To instantiate an assurance case pattern for the Airborne Collision Avoidance System Xu (ACAS Xu) using the Goal Structuring Notation (GSN) pattern provided, we first need to replace all placeholders and add system-specific or concrete information. Additionally, we remove decorators indicating extra actions such as Undeveloped or Uninstantiated since these are requested to be processed in the final instantiation.

Let's create the security case based on the given predicates and instructions, focusing on the specific system ACAS Xu:

\*\*Security Case for ACAS Xu\*\*

- \*\*Goal (G0): ACAS Xu satisfies security requirements\*\*

- \*\*In Context Of:\*\*

- Context (C0): Description of ACAS Xu

- Justification (J0): The argumentation is based on the satisfaction of Security Requirements (SRs)

- Assumption (A0): System SRS are complete, adequate, and consistent

- \*\*Supported By:\*\*

- \*\*Strategy (S0): Argue through asset protection and secure development requirements\*\*

- \*\*Supported By:\*\*

- \*\*Goal (G1): ACAS Xu satisfies the asset protection requirements\*\*

- \*\*In Context Of:\*\*

- Assumption (A1): Asset inventory is established

- \*\*Supported By:\*\*

- \*\*Strategy (S1): Argue through the different stages of the system development life cycle\*\*

- \*\*Supported By:\*\*

- \*\*Goal (G3): Asset protection requirements are met during the architecture design phase\*\*

- \*\*In Context Of:\*\*

- Context (C2): Description of the ACAS Xu architecture

- \*\*Supported By:\*\*

- \*\*Strategy (S2): Argue through derivating security threats from SRs\*\*

- \*\*In Context Of:\*\*

- Justification (J1): Detection and mitigation of threats fulfill SRs

- \*\*Supported By:\*\*

- \*\*Goal (G5): ACAS Xu architecture is protected against identified security threats\*\*

- \*\*In Context Of:\*\*

- Assumption (A2): All relevant threats have been identified

- \*\*Supported By:\*\*

- \*\*Strategy (S3): Argue over each security threat\*\*

- \*\*Supported By:\*\*

- \*\*Goal (G0.X): ACAS Xu architecture is protected against specific threats such as STX\*\*

- \*\*Goal (G6): ACAS Xu architecture is validated\*\* [Note: This goal requires further development and instantiation.]

- \*\*In Context Of:\*\*

- Context (C3): Description of ACAS Xu architecture model

- Assumption (A3): ACAS Xu architecture model is well defined in formal methods

- \*\*Goal (G4): Asset protection requirements are met during other phases\*\* [Note: This goal is undeveloped.]

- \*\*Goal (G2): ACAS Xu satisfies secure development requirements\*\* [Note: This goal requires further development and instantiation.]

This instantiation involves replacing placeholders with "ACAS Xu" and specific elements related to it and making all goals, strategies, contexts, justifications, and assumptions specific to the ACAS Xu environment. This representation also assumes that certain elements like G4, G6, and G0.X are either undeveloped or need more instantiation and development, as indicated in the provided predicates and pattern information.