

## PASTA worksheet

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Stages	Sneaker company
I. Define business and security objectives	<ul style="list-style-type: none"><li>• The app should allow buyers and sellers to seamlessly connect, sign up, and manage accounts while protecting user privacy.</li><li>• It must enable secure messaging and ratings between buyers and sellers to build trust.</li><li>• Payment processing should be quick, secure, and compliant with legal and financial regulations.</li></ul>
II. Define the technical scope	<p>The first technology I would evaluate is <b>SQL</b> because SQL databases are often targeted by attackers through SQL injection. Since the app stores sensitive user and payment information, poorly sanitized queries could expose data. APIs also require scrutiny, as third-party integrations may expand the attack surface if not securely configured.</p>
III. Decompose application	<a href="#">Sample data flow diagram</a>
IV. Threat analysis	<ul style="list-style-type: none"><li>• <b>SQL injection attacks</b> to exfiltrate or manipulate sensitive data in the sneaker app's database.</li><li>• <b>Man-in-the-middle (MITM) attacks</b> against unencrypted communication channels between the app and its servers</li></ul>
V. Vulnerability analysis	<ul style="list-style-type: none"><li>• <b>Unvalidated input fields</b> that allow attackers to inject malicious SQL queries.</li><li>• <b>Weak or misconfigured encryption protocols</b> in the app's authentication or payment handling system, exposing</li></ul>

	<i>credentials or financial data.</i>
<b>VI. Attack modeling</b>	<a href="#">Sample attack tree diagram</a>
<b>VII. Risk analysis and impact</b>	<ul style="list-style-type: none"> <li>• Implement <b>input validation and parameterized queries</b> to prevent SQL injection.</li> <li>• Require <b>multi-factor authentication (MFA)</b> for all user logins.</li> <li>• Enforce <b>TLS/SSL encryption</b> across all communication channels to prevent MITM attacks.</li> <li>• Conduct <b>regular vulnerability scanning and penetration testing</b> to identify and remediate new risks.</li> </ul>

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