Definition (Identity design problem with implementation)
The *identity design problem with implementation* $\langle \mathbf{I}_{\mathrm{id}_A}, \mathsf{prov}, \mathsf{req} \rangle : A \nrightarrow A$ is given by implementation set $\mathbf{I}_{\mathrm{id}_A} = A$ and $\mathsf{prov} = \mathsf{req}$ being the identity on A.
The profunctor is defined as

$$\langle \mathbf{I}_{\mathrm{id}_A}, \mathsf{prov}, \mathsf{req} \rangle : A^{\mathrm{op}} \times A \to_{\mathbf{Pos}} \mathscr{P}(A)$$
$$\langle a^*, a' \rangle \mapsto (\uparrow a) \cap (\downarrow a')$$