Definition (Identity design problem with implementation)
The *identity design problem with implementation* $\langle I_{id_A}, prov, req \rangle : A \longrightarrow A$ is

given by implementation set
$$I_{id_A} = A$$
 and prov = req being the identity on A . The profunctor is defined as

 $\langle a^*, a' \rangle \mapsto (\uparrow a) \cap (\downarrow a')$

 $\langle \mathbf{I}_{\mathrm{id}_{A}}, \mathsf{prov}, \mathsf{req} \rangle : A^{\mathrm{op}} \times A \to_{\mathbf{Pos}} \mathscr{P}(A)$