Security Recommendations

**Introduction**

This document lays out my security recommendations for our mobile app project, a 2D scroller game where a paper airplane will be flying through a city-scape. The recommendation was found in the android app security checklist and modified to fit the needs of our game.

**Security Recommendation**

Due to the simplicity of our game, I recommend focusing on our Network Security. Specifically, the use of TLS (Transport Layer Security) for any network communication. This includes data transmissions for leaderboards, future advertisements, or other potential features like multiplayer components. TLS would ensure that any data transferred between the app and servers is encrypted and secure from eavesdropping or tampering.

I selected this approach because of its essential role in almost any internet-connected app. It safeguards user data and can uphold the integrity of our games’ online interactions.

**Beneficiaries**

By implementing TLS both the end-user and developers would experience benefits. Players/Users can enjoy a secure gaming experience without the risk of their data being compromised. For developers it would ensure the integrity of the app’s network communication and can build trust with the users.

**Implementation Timeline**

This security measure should be implemented from the early stages of the app development process and is something that we are implementing now. It will be finished before any network features are launched. It’s a fundamental aspect of security that’s critical for any potential online interaction within the game.

**Importance**

Our project needs this recommendation to safeguard any data transmitted during gameplay, particularly if we integrate features like online leaderboards or in-app purchases in the future. It’s a proactive step to ensure user trust and app integrity.

**Application**

The application of TLS in our 2D scroller primarily would involve Android’s built-in libraries, such as ‘HTTPsURLConnection’, to ensure secure network communications. This is particularly relevant for features like online leaderboards or ad integrations where data is transmitted over the internet. By using HTTPS we can make sure that any external APIs or services are TLS-compliant. We can effectively encrypt all data exchanges, safeguarding user information and maintaining the integrity of the game’s online interactions.

**Feasibility**

Implementing TLS in our game is very feasible, given the resources available by the Android development environment. The integration will require minimal code changes and has a insignificant impact on the app’s performance. The main challenge could be ensuring compatibility with every third-party service, however, it could be manageable with enough planning and testing. Overall, the implementation of TLS is a practical and feasible step for enhancing the security of our game.