one. Anyway, we've had a lot of experience in this area."

You like working for Larom and you feel lucky to have landed such a good job right out of school. Although you would like to have more time to carry out your own research, you have enjoyed working on other projects in the division; and you have learned a lot from your colleagues in the few months you have been working with them. You are due for a significant pay raise soon if you play your cards right. It looks like you have a bright future with Larom, Inc.

What should you do?

The Marino Filter: Phase II

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You have now had more time to do research on the Marino filter. After several weeks your research quite decisively indicates that, contrary to the expectations of Alex and the other more experienced engineers in your group, the Marino filter would have been, far and away, the better choice. Meanwhile, Larom has already invested a great deal of money on developing the hardware to support the Butterworth approximation filter.

What do you do now?

The Marino Filter: Phase III

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You have convinced Alex to submit a straightforward report that, nevertheless, recommends the Butterworth approximation filter. However, Alex's superiors are very upset by this. They are unwilling to go ahead with the project without further testing, but further delays will be costly. Alex is severely criticized for not having a more convincing set of data. He, in turn, blames his staff, especially you. You, he tells his superiors, failed to complete the necessary experiments in a timely fashion. Alex tells his superiors that he should have supervised your work more closely, but that he will not let matters get out of control again. Although you are not fired, you are not promoted and your salary is frozen for another year

What should you do?