

Please note that the oblig should be solved individually. Please send your solution as an attachment to kst@sintef.no. The format of the solution should be pdf. The solution should be named with your name.

Oblig II on Refinement

The context of Oblig II is the same home television entertainment system as for Oblig I. However, the sequence diagram is slightly changed.

HINT: Remember that the semantics of **veto(d)** is equal to the semantics of **alt(skip, refuse(d))**.

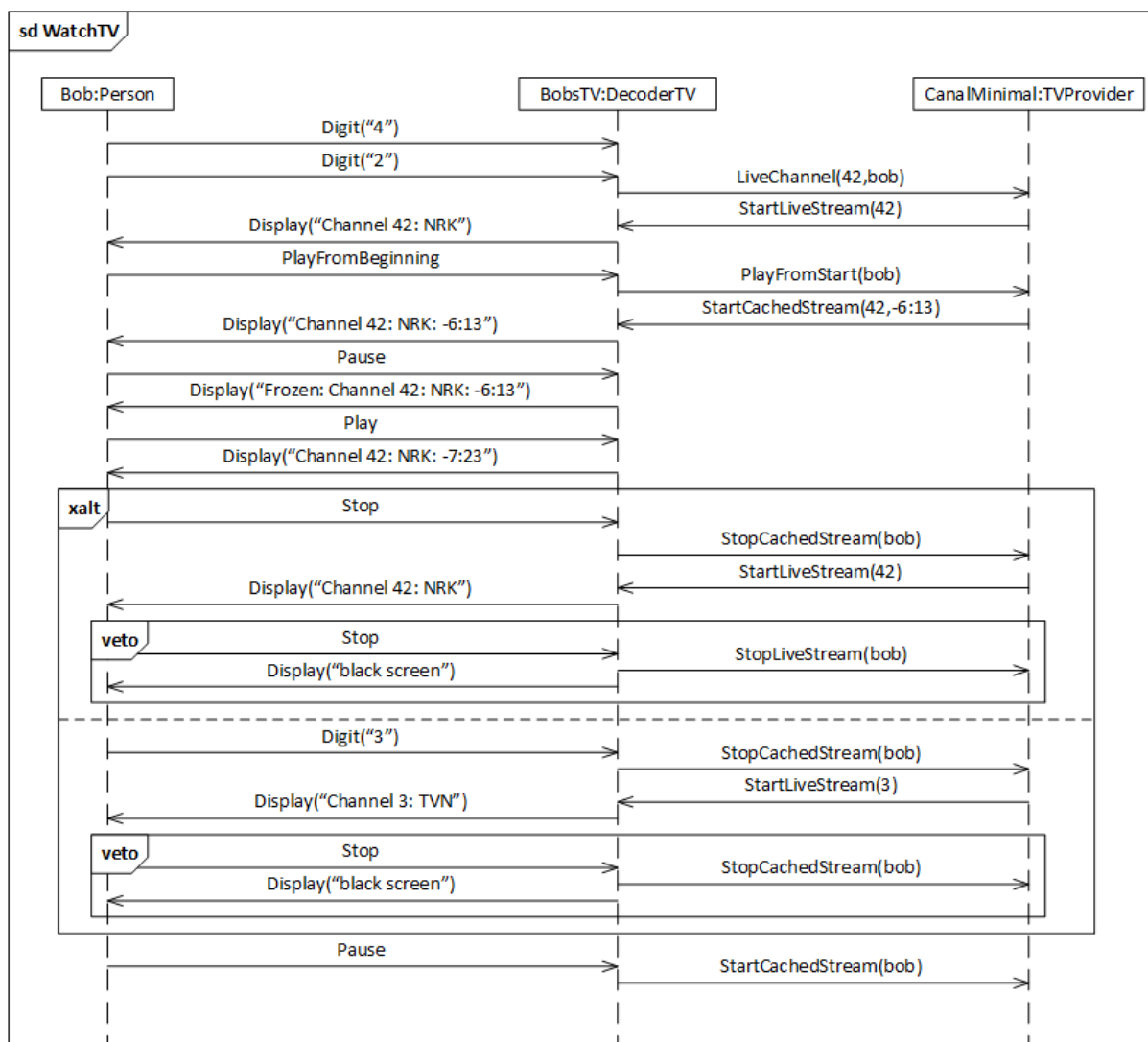


Figure 1 Bob watching television

1. All the negative traces of WatchTV are of the same length. What is this length? Explain your answer.
2. How many negative traces is described by WatchTV? Explain your answer.
3. How many interaction obligations are there in the semantics of WatchTV?

Let WatchTVModOne be the result of extending the **xalt** construct of WatchTV with a third operand and leaving everything else unchanged.

4. Is WatchTVModOne a general refinement of WatchTV? Explain your answer.
5. Is WatchTVModOne a limited refinement of WatchTV? Explain your answer.

Let WatchTVModTwo be the result of replacing every occurrence of **veto** in WatchTV with **refuse** and leaving everything else unchanged.

6. How many positive traces are described by WatchTVModTwo?
7. Why is it from a methodological point of view more correct to use the **xalt** operand in WatchTV as we do in Oblig II instead of the **alt** operand that we did in Oblig I?