Lemma. For any $A, B \in \mathrm{Ob}_{\mathbf{DP}}$, the design problem $\sigma_{A,B} \colon A \times B \longrightarrow B \times A$ given by

$$\sigma_{A,B}(\langle a_1, b_1 \rangle^*, \langle b_2, a_2 \rangle) := (a_1 \preceq_A a_2) \wedge (b_1 \preceq_B b_2)$$

constitutes the braiding operation for a symmetric monoidal structure on $\langle \mathbf{DP}, \otimes, \{\bullet\} \rangle$. In other words, $\langle \mathbf{DP}, \otimes, \{\bullet\}, \sigma \rangle$ is a symmetric monoidal category.