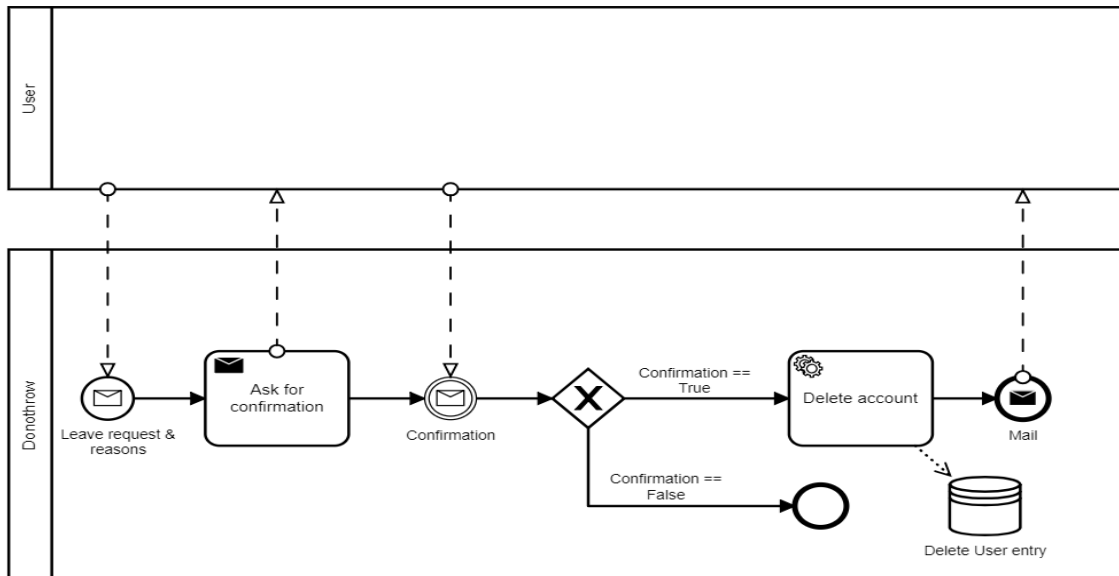


## Soundness of the Leave Process

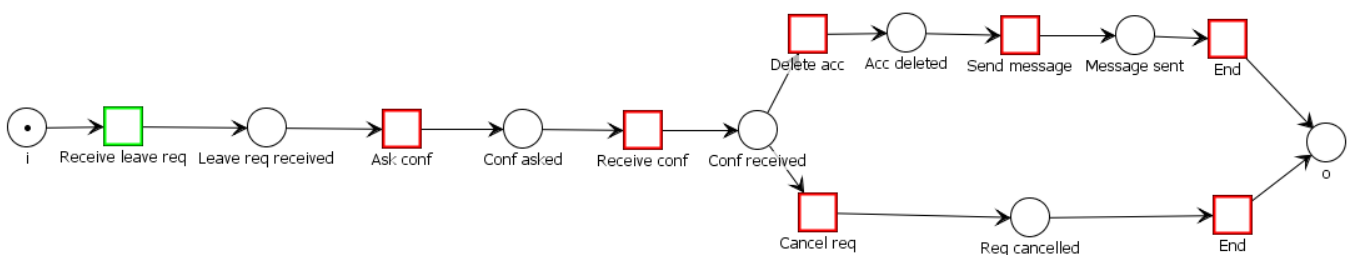
Below is the BPMN of the process. We will check if it is sound. First, we need to check if it is structurally sound. Then, we will check if it is sound



### 1. Structural soundness

A process is structurally sound if the corresponding Petri Net is a Workflow Net. Below is the Petri Net that is derived from the BPMN. It is indeed a Workflow Net because:

- There is only one initial place (named i here)
- There is only one final place (named o here)
- Every need is on a path between the initial place and the final place.



### 2. Soundness

A process is sound if it is structurally sound and if for any case the process terminates in o with only tokens in o (there are no tokens that are left somewhere in the process)

Here, as the Petri Net is simple, we clearly see without even drawing the reachability graph that the process is sound. Indeed, there are two cases: when the place Conf received is reached, either the transition Delete acc or the transition Cancel req is fired. For each of those cases, the process terminates with 1 token on o.