Cross Platform Development – Project Research Workbook

This workbook will help you focus your research for your project.  
Once you have answered these questions, use this information in your Technical Design Document.

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| Briefly describe the cross-platform application, game or simulation you are researching.  (This is your initial idea to focus your research. The application described in your design documents or your final build may end up being different from this description) |
| A linear 3D Mario inspired platformer with a focus on the mechanic jump. The player has a triple jump combo gaining speed and height with each stage of the jump. The jump is inspired by Mario’s triple jump from Mario 64. The aim of the game is to complete each level under the time limit while collecting coins. |

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| List the software you will use to create your project.  Include any third-party plug-ins, APIs or libraries, if known. |
| Unity 2020.3.12f1  Visual Studio  2D Sprite  TextMeshPro  Unity UI  Draw.io  Paint.net  VSCode  Git CLI |
| With reference to the above list, what legislative frameworks or organisational standards govern the use of this software (including any third-party plug-ins, APIs or libraries).  For example, include any End User Licence Agreements (EULAs), terms of service, copyright notices, licencing information, developer guidelines, coding standards, or similar.  (Information in the AIE Student Handbook may also be relevant in relation to the use of software on campus machines.)  Include URL links where relevant. |
| Unity TOS - <https://unity3d.com/legal/terms-of-service> Visual Studio EULA - <https://visualstudio.microsoft.com/license-terms/> |

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| List the cross-platform installers and installation methods you will use, or the specific binary formats that are required to deploy the game.  This list should include all platforms you plan to deploy your game or application to.  (Your game or application must be deployed to at least two different web browsers, and at least two different digital devices – one of which may be PC) |
| PC – Unzip(expand) Android – dev mod apk(expand)  Chrome – Github pages deployment Firefox |

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| What IDE will you use?  Identify your reasons behind this choice (ignoring the pre-configured environment on the campus computers). |
| Unity  Part of the course.  Visual Studio  Have been using it over the past year. |

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| Identify the cross-platform libraries, plug-ins, or APIs you will use.  Mention any restrictions or limitations that exist with these libraries on each target platform.  For example, some parts of the .NET class libraries implicitly depend on threads, but some platforms (WebGL) do not support threads. |
| Player Controller  Unity API  2D Sprite  TextMeshPro  Unity UI |

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| What issues exist, or do you expect might exist when developing for the target platforms you have identified? |
| **Android:**  Controls  Possibly not run as smoothly  Don’t have a controller to test with  Limitations of Character Controller   * Not designed for physics * Always up right * Doesn’t respond to outside forces |

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| List any areas in your game where pre-written scripting packages could aid in development.  For at least one of these items, identify a package from the Unity Asset Store (or another source) that may be suitable. |
| Player Movement Controls – Player Controller  Unity Asset Store  Third person controller  Player model - <https://assetstore.unity.com/packages/3d/characters/humanoids/humans/3d-character-dummy-178395>  Animations - <https://opengameart.org/content/foot-walking-step-sounds-on-stone-water-snow-wood-and-dirt>  Movement controls - <https://assetstore.unity.com/packages/tools/input-management/mini-first-person-controller-174710> |