

NORTH SOUTH UNIVERSITY



Project Title: A System for Kids to Learn Programming, AI, and branches of science through storytelling.

A DISSERTATION
SUBMITTED TO THE DEPARTMENT OF
ELECTRICAL AND COMPUTER ENGINEERING
OF NORTH SOUTH UNIVERSITY
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FOR THE DEGREE OF
BACHELOR OF SCIENCE IN
COMPUTER SCIENCE AND ENGINEERING

**CSE 499B, SPRING 2022
SENIOR DESIGN PROJECT**

Declaration

It is hereby acknowledged that:

- No illegitimate procedure has been practiced during the preparation of this document.
- This document does not contain any previously published material without proper citation.
- This document represents our own accomplishment while being Undergraduate Students in the North South University.

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Abstract

Our system addresses two issues that we have among our children. The first is that most of our pupils are unaware of the numerous other branches of science that exist. Another issue we encounter is our youth's programming illiteracy. We would like to create a system that can be used to solve those issues. Our System will contain a strong incentive to learn about programming and other fields of sciences by rewarding the user. In order to make the experience enjoyable and rewarding, our system will include significant story aspects. We would also employ easy-to-understand graphics and audio features to make it more user-pleasant for a broader market. We want to employ blocks in both the programming and science aspects of the project. We have come up with this project as students do not have much idea about so many other fields present in science. There is programming illiteracy in our youth so it is our goal to teach the basics mainly to the students who can have a brighter future. In our local education system, we tend to fall behind in teaching the modern technical techniques which are mainly the basics of Artificial Intelligence and Machine learning. In our project, we have shown different levels for the children to teach one is the Programming level where we followed MIT Scratch and used blocks instead of codes. We have introduced video tutorials like how to add two numbers and multiply two numbers using blocks from. At the Science Level, we used diverse objects to teach the students branches of science covering topics from Biology, Physics, and Chemistry. We have shown Biology experiments to the students in terms of visual representation, for example, Carbon Dioxide emission test in respiration, Leaf structure then from Chemistry the experiments are Paper chromatography, Impure salt to pure analysis and In Physics the experiments are Period of oscillation for a simple pendulum. At the AI level, we used a combination of blocks and object to the levels. We have as well proposed the basics of Probability and some AI models. At Statistics Level we showed video tutorials of Coin toss and Dice Roll. We also tried to create and teach handmade drawings by incorporating simple definitions from the basics such as machine learning, and natural language processing, to help the students understand the concept, draw the relevant chapters by hand and teach them in an interactive way. We decided to use the national language again so that the children could better understand it.

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List of Acronyms

SDK: Software Development Kit

JDK: Java Development Kit

JRE: Java Runtime Environment

VR: Virtual Reality

NDK: Native Development Kit

VS: Visual Studio

HMD: Head-mounted display

APK: Android Package Kit

OBB: Opaque binary blob

Glossary

There were none.

1 A System for Kids to Learn Programming, AI, and branches of science through storytelling.

1.1 Introduction

The two problems we want to solve with our approach are branching paths in science and programming literacy. In today's society, there is an alarming shortage of scientific and programming understanding. Most of our youth are only aware of two options for their future careers: engineering and medicine. However, there are numerous more options available to them. We are increasingly using computers in the twenty-first century, whether they be portable devices or stationary PCs. But surprisingly most of the people using computers to make their lives better don't know how to code or have any basic idea of programming. For some children, the most significant obstacle is the language barrier as most of the software written nowadays is English. In our country, there is already a significant digital divide. Despite the fact that the number of smartphone users is increasing, the majority of them are unaware of how to utilize their phones for purposes other than making and receiving calls. This is primarily due to the barriers we discussed before. People are turned off by the fact that the entire UI is written in English. If we can reach out to a younger generation now, we can expect a more tech-literate generation in the future, closing the digital divide. With our initiative, we'd like to address these issues. We are focusing on children in grades 3 through 12 because this is the optimum time for them to study these subjects and use them in their future lives. The entire idea of the system is for the kids ranging from the grade 3 and going up to grade 12 is to learn the basics of programming languages as well the other parts of the educational subjects like statistics which is with the help of some simple examples which can be dice roll experiment, cards games as well as coin toss experiments. For the science sector of this system, all three branches of the introductory sides have been taken into consideration which are physics, chemistry and biology. After doing thorough research we have wisely chosen some experiments from science to teach the children so that they don't feel out of the place while learning about the experiments as we tried to choose the ones which they might have been familiar with in the past or may have encountered in the past some way or the other. For starters, we have taken four experiments from physics, four experiments from chemistry and four experiments from biology and later we plan to expand more after completing our first session. From physics, we have chosen the basics of measuring lengths, oscillation, balancing as well as air pressure experiments. For chemistry, we have chosen paper chromatography, titration, crystallization and filtration experiments, and last but the least, for biology we have taken basic microscopes, leaf structure, carbon dioxide, and food tests. Such experiments have been chosen. For the programming language part, we have taken the basics like how to do addition and

subtraction and multiplication using blocks in scratch. Lastly, for the Artificial Intelligence section, we have taken the simple definitions chosen from the basics like machine learning, natural language processing and robotics and also tried to make handmade drawings to teach. We will be teaching the students in an interactive way where we have made freehand drawings of the relatable chapters so that they can understand the concept more easily. We have also chosen to stick to the local language, again, for the ease of the children to understand better.

1.2 Background and Significance

MIT's scratch platform is a significant example of their earlier work. In our system, we'll be closely following their structure. Scratch, for example, uses blocks to teach programming in an easy-to-understand manner. We know that through using Scratch, adolescents build technological fluency, mathematical and problem-solving skills, and a reasonable sense of self-confidence that benefits them in other areas of their lives [1]. The language barrier, boring appearance, and feel, and no reason to use other than to study are just a few of the issues we'd like to fix. We would include symbols in our system, make it appealing to the end-user, and include a strong story element to create the impression that they are not only learning but also having fun with it. Symbols are significantly more communicative and multicultural than any written form of communication, as we well know [2]. We'd also use incentive schemes to encourage better learning. Loot boxes have been employed in many different games to elicit an emotional response. The attractiveness of both slot machines and loot box occurrences in video games is likely due to the differing arousal signatures for these different types of results. 2021 [3]. This is something we'd like to integrate into our system to help reinforce the topics and the desire to learn more. There were many skeptics in the field of learning to program using blocks and a media-centric approach, but previous research has shown that they are capable of problem-solving. This strategy has also increased their engagement and participation in the development process [4]. To make AI education more accessible to youngsters, we must first learn their language. We must also consider how to break down these complicated ideas into small, easily digestible chunks. The findings revealed that using one's own bodily expressions to train and test a fundamental artificial intelligence question also engaged a participant [5].

1.3 Literature Review

From earlier research, we can see that the rare loot box phenomenon has a real effect on humans. Across two studies scientists have found that this has been a rewarding experience for the participants and they feel an urge to open another loot box. [3] In terms of scratch, we have reasons to believe that it is an effective method to boost technological fluency as to use scratch to its fullest potential is to make use of their customization features users can add pictures, sounds, and much more. We also see mathematical and

problem-solving skills improving. Also, the obvious output is the knowledge of programming. [4]. From in the research of Dr, Rowland we can see that the addition of symbols with audio is more communicative and intercultural. This research also shows those who are learning to use and combine symbols and those with challenging behaviors what we know about building more advanced linguistic, operational, social, and strategic skills to enhance communicative competence [2]. We also know from the paper titled Scratch: programming for all that one participant remarked that scratch despite being a media-centric platform that kids are more involved in development. We also find that kids are more eager to learn mathematical and computational topics when they are needed in their projects. The paper mentions Raul, a 13-year-old, who found out and used variables for keeping scores. [1]. Another paper titled Learning machine learning with very young children: Who is teaching whom? We can see that if we incorporate their own language into account and teach some algorithms of AI it results in more robust learning. Studies showed that participants had some knowledge when some models work and break. [5].

In the paper titled Scratch: Programming for All here, it remarks "Digital fluency should mean within the notion of coming up with, creating, and remixing, not simply browsing, chatting, and interacting. Scratch is delineated as "The YouTube of interactive media ". it's aforementioned that Scratchers round the world transfer quite one,500 new comes to the positioning all of them are open supply. most users are from eight to sixteen. Scratchers as scratch users are usually referred to as program and share interactive comes, they learn necessary mathematical and machine ideas. [1] because of digital technology, digital fluency needs additionally the power to style, create, and invent with new media. Programming supports "computational thinking, that helps to seek out out, browse and still to put in writing down. To design principles from scratch we establish these goals, make it more tinker-able, more meaningful, and more social than other programming environments. Scratch is all about keeping the primary focus on lowering the floor and widening the walls, not raising the ceiling. For 90% of the Indian population research found that graphical interfaces are easier to learn then heavy text-based platforms [7]. It also helps by using symbols instead of heavy text related works [7].

We would heavily depend on the animations and mostly text-free user interfaces so that both illiterate and semi-illiterate users can use this program. We will also include voice-based instructions where the users will also get the liberty to choose their language (English or Bangla). By the end of the project, we would also create a survey that will be participated by both urban and rural residents. The users who are illiterate and semi-illiterate are comfortable with semi-abstract cartoons with more photorealistic graphics than complex abstract graphics. As users take deeper into associate degree object to urge a lot of data, the illustration will become a lot of photorealistic to supply a lot of specific data. We would also like to add the concept of voice feedback at the end of completing the task and also provide help which some users may need on every page. In addition, our program will also pay attention to small details such as the graphical cues that depend on a user's psychological, religious or cultural biases. [8]

In our project, we will use a set of five stages of design that ICT4D projects have used Wonder, Exuberance, Realization, Adaptation, and Identification. From the initiative of Digital Green, we learned that using video tutorials can help our users to understand a concept more easily. Time in the field: In order to make an effective user-friendly product it is necessary to spend a lot of time making it properly. Honesty about what works: We need to be transparent about the product and what we have to offer to the consumer rather than promising them unachievable targets. Acceptance of simple solutions: Here we have seen that keeping things simple can help our users be more dependent on our project. [9]

We learned from here that novice and low literacy users are more comfortable with voice instructions and audio annotations. we might prefer to give graphical cues, give voice annotation support where attainable, we'd like to supply support for native languages, each in text and audio, minimize hierarchical structures, avoid requiring non-numeric text input, avoid menus that require scrolling and we must minimize key mappings furthermore we need to integrate human middle man into the overall system, to familiarize potential users with scenarios and UIs. Text-free design is more convenient for illiterate users which we will try to implement in our project. From this paper, we can implement the idea that a live operator is more prioritized over text-based operators since it is more fitting for our target users. We also saw that accuracy of the information that we provide is very important or else the users will get misguided. [7]

With the help of ethnography, we can try to understand the needs of our users more properly as well as observe users in specific contexts, analyze and synthesize information gathered, and incorporate these insights into a design. We will try to make our semi-illiterate users navigate through the product with the help of rote learning. First, we are going to try to make our users more comfortable with technology and let them know more about our project before giving them a hands-down introduction so that they don't get intimidated by it. Motivating our non-illiterate users to try our product by adding animations that are more relatable to them so that they get the urge to know and learn more educationally. [6]

This chapter provides a chronological outline of the various elements of the work. It mostly explains the work's theories, methodology, and step-by-step procedure.

2 Methodology

2.1 Software needed for implementation

Table 1. Software List

No.	Name
1	Android SDK 31

2	Android NDK 21.0003
3	Android JRE 18
4	Android JDK 8
5	Unreal Engine 4.26.2
6	VS Code
7	Blender
8	Quixel Bridge
9	OpenXR
10	OpenXR Headtracking plugin
11	OpenHMD
12	FBX Files
13	Android Studio 4.0
14	Netcore 3.1
15	Netcore 5.0

Below is a list of all the software used in making of this project [10] [11] [12] [13] [14] [15] [16] [17] [18] [19]. This table contains all the tools we have used to make this system.

2.2 Features Implemented

- We added animations so that semi-illiterate users can also use this system.
- We also included voice-based instructions where the users will also get the liberty to choose their language (English or Bangla).
- We also created a survey that will be participated by both urban and rural residents.
- We have used free hand drawings so that the user can relate more to the concept and understand easily.
- We added the concept of voice feedback at the end of completing the task and also provided help which some users may need on every page.
- In addition, our program also paid attention to small details such as the graphical cues that depend on a user's psychological, religious or cultural biases.
- In our project, we used a set of five stages of design that ICT4D projects have used: Wonder, Exuberance, Realization, Adaptation, and Identification.
- From the initiative of Digital Green, we learned that using video tutorials can help our users to understand a concept more easily.
- Acceptance of simple solutions: Here we have seen that keeping things simple can help our users be more dependent on our project.
- we'd like to supply support for native languages, each in text and audio, minimize hierarchical structures, avoid requiring non-numeric text input, avoid menus that require scrolling and we must minimize key mappings furthermore we need to integrate human middle man into the overall system, to familiarize potential users

with scenarios and UIs.

- We also saw that accuracy of the information that we provide is very important or else the users will get misguided.
- We will try to make our semi-illiterate users navigate through the product with the help of rote learning.

2.3 Design of the project

2.3.1 DESIGN OF THE PROGRAMMING LEVEL

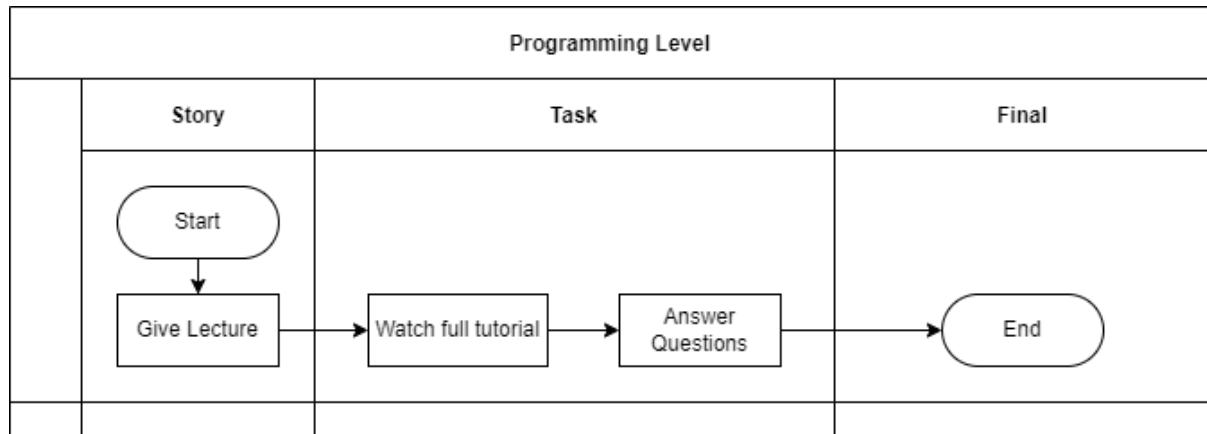


Figure 1 Diagram for programming levels

This one for basic programming where we will use blocks to make a puzzle that the user has to solve to complete the stage. The problem will be disguised as a story; some clues will also be within the story. The story will be presented in audio format. We will incorporate Bangla in our audio. After the successful completion of the puzzle the story will continue and what topic the user has learned will be presented. A block diagram is given above.

2.3.2 DESIGN OF THE AI LEVEL

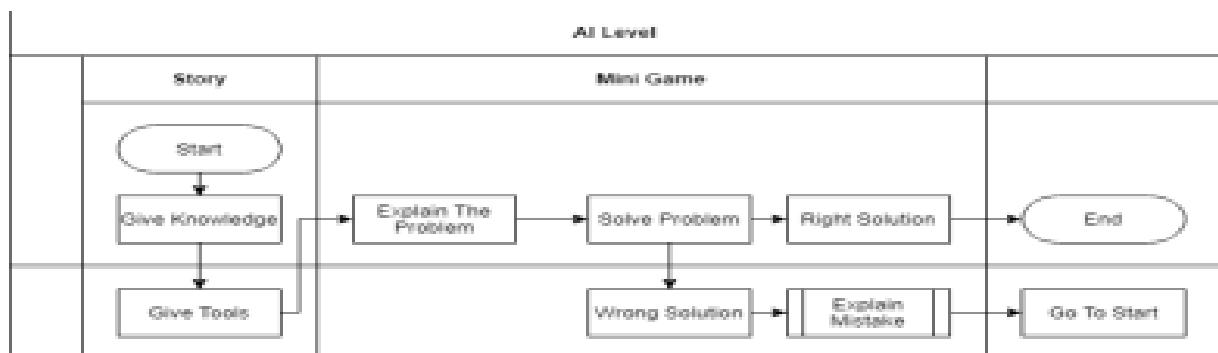


Figure 2 Diagram for AI Levels

On this part of our system, we would like to implement some basic artificial intelligence problems and concepts. We would like to implement some basic ai concepts, some problem-solving in terms of ai. We also would also like to introduce introductory lessons for different branches for AI.

2.3.3 DESIGN OF THE SCIENCE LEVEL

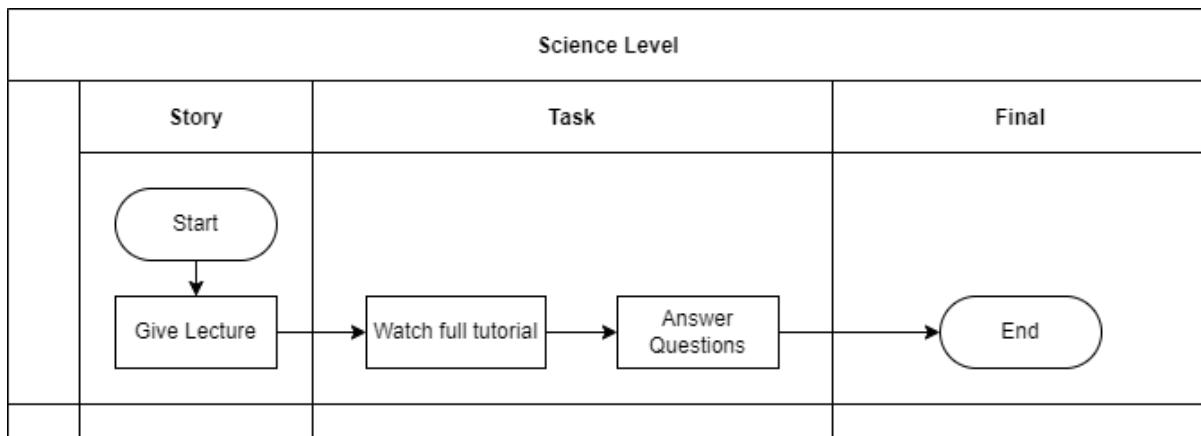


Figure 3 Diagram for science levels

On this type of level is centered around teaching science topics in terms of different fields of science. We will follow a similar structure to the previous levels. We will make different mini-games explaining topics from different branches of science. Some might contain puzzles some might contain other forms of gameplay to relay the topics.

2.3.4 Probability Levels

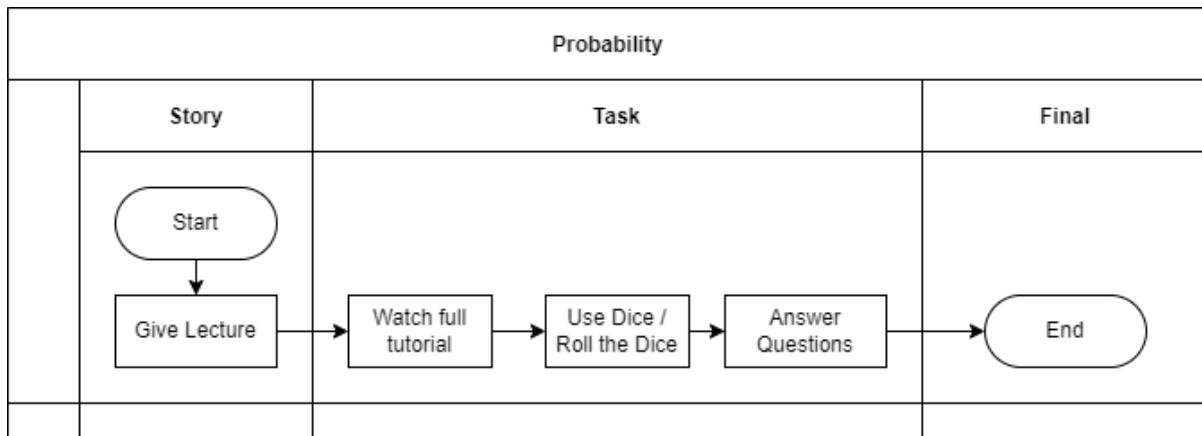


Figure 4 Diagram for probability levels

In this type of level, we first watch the tutorial made by us then we encourage the player to play with the dice and or coin. Then we direct them towards our question-and-answer section then we end the level.

2.3.5 FEEDBACK SYSTEM (ONLINE)

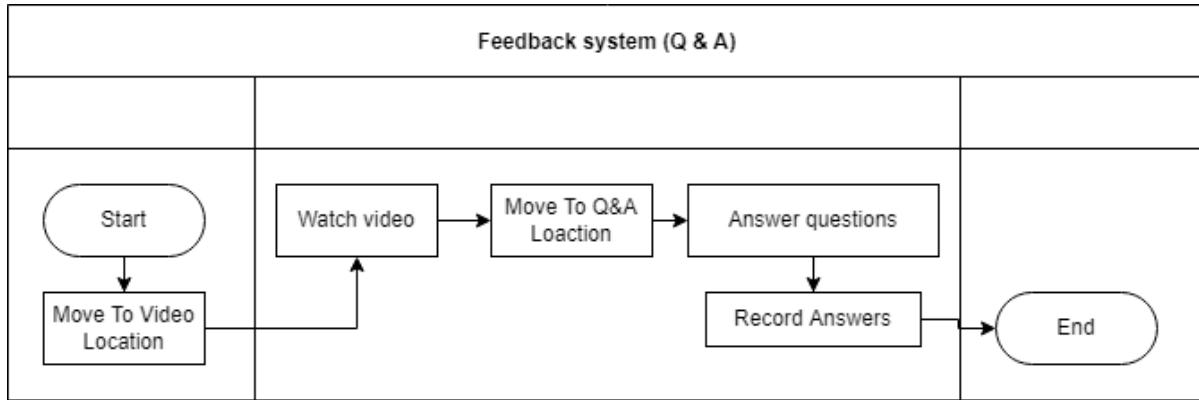


Figure 5 Diagram for feedback system

In this diagram, it's shown how the online feedback system will work. There will be three types of questions. Programming, science, and AI questions. In every type of question, it'll start asking questions and the user has to solve using blocks, objects, or written answers. Finally, the answers will be recorded and give them feedback online.

2.3.6 FEEDBACK SYSTEM (FACE TO FACE)

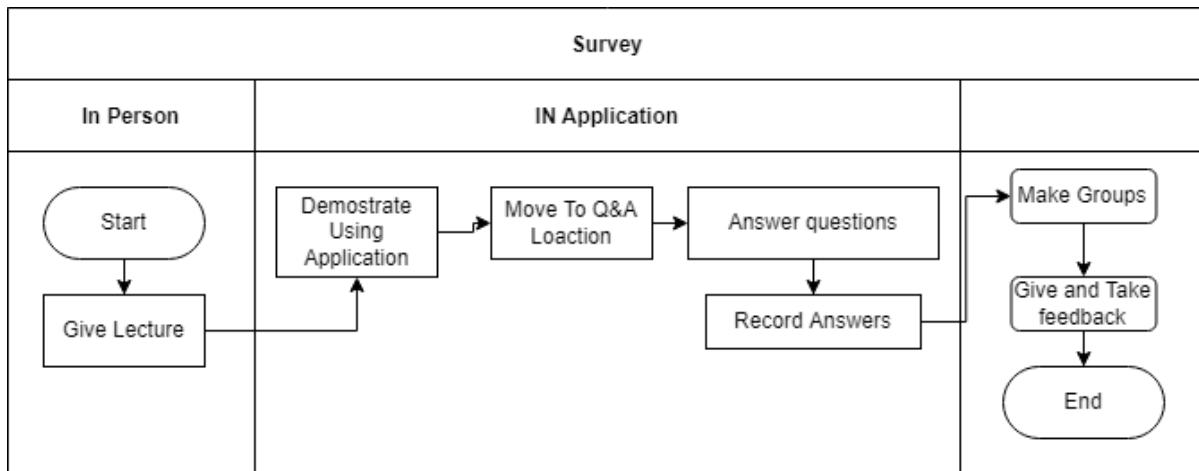


Figure 6 Diagram for feedback system offline

In this diagram, it's shown that it will record the answer like an online feedback system. But in the face-to-face system every student will be graded and grouped based on the points they've earned through solving problems. Also, will be provided the solution of recorded answers where they were wrong and the problems they faced.

2.4 Blueprint Explanation

2.4.1 Third Person Character

Here we have implemented Meena as our playable third person character. We can also see from the pictures all the physics and bone structures of our character model.

This figure Shows the skeletal view of Menna the first-person character we used.

