**Group Project: Programming & Design Guide**

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**Prototyping**

* Prototyping in Blueprints will enable us to create playable and testable version of our game. Many other developers do this e.g. Lionhead Studios and their Fable Legends game.
* A prototype can also be play tested before any final judgements are made about art direction, sound, etc.

**Blueprints**

* Touch input is easily accessed and exposed through blueprints.
* Implementation of Google Play services is also exposed to blueprint.
* The two-player mechanic can be achieved with local multiplayer functionality, but this will probably be having to be done with C++.
* Creating split screen can be done, but it is quite a technical task. Link: <https://answers.unrealengine.com/questions/240300/how-do-i-create-a-split-screen-game.html>

**Development**

* Development for the Android and IOS platforms is achievable with Unreal, however the installation of the Android SDK and targeting the build for Android are quite technical.
* Unreal allows integration with Google Play services which means we have access to achievements, statistics, leaderboards etc. It would be possible to integrate these mechanics within our game.

**Art**

* On mobile the maximum texture size is 2048, so please bear this in mind when creating 2D art.

**UI**

* UI scaling is a must if are to support a multitude of mobile devices, this easily achieved using UMG. Link: <https://docs.unrealengine.com/latest/INT/Engine/UMG/HowTo/ScalingUI/index.html>
* There is also a UI creation guide on creating UI for mobile games. This uses UnrealMatch3 has an example. Link: <https://docs.unrealengine.com/latest/INT/Resources/SampleGames/UnrealMatch3/UI/index.html>

**Epic Games Unreal Sample Project**

UnrealMatch3:

<https://docs.unrealengine.com/latest/INT/Resources/SampleGames/UnrealMatch3/index.html>

FlappyChicken:

<https://wiki.unrealengine.com/Tappy_Chicken_Sample_Game>

**Sources**

Mobile Game Development:

<https://docs.unrealengine.com/latest/INT/Platforms/Mobile/index.html>

Google Play Achievements:

<https://docs.unrealengine.com/latest/INT/Platforms/Mobile/Achievements/index.html>

Google Play Leaderboards:

<https://docs.unrealengine.com/latest/INT/Platforms/Mobile/Leaderboards/index.html>

Texture Guidelines:

<https://docs.unrealengine.com/latest/INT/Platforms/Mobile/Textures/index.html>

Performance:

<https://docs.unrealengine.com/latest/INT/Platforms/Mobile/Performance/TipsAndTricks/index.html>

Touch Input

<https://docs.unrealengine.com/latest/INT/Gameplay/Input/#touchinterface>

Compression

<https://docs.unrealengine.com/latest/INT/Engine/Performance/ReducingPackageSize/index.html>

Local Multiplayer Tips

<https://wiki.unrealengine.com/Local_Multiplayer_Tips>