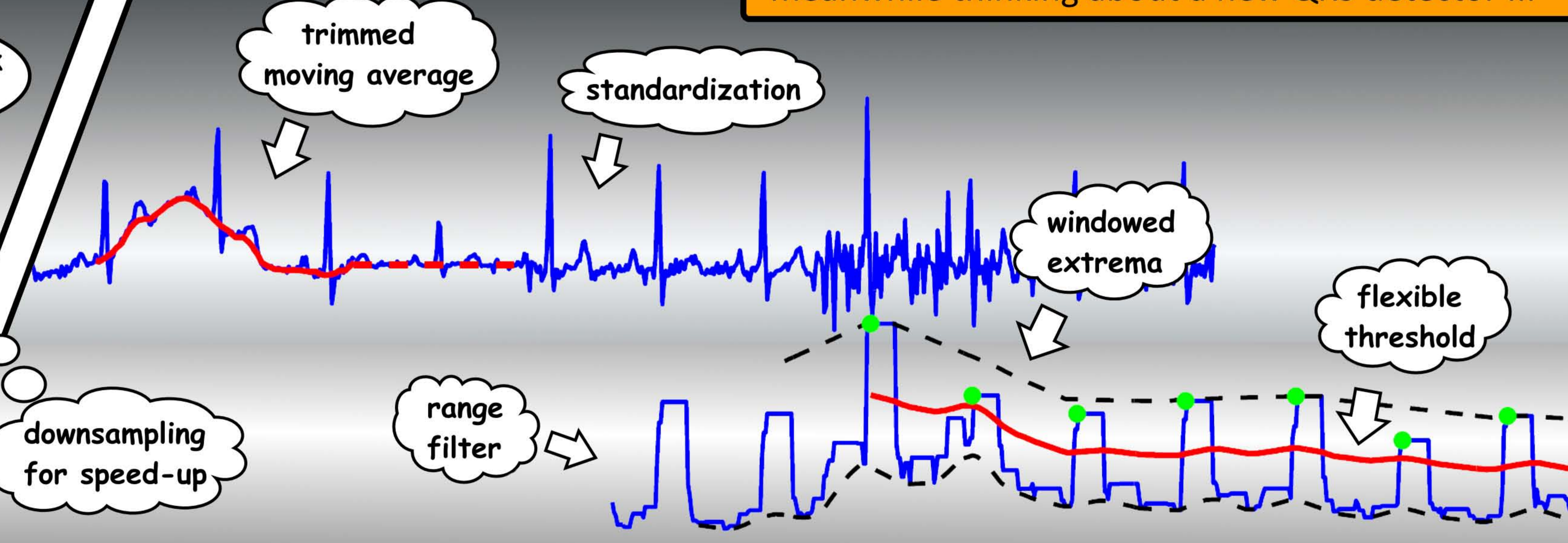


At the department ...

I have a lot of physiological raw data. Can you extract the beats?

Let me think ...

meanwhile thinking about a new QRS detector ...



How to cover multiple channels?

Take 30 sec. subset

- For all channels and two settings:
 - annotate heart beats
 - compute RR distances

Choose channels for which

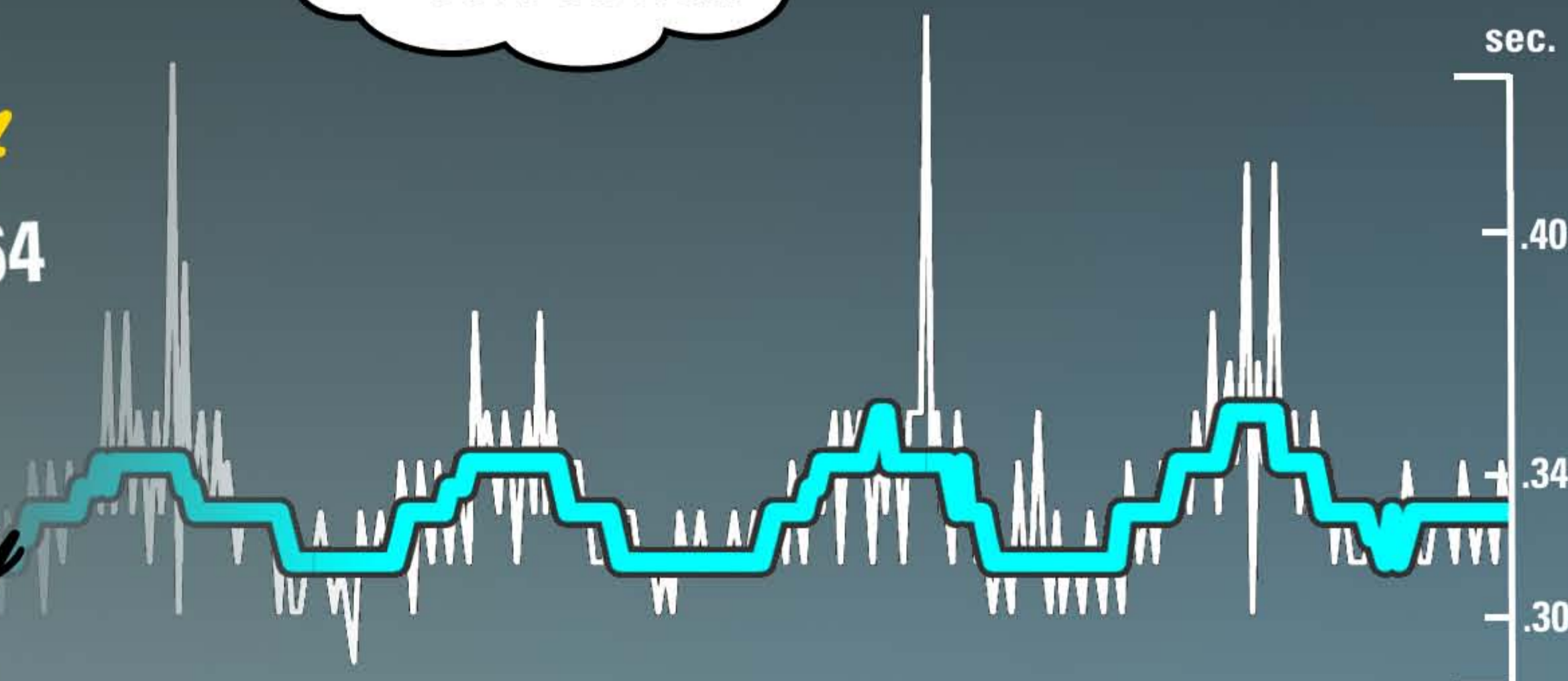
$$P\left(\frac{RR_{i+1}}{RR_i} \text{ in } [0.8; 1.2]\right) \geq 80\%$$

Fine! But how to combine multiple channels?

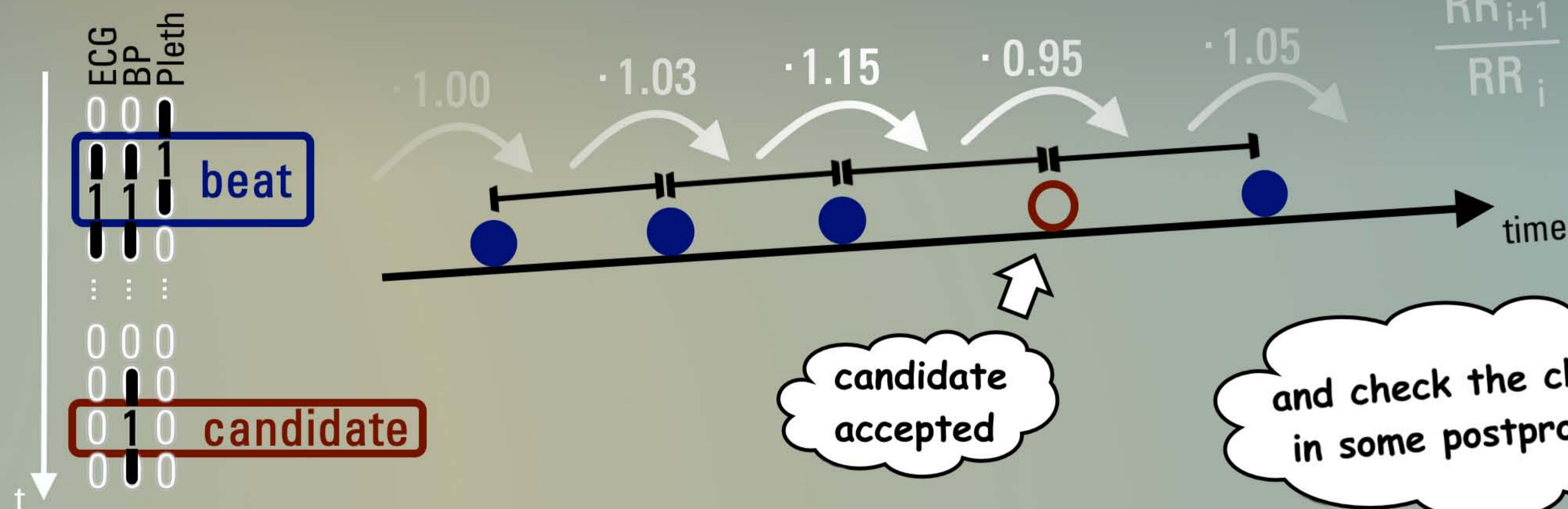
	10	20	30	40	50	60
ECG	+2	+2	+3	+4	+4	+4
BP	12	22	33	44	54	64

due to pulse arrival time variability and waveform changes

dynamic delay correction



merging beat annotations



and check the channels in some postprocessing

Results

Does it work properly?

	SE	+P
set-p	.9989	.9993
MIT/BIH	.9896	.9962
slpdb	.9990	.9970
noise stress test	.9503	.9160

Physionet Challenge
CinC 2014 Phase III:
Overall 86.22