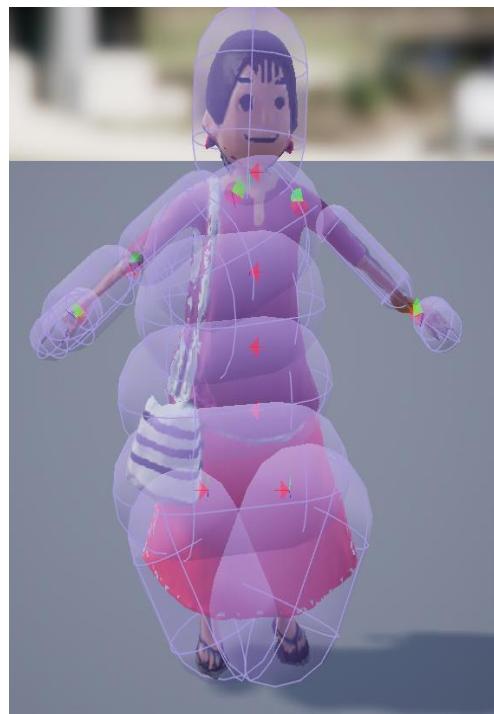


Figure 7. Third Person Character

This figure Shows the 3D model of menna. We have used fbx model.



Figure 8. Menna. fbx Model

2.4.2 Movement code

We can see the code for the movement of our character. We have implemented two input methods which are mouse and keyboard and touch screens. We also have other junction codes for jumping, pausing and changing perspective.

This figure Shows the blueprint for character movement.

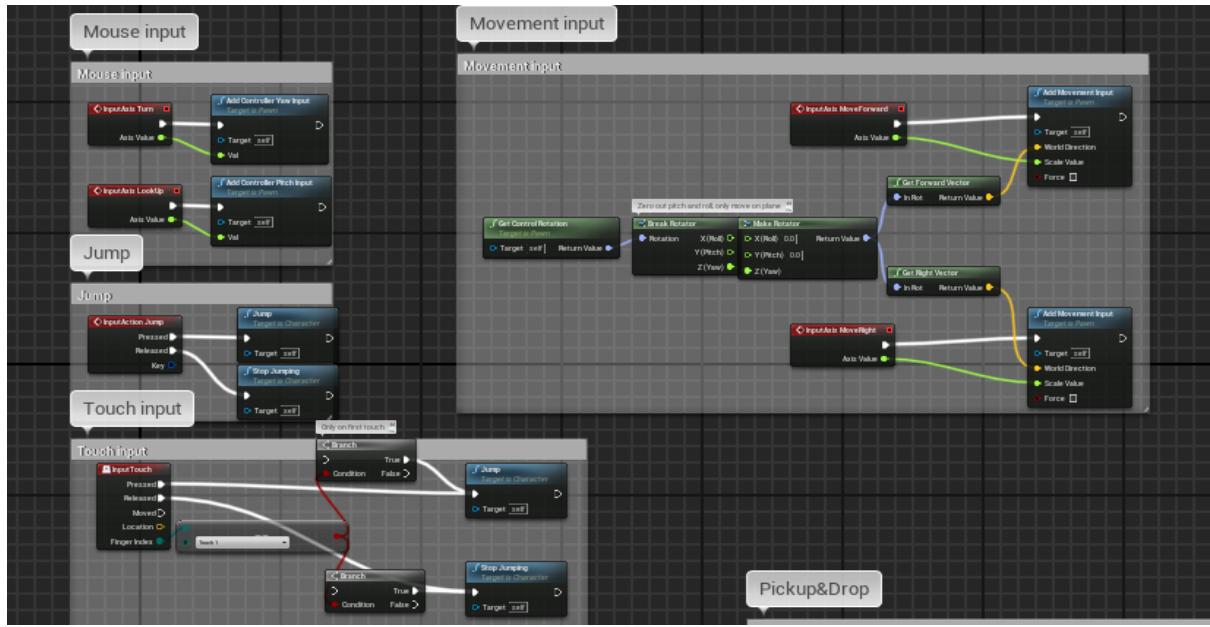


Figure 9. Movement Code

2.4.3 Pick and drop

This figure shows the blueprint for the pick and drop system.

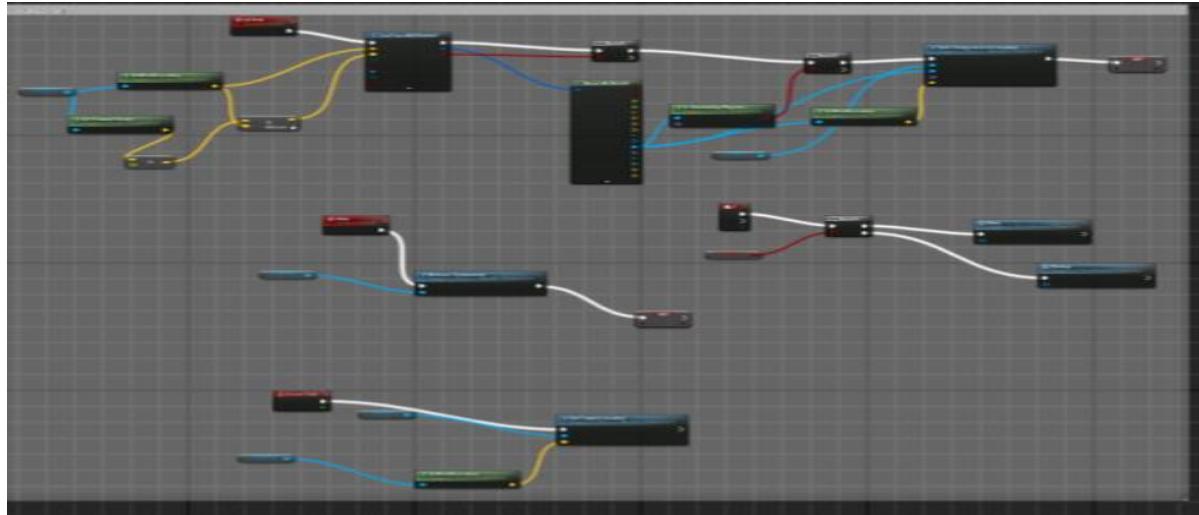


Figure 10. Pick and Drop

This blueprint contains the code for picking up and dropping objects found in the world. It gets the vectorXY location of the middle of the screen and picks up any objects that intercepts it.

2.4.4 Scratch Implementation

This figure shows the blueprint for our scratch implementation.

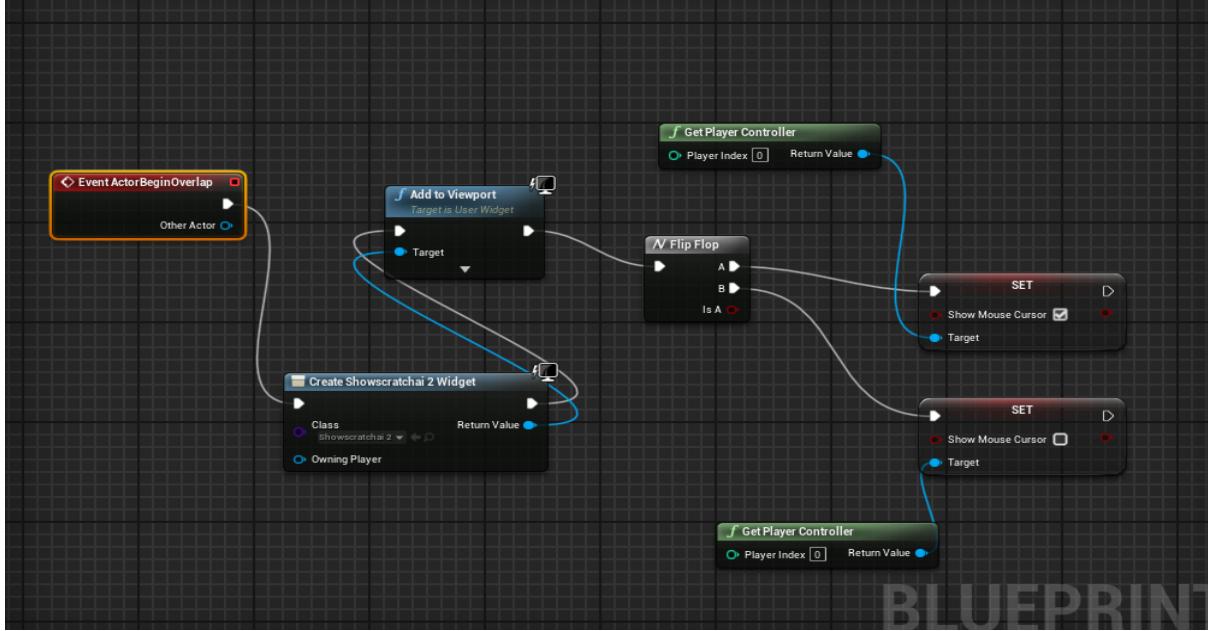


Figure 11. Scratch code

This figure shows the widget creation for our scratch implementation.

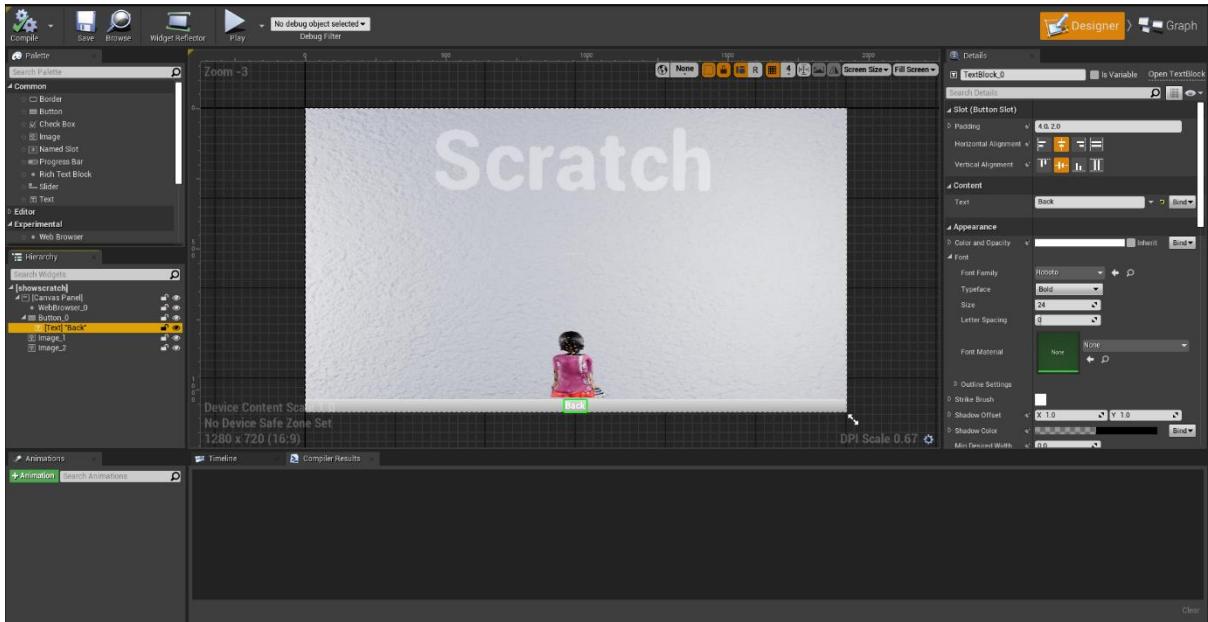


Figure 12. Scratch Widget Design

We also have implemented scratch as a tool for learning and implementing problems by the end user. We have implemented chromium bowser in unreal engine 4 and used it to cache and use Scratch in our system.

2.4.5 Video and Audio materials

This figure shows all the audio and video files we have created and converted texture files for our use

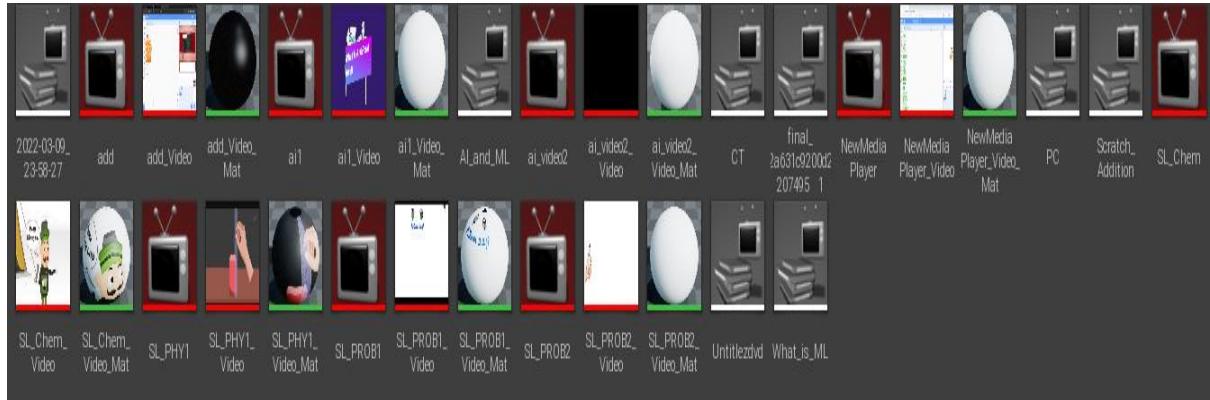


Figure 13. List of All the Video and audio tutorials

This are all the video and audio materials we have created for this project. It contains all the lectures that are given in the game. We recorded them ourselves and then compressed them and converted them in unreal engines compatible formats then implemented them and created dynamic materials from them.

2.4.6 Video Player Code

This figure shows the blueprint for the video player.

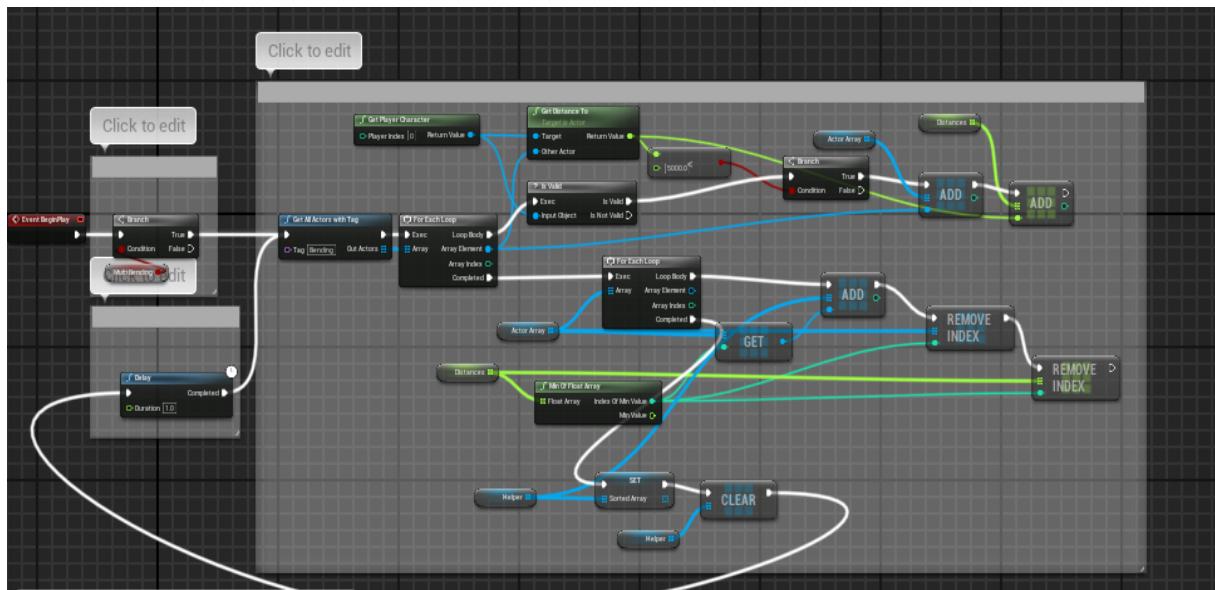


Figure 14. Code for video player

We have also implemented a video player to broadcast lectures to our system. For video input we use a .mp4 file then convert it to a dynamic material and stream it through the video player.

2.4.7 Audio Player

This figure shows the blueprint for the audio player.

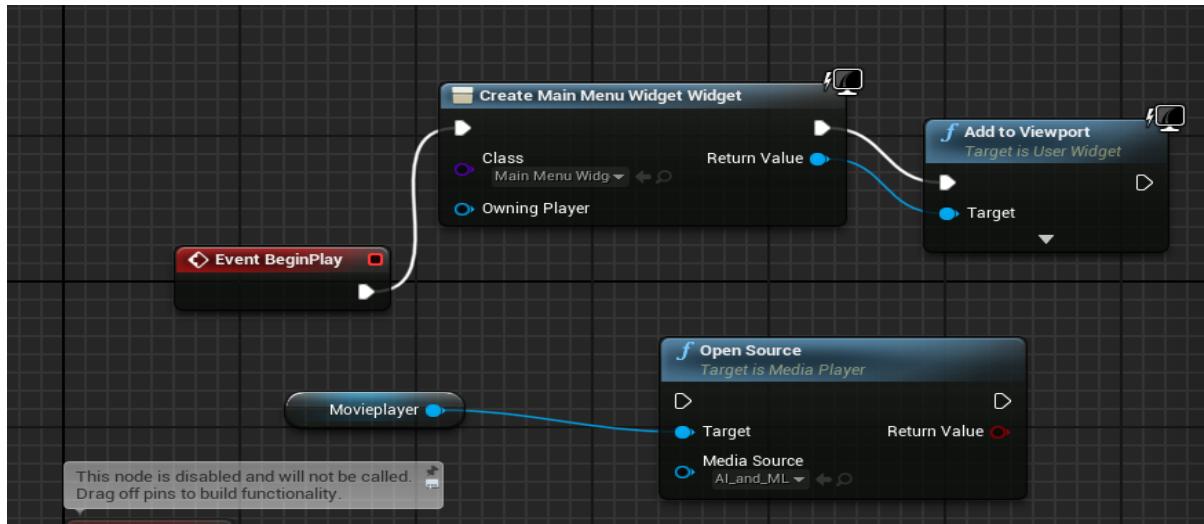


Figure 15. Code for audio player

We take .wav files (as unreal only supports .wav audio format files) and play it through the function playsound3d to in our level blueprint to play the audio.

2.4.8 Teacher Character

This figure shows the skeletal view of the teacher character.

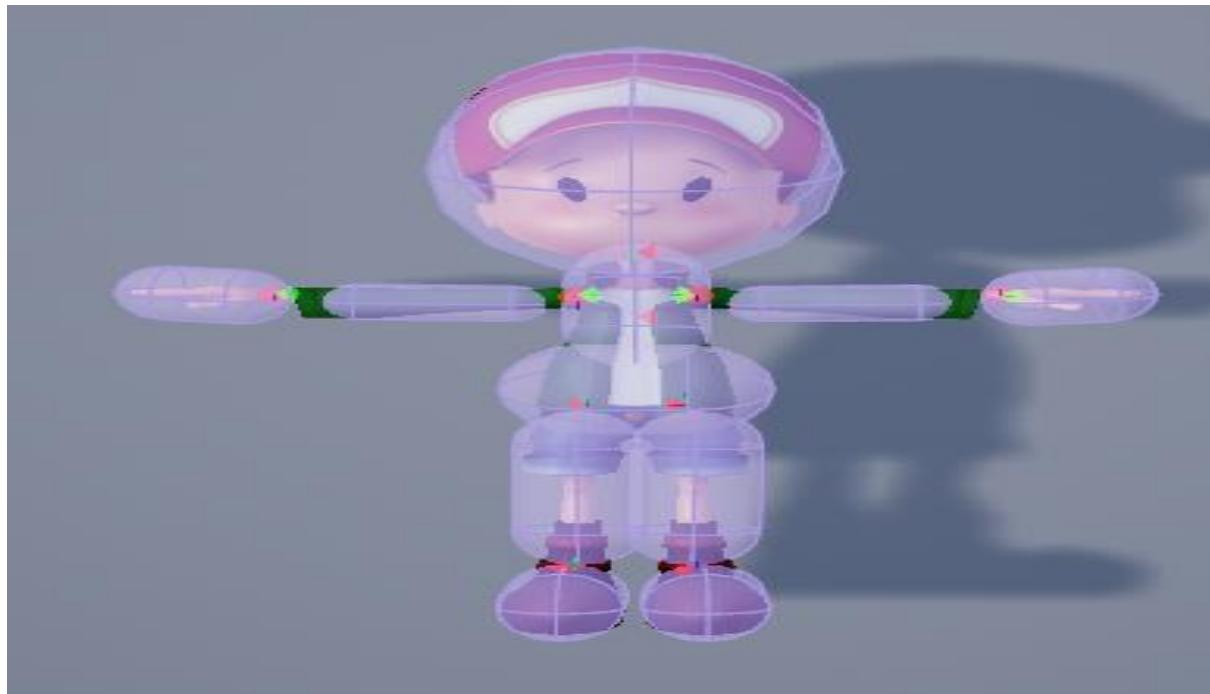


Figure 16. Teacher character skeletal mesh view

This figure shows the 3d model we have used for the teacher character.



Figure 17. Teacher character 3d Model

This is another character we have implemented that we use as our teacher. And as we use 3d audio we can project audio from his face. We have also implemented animations to look like the character is talking.

2.4.9 Textures and Text Creations

This figure shows all the texture files we have created for the system.

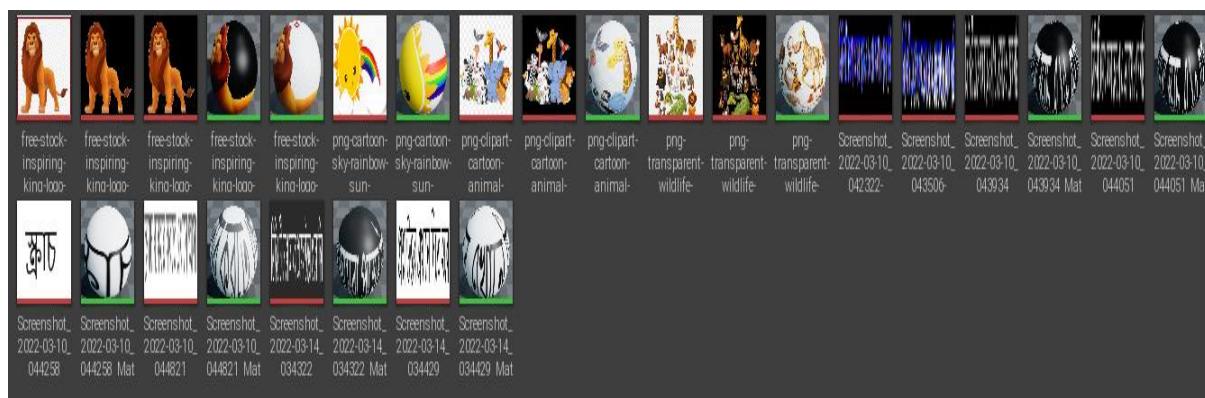


Figure 18. Texture File list

This are all the textures and text files we have used. Not including level textures. We have also used other material files that we have imported from Quixel Bridge, which are not included in the figure.

2.4.10 Main Menu Code:

This figure shows the blueprint for main menu.

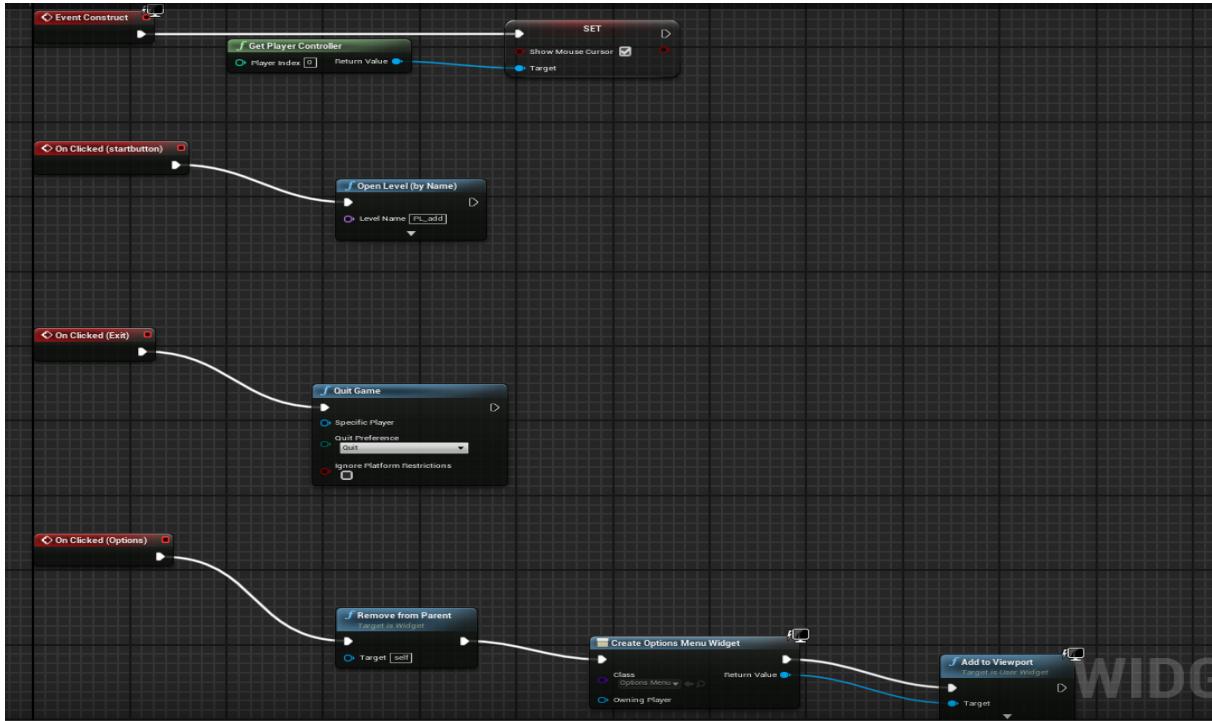


Figure 19. Main Menu Code

This figure shows the widget creation view of the main menu.

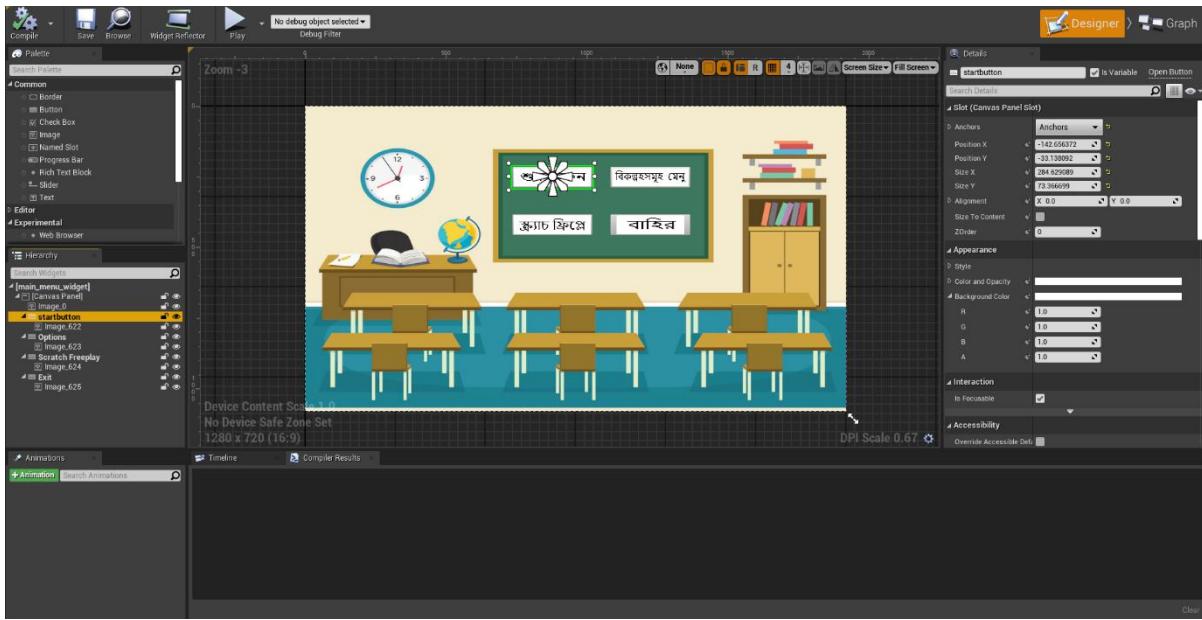


Figure 20. Main Menu Widget design

This is the code for the main menu that we have implemented. We have implemented four options here such as Play, Option, Scratch Free play and quit.

2.4.11 Game Mode Code:

This figure shows the blueprint for third person game mode.

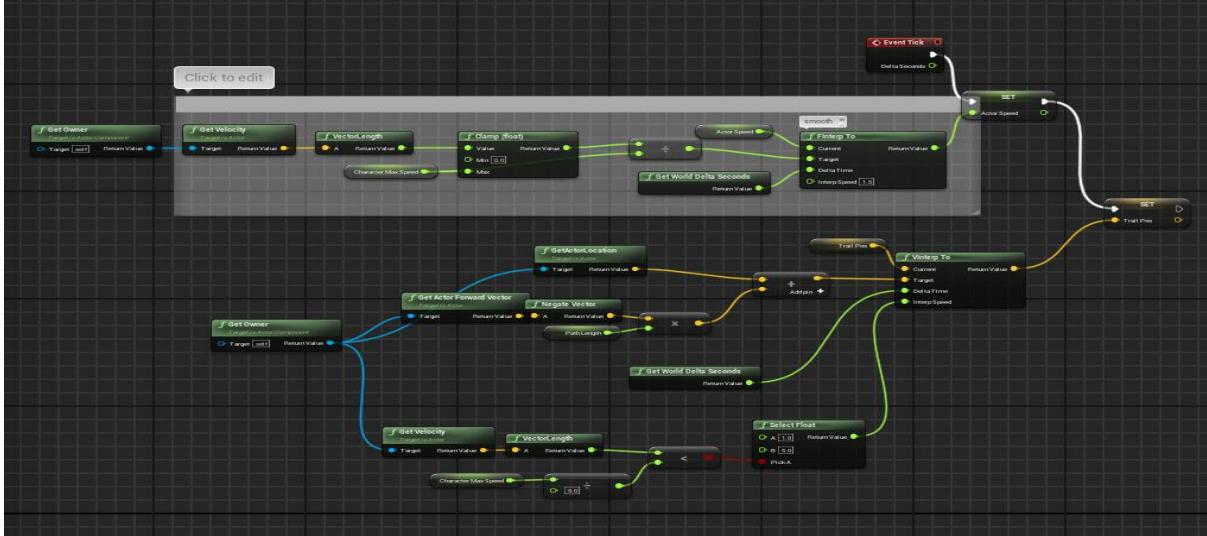


Figure 21. Game Mode Code

In this blueprint we have all the game mode options and variables selected such as which character model, levels, reference to movement and other game logic.

2.4.12 Question and Answer Window Code:

This figure shows the question Q&A blueprint.

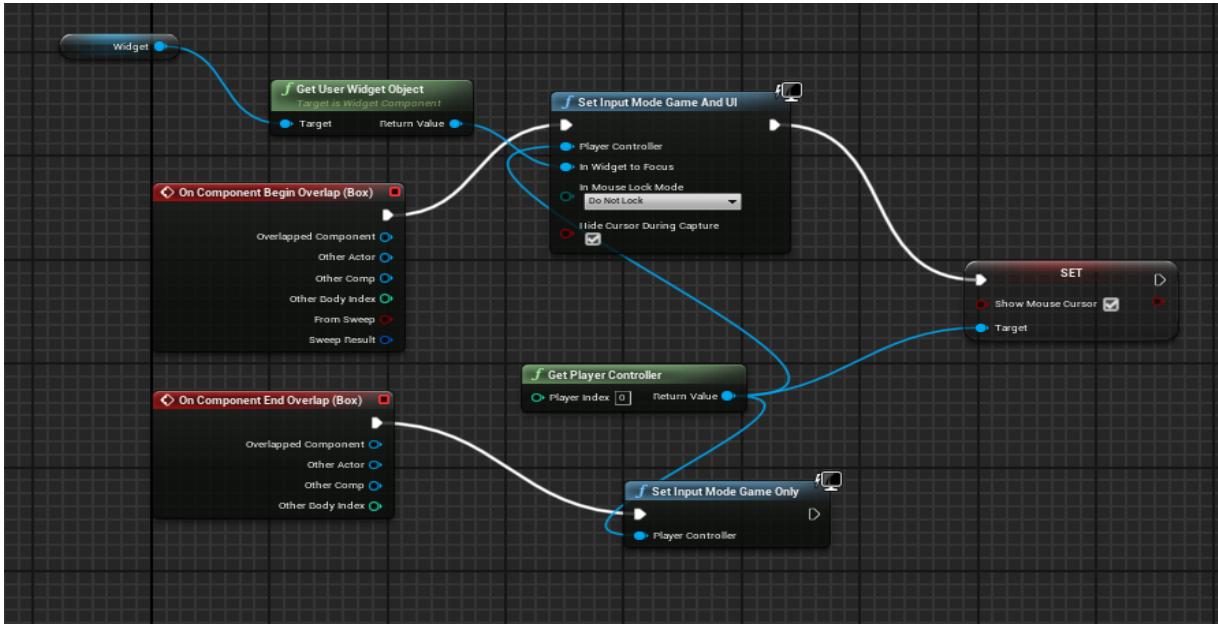


Figure 22. Question and answer window code

We have again used the chromium browser to implement the question and answers. We have also added a invisible box trigger so, when players walk into it the browser shows up.

2.4.13 Pause Menu:

This figure shows the pause menu blueprint.

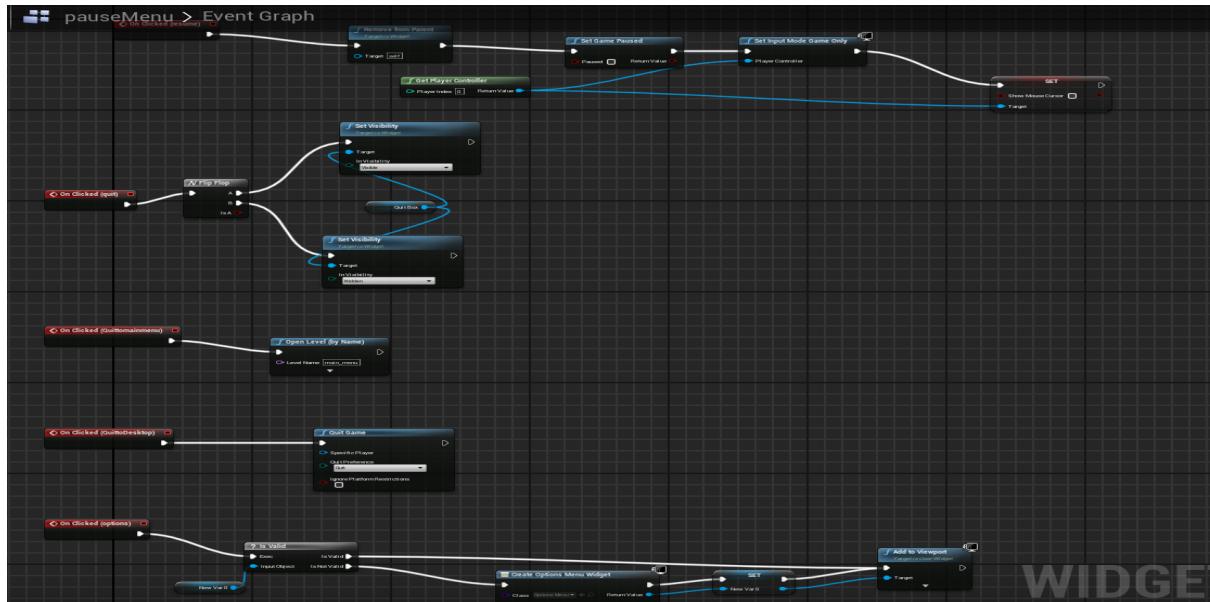


Figure 23. Pause Menu Code

This figure shows the widget creation view of the pause menu.

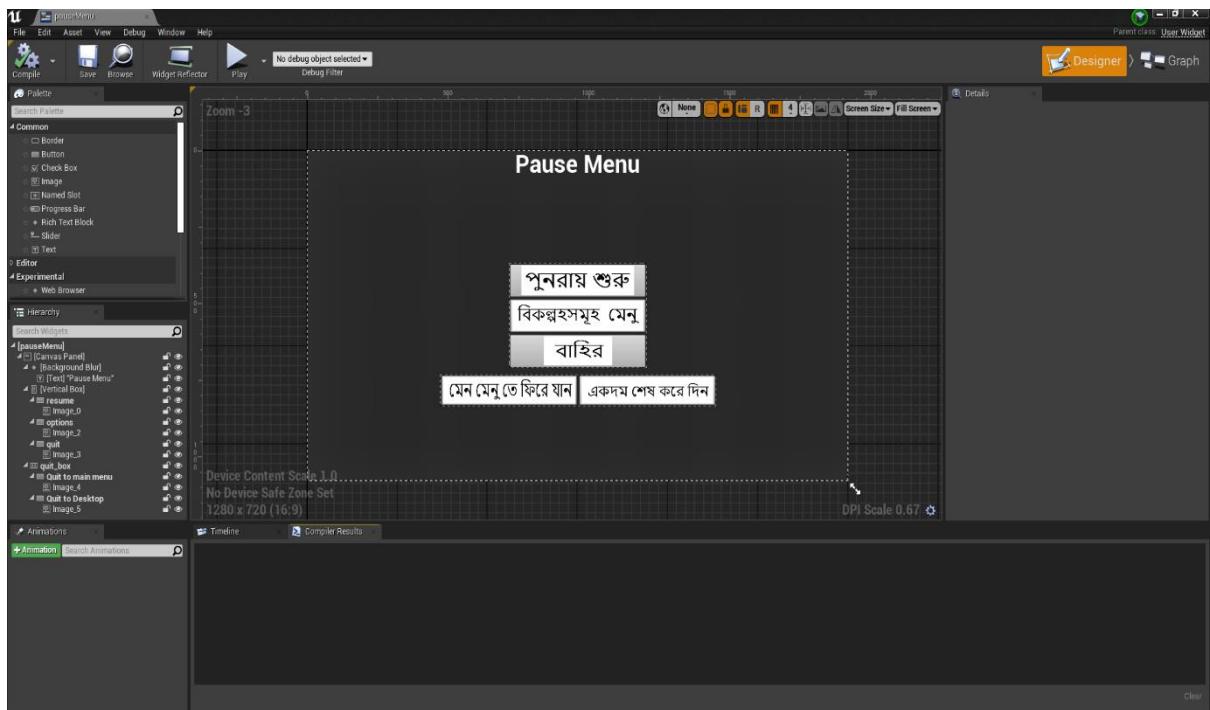


Figure 24. Pause menu widget design

We have also implemented a pause menu for, Players can press P or ESC or press the home button to initiate this menu, from here user can choose to resume, go to options, quit to main menu or desktop.

2.4.14 Option Menu Code:

This figure shows the options menu blueprint.

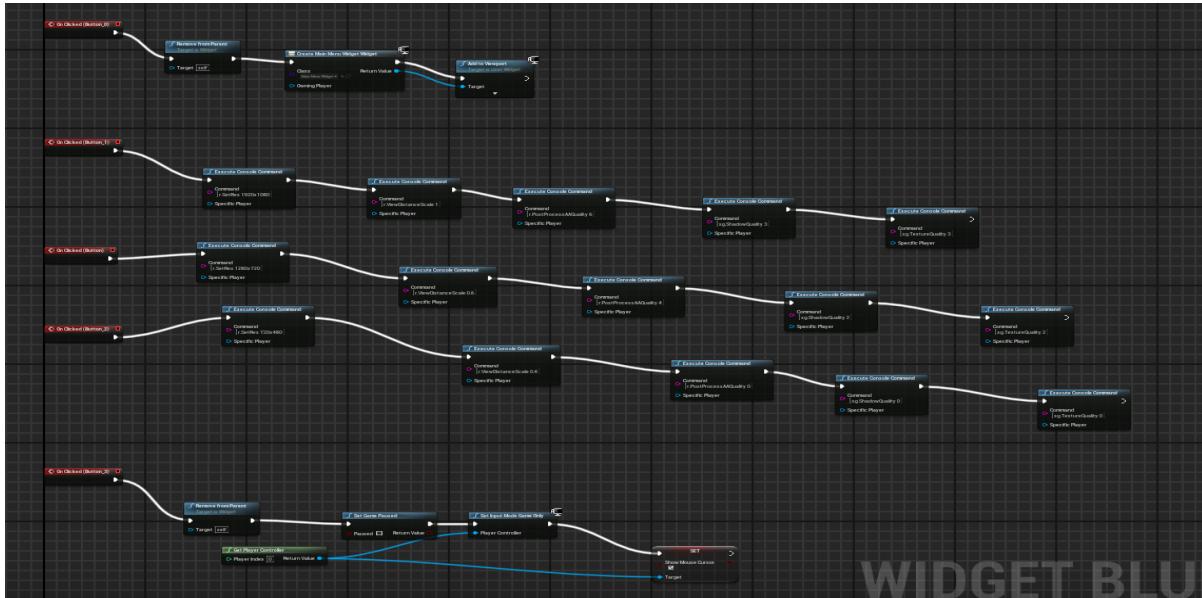


Figure 25. Options Menu Code

This figure shows the widget creation view of the options menu.

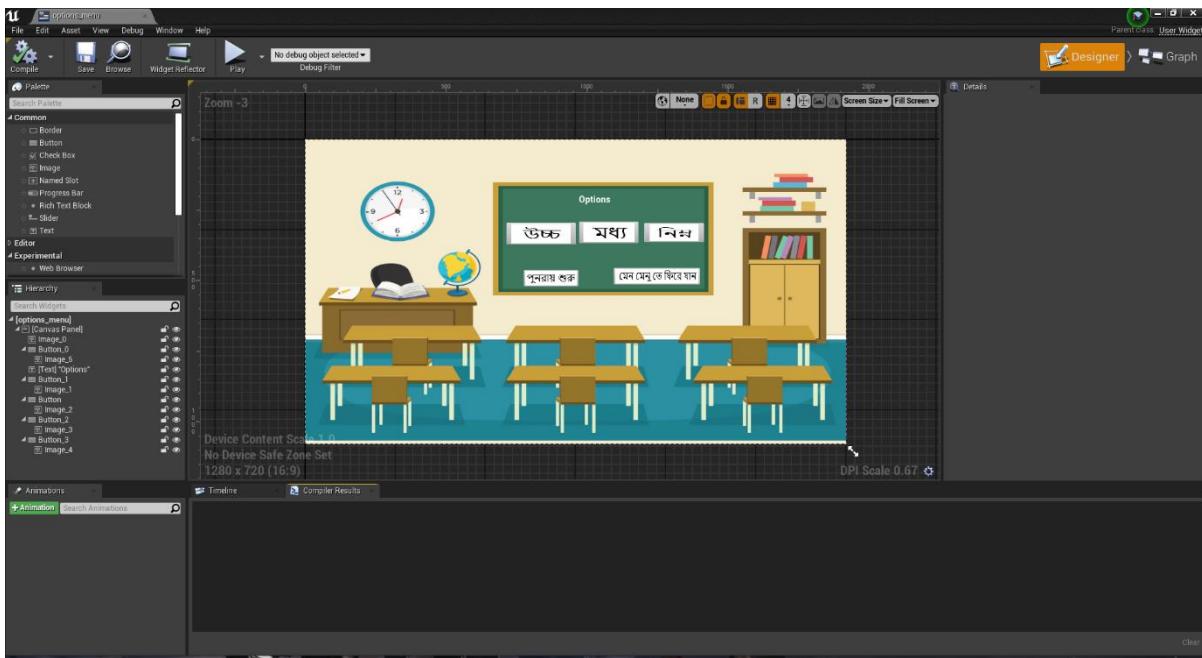


Figure 26. Options menu widget design

We have Implemented an options menu from where we can change all the graphics settings such as texture quality, anti-aliasing, view distance, shadow quality and most importantly screen resolution.

2.4.14.1 Level Lists

This figure shows all the level in our system.

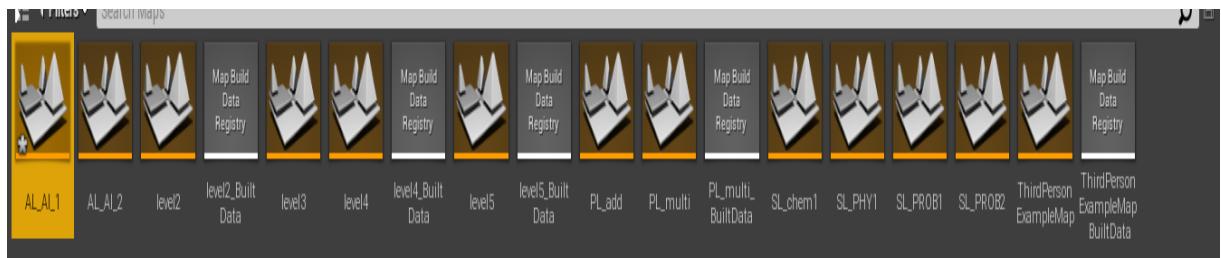


Figure 27. List of levels

All levels that are in the system.

2.4.15 One Level from Another Level:

This figure shows the next level 3D model.

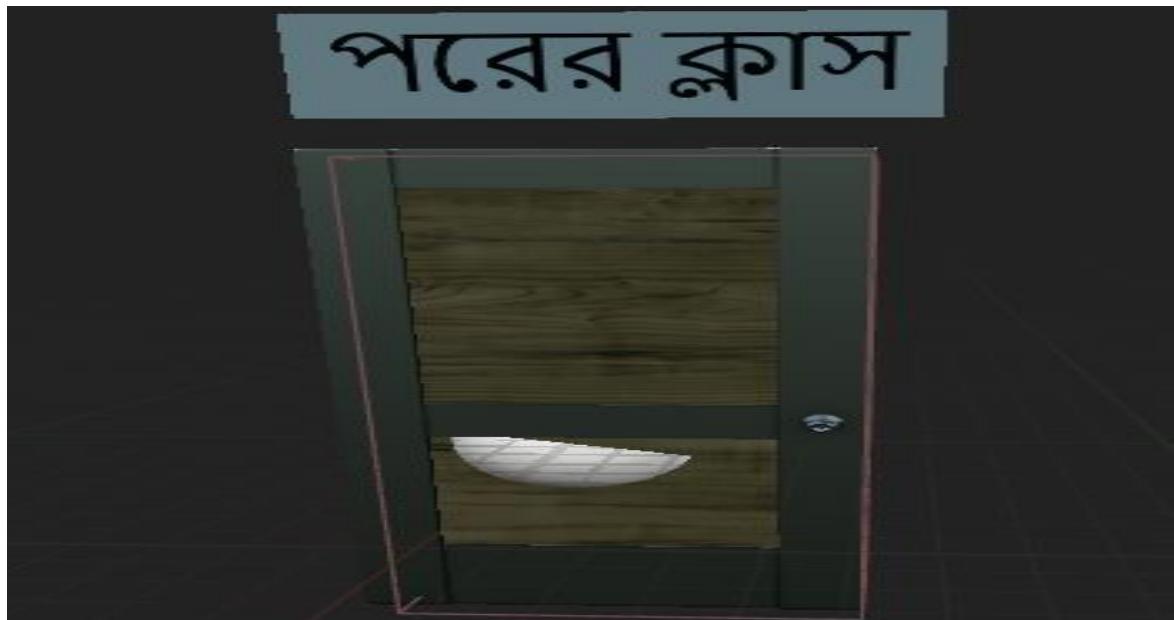


Figure 28. One Level to another level design

This figure shows the blueprint for one level to another level.

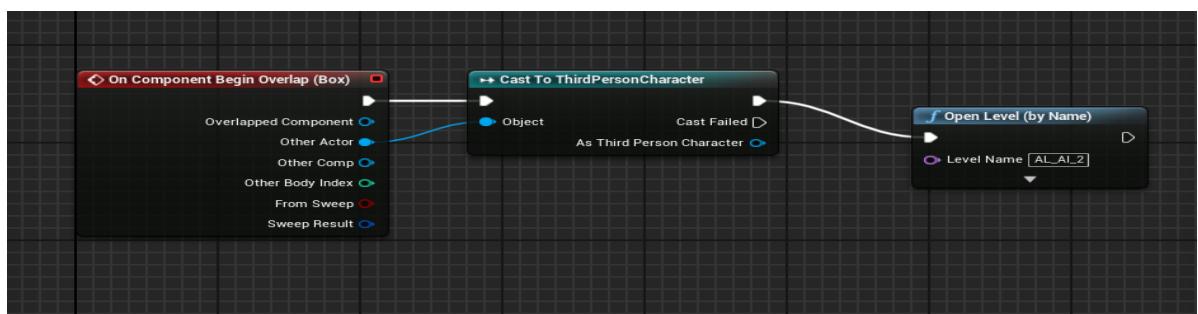


Figure 29. One Level to another level code

We have implemented a system for the user to move from one level to another level. The user just needs to walk near it to go to the next level.

2.4.15.1 First person Perspective:

This figure shows the blueprint for the first person perspective.

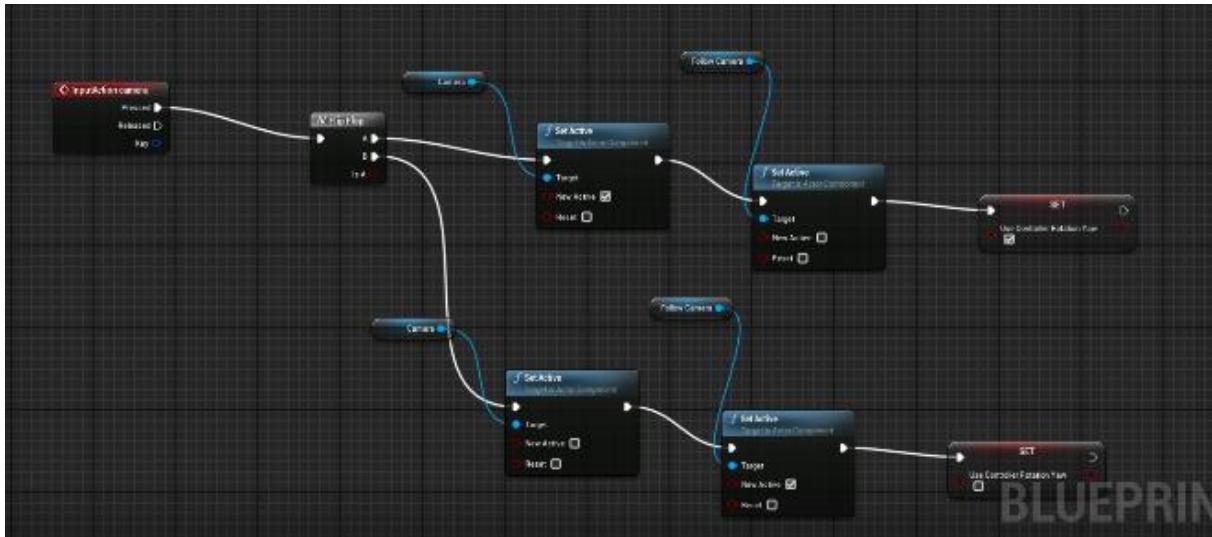


Figure 30. First Person View code

While getting the lectures players can press C to get into a first-person perspective. And again, press C to return to third person perspective. The code is given below. Also, a button is present at the HUD accomplishing the same task.

2.4.16 Compression

This figure shows all the in-engine optimizations made for compression.

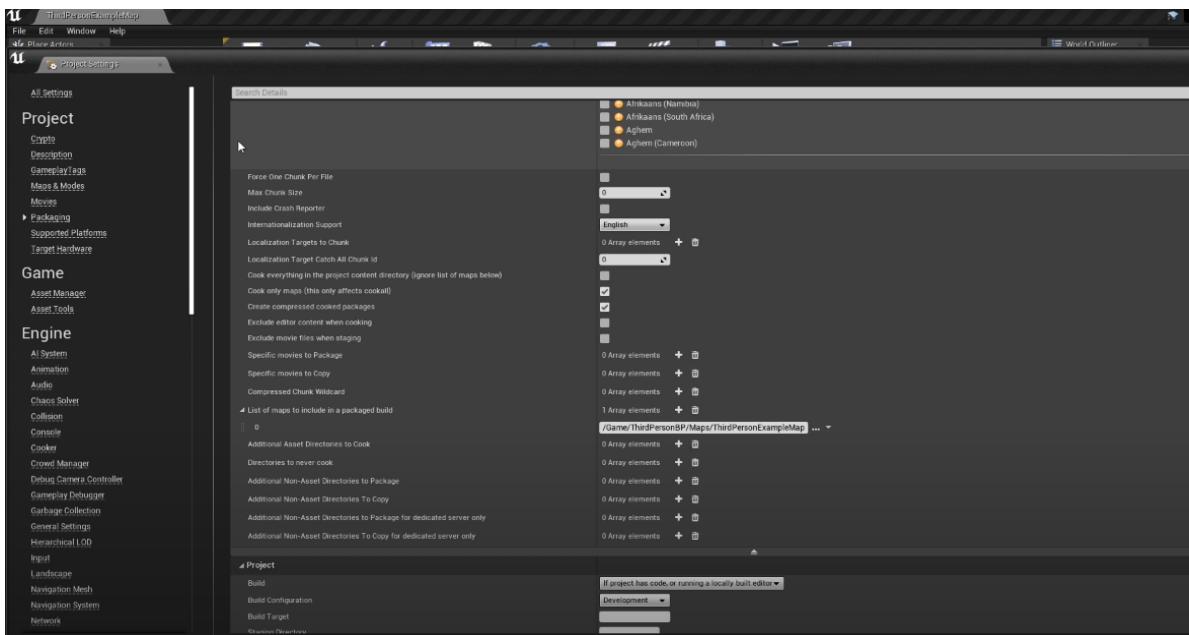


Figure 31. Compression settings.

This figure shows the relation between triangle count and the size of a 3D model.

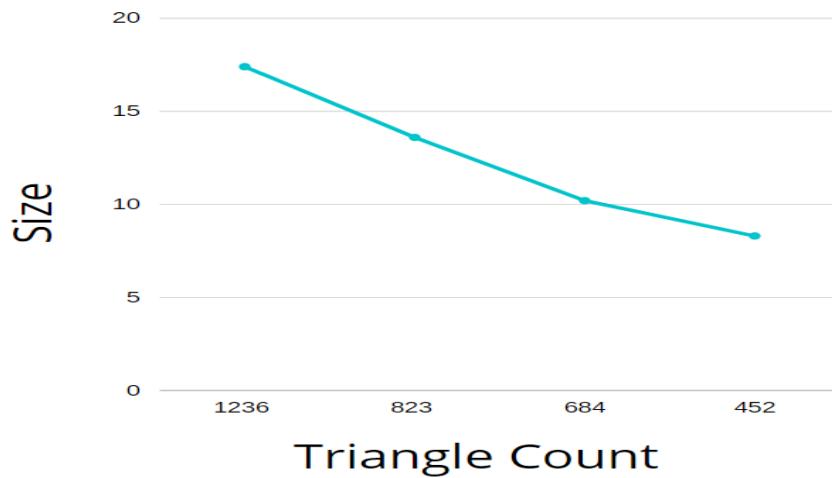


Figure 32. Menna 3D model compression results

Here in the package there's only game, the video has been compressed to 480i resolution. The audio is compressed twice from a2c to mp3 then to wav format.

The textures have been compressed in unreal's built in compressor where the texture was initially 1920*1080 which is now compressed to 320*240. The Meena model initially had 1236 triangles which has now been compressed to 452 triangles. The Engine is now stripped from game. We have also used the cooking feature to just keep the most necessary parts. We Have also used the just in time framework for packaging which so that we can use the compressed textures until the user has selected high graphics settings. Keeping size low and boosting performance by a small amount. Now the size is 83 MB.

2.4.17 HUD & Buttons

This figure shows the widget design view of the HUD.

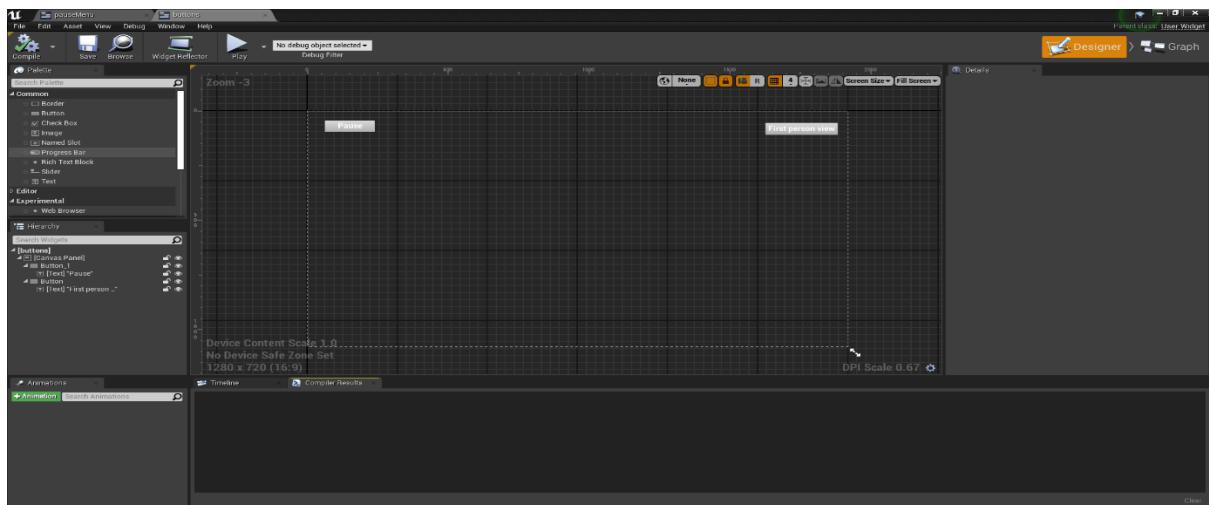


Figure 33. HUD widget design

This figure shows the HUD blueprint.

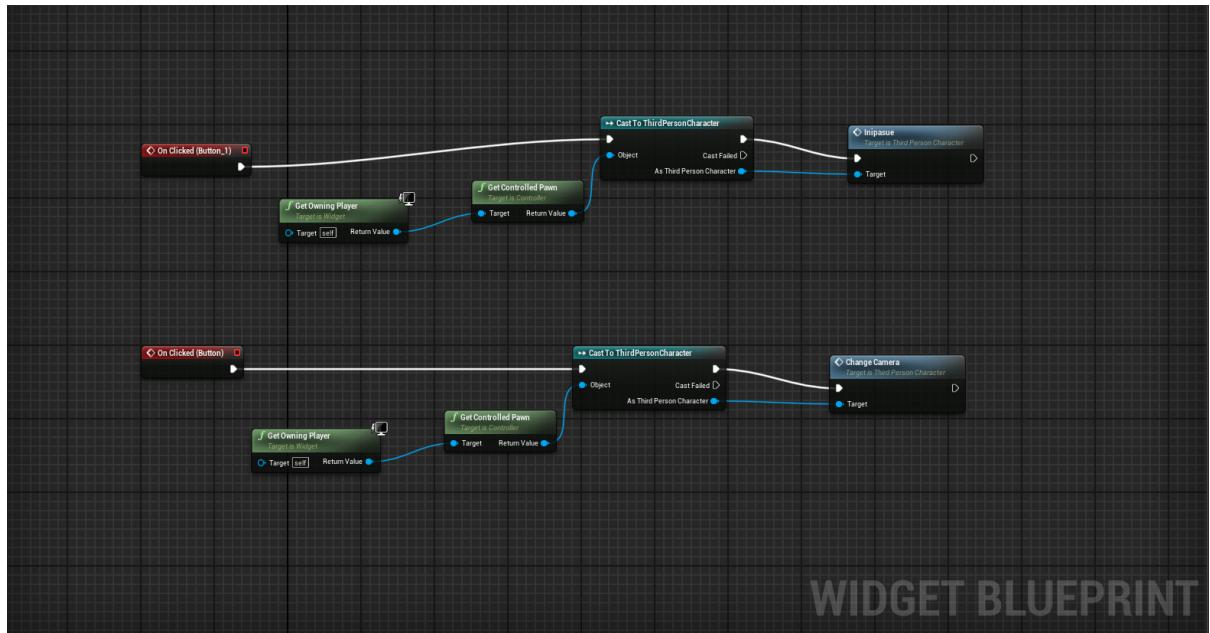


Figure 34. HUD code

We have also designed a HUD or heads up display for the user. It contains two buttons pause and first-person mode. Here contain all the key bindings, camera movement, virtual joystick, and keyboard movement code.

2.4.18 VR Setup

This figure shows the all the plugins we implemented for VR.

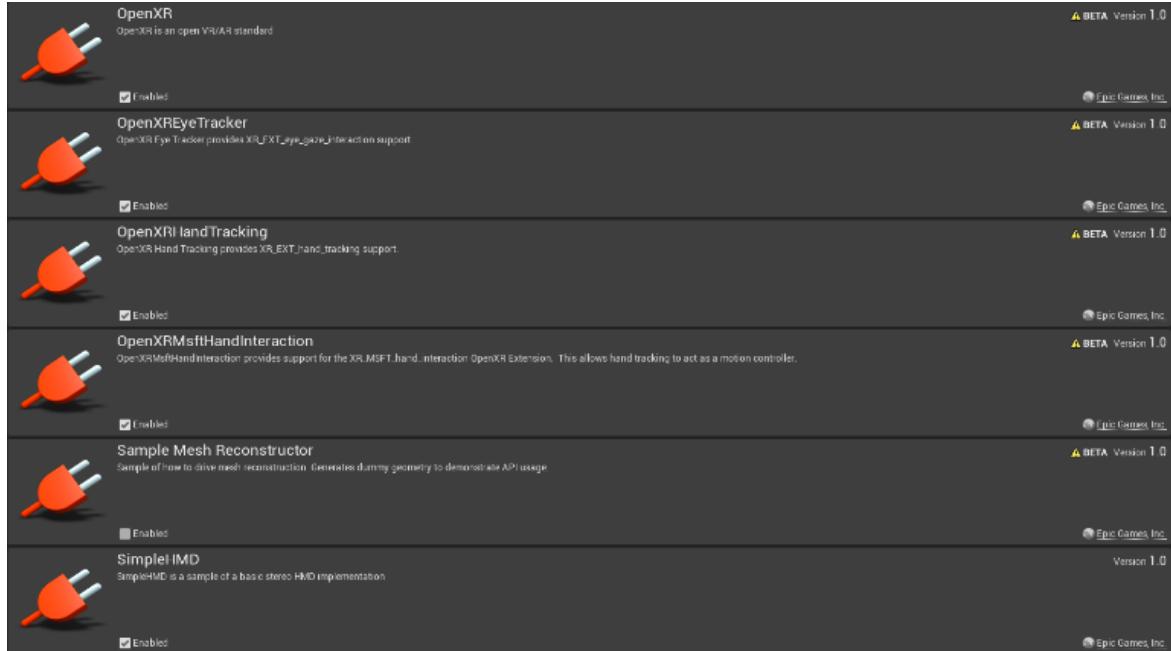


Figure 35. Open XR implementation and plugin selection results.

List of plugins imported to unreal engine for VR support. We have used OpenXR, OpenHMD, OpexXR headtracking and other pre requisite plugins.

Next figures contain all the settings we have used in unreal engine to export and the VR capable android. apk and. obb file. Also, the sdk, ndk, jdk, jre configuration is also present in the figures.

2.4.19 Packaging For android

This figure shows the all the in-engine settings for packaging for android.

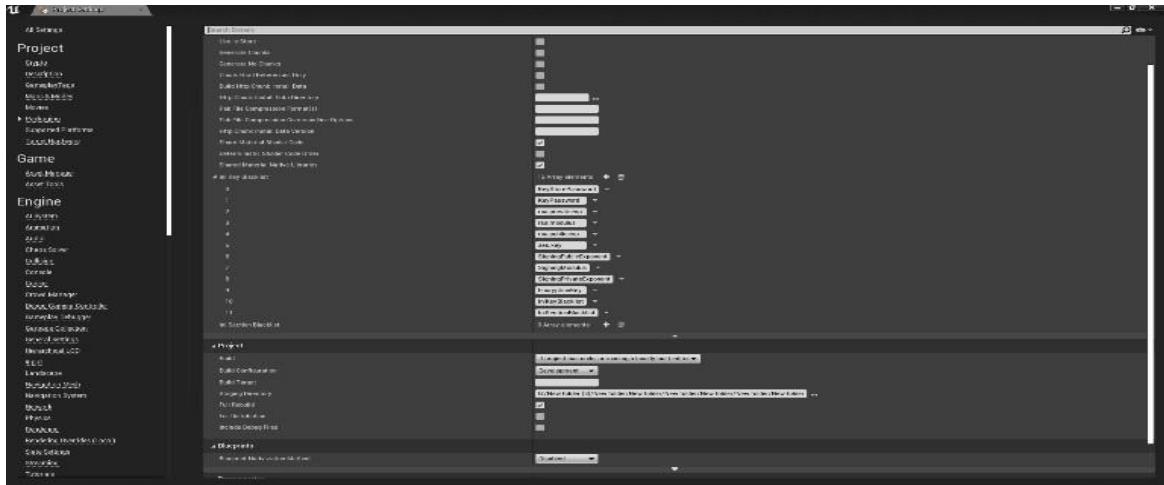


Figure 36. Packaging settings for android

In here we have selected all the settings for the packaging. We have only cooked the contents of the game we have excluded all the necessary bits by selecting cook only selected items then manually selecting them.

2.4.20 .apk setup

This figure shows all the in-engine settings for the .apk setup.

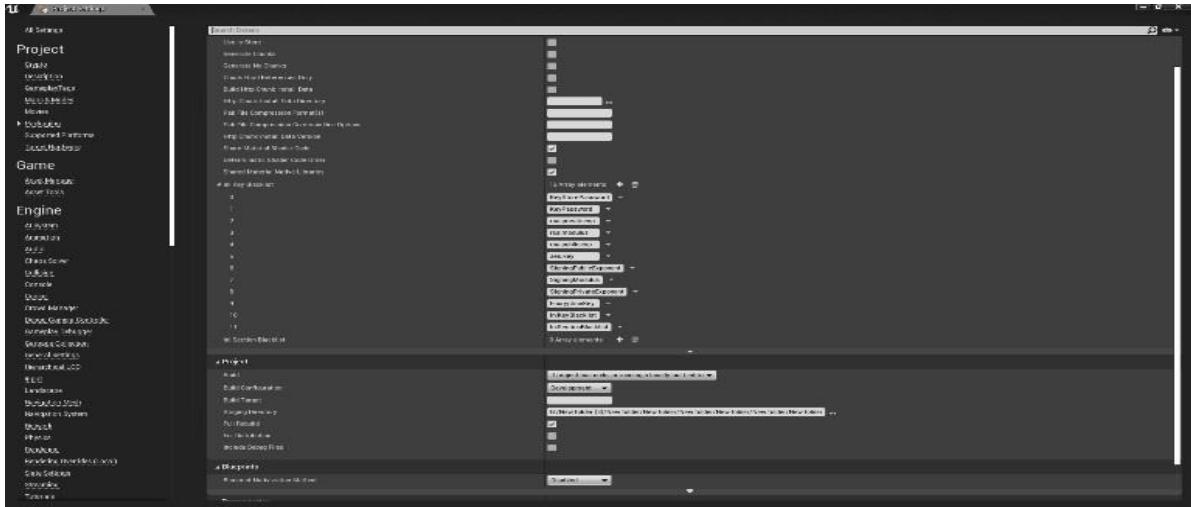


Figure 37. .apk setup

In here we choose which android versions we target we targeted minimum of android 8 and maximum of android 12. Also, maximum aspect ratio is selected at 2:1 and orientation are set at landscape by default.

This figure shows all the in-engine settings for the .apk setup(continued).



Figure 38. .apk setup continued

Here we have mostly tuned other parameters such as name for the OBB, package names and not but not least which VR output we would like. For most compatibility we have chosen Cardboard VR template here.

2.4.21 Android Sdk Settings

This figure shows the all the in-engine platform settings for android sdk, ndk ,jre , and jdk.



2.5 Difficulties faced

There is also background work that were done, such as lighting implementation, lightscape building getting unreal engine ready for VR and miscellaneous tasks. Unreal engine and google dropped support for android VR in 2019, so latest versions doesn't support the android VR sdk. At first, we looked into downgrading to a previous version of unreal engine specifically which is last supported version with android VR sdk support but that version is dependent on NVidia code works for its android sdk,jdk and ndk. We still tried to implement it by downloading specific versions of sdk jdk and ndk from google archives but without epics proprietary software and code works it's not possible to build an apk and it is resulting in only supporting google pixel devices i.e., google daydream supported android VR devices. Currently epic and google officially support oculus quest 1 and quest 2 meta. Since, NVidia code works being discontinued, their servers are not running anymore so we can't get our sdks from that source. For solution we have downloaded the unreal engine 4.26.2 source code from GitHub provided to us from epic then we have implemented an open-source alternative, Open XR for our VR support. We

are using Vulcan instead of opengl 3.1 as our graphics api. Which is more optimized for arm-based chips anyways resulting in a slight but noticeable performance boost. After downloading openXR sdk from there official repository we added necessary files and code given to us from open XR and recompiled using visual studio (vs code). Also, we have replaced epics proprietary pipelines with openXRs. After that we used official android sdk v 31, jdk v18, jre v 8 and buildtools v21 to compile an apk for android. As open XR is an open-source platform it supports windows, Linux, oculus, windows HoloLens, android VR also it can be both played with or without VR (only supported on pc).

2.6 Extracted Nativized C++ Code

In this section we show the nativized code that from the blueprints we made. We have used inclusive nativization. This process takes every blueprint and generates a C++ file with the code.

2.6.1 Array list

```
#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class USceneComponent;
class AGameMode;
class UClass;
#include "Array_pf2665110325.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/Blocks/Array.Array_C", OverrideNativeName="Array_C"))
class AArray_C_pf2665110325 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Cube"))
    UStaticMeshComponent* bpv_Cube_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="DefaultSceneRoot"))
    USceneComponent* bpv_DefaultSceneRoot_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ClassDynamicCast_AsGame_Mode"))
    TSubclassOf<AGameMode> b01_K2Node_ClassDynamicCast_AsGame_Mode_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ClassDynamicCast_bSuccess"))
    bool b01_K2Node_ClassDynamicCast_bSuccess_pf;
    AArray_C_pf2665110325(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBPDependencyData>&
AssetsToLoad);
    static void __StaticDependencies_DirectlyUsedAssets(TArray<FBPDependencyData>&
AssetsToLoad);
    void bpf_ExecuteUbergraph_Array_pf_0(int32 bpp_EntryPoint_pf);
    UFUNCTION(meta=(Comment="/* Event when play begins for this actor. */",
DisplayName="BeginPlay", ToolTip="Event when play begins for this actor.",
CppFromBpEvent, OverrideNativeName="ReceiveBeginPlay"))
}
```

```

    virtual void bpf__ReceiveBeginPlay_pf();
public:
};

```

2.6.2 Ceiling light

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/CoreUObject/Public/UObject/NoExportTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class UPointLightComponent;
class USceneComponent;
#include "Blueprint_CeilingLight_pf3452383900.generated.h"
UCLASS(config=Engine,                                     Blueprintable,           BlueprintType,
meta=(ReplaceConverted="/Game/MobileStarterContent/Blueprints/Blueprint_CeilingLight.B
lueprint_CeilingLight_C", OverrideNativeName="Blueprint_CeilingLight_C"))
class ABlueprint_CeilingLight_C_pf3452383900 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional,     meta=(Category="Default",
OverrideNativeName="SM_Lamp_Ceiling"))
        UStaticMeshComponent* bpv__SM_Lamp_Ceiling_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional,     meta=(Category="Default",
OverrideNativeName="PointLight1"))
        UPointLightComponent* bpv__PointLight1_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional,     meta=(Category="Default",
OverrideNativeName="Scene1"))
        USceneComponent* bpv__Scene1_pf;
    UPROPERTY(EditAnywhere, BlueprintReadWrite,     meta=(DisplayName="Brightness",
Category="Light", OverrideNativeName="Brightness"))
        float bpv__Brightness_pf;
    UPROPERTY(EditAnywhere, BlueprintReadWrite,     meta=(DisplayName="Color",
Category="Light", OverrideNativeName="Color"))
        FLinearColor bpv__Color_pf;
    UPROPERTY(EditAnywhere, BlueprintReadWrite,     meta=(DisplayName="Source Radius",
Category="Light", OverrideNativeName="Source Radius"))
        float bpv__Sourceradius_pf;
    ABlueprint_CeilingLight_C_pf3452383900(const FObjectInitializer&
ObjectInitializer = FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBlueprintDependencyData>&
AssetsToLoad);
    static void __StaticDependencies_DirectlyUsedAssets(TArray<FBlueprintDependencyData>&
AssetsToLoad);
    UFUNCTION(BlueprintCallable,           meta=(BlueprintInternalUseOnly="true",
Comment="/**\t * Construction script, the place to spawn components and do other setup.\t *
* @note Name used in CreateBlueprint function\t */", DisplayName="Construction Script",
ToolTip="Construction script, the place to spawn components and do other setup.@note
Name used in CreateBlueprint function", Category, CppFromBpEvent,
OverrideNativeName="UserConstructionScript"))
        virtual void bpf__UserConstructionScript_pf();
public:

```

```
};
```

2.6.3 Walls

```
#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/CoreUObject/Public/UObject/NoExportTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class USpotLightComponent;
class USceneComponent;
#include "Blueprint_WallSconce_pf3452383900.generated.h"
UCLASS(config=Engine,                                     Blueprintable,           BlueprintType,
meta=(ReplaceConverted="/Game/MobileStarterContent/Blueprints/Blueprint_WallSconce.Blueprint_WallSconce_C", OverrideNativeName="Blueprint_WallSconce_C"))
class ABlueprint_WallSconce_C_pf3452383900 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="SM_Lamp_Wall"))
        UStaticMeshComponent* bpv__SM_Lamp_Wall_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="PointLight2"))
        USpotLightComponent* bpv__PointLight2_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Scene1"))
        USceneComponent* bpv__Scene1_pf;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Brightness",
Category="Light", OverrideNativeName="Brightness"))
        float bpv__Brightness_pf;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Color",
Category="Light", OverrideNativeName="Color"))
        FLinearColor bpv__Color_pf;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Inner Cone Angle",
Category="Light", OverrideNativeName="Inner Cone Angle"))
        float bpv__InnerxConexAngle_pfTT;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Outer Cone Angle",
Category="Light", OverrideNativeName="Outer Cone Angle"))
        float bpv__OuterxConexAngle_pfTT;
    ABlueprint_WallSconce_C_pf3452383900(const FObjectInitializer&
ObjectInitializer = FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBpDependencyData>&
AssetsToLoad);
    static void __StaticDependencies_DirectlyUsedAssets(TArray<FBpDependencyData>&
AssetsToLoad);
    UFUNCTION(BlueprintCallable, meta=(BlueprintInternalUseOnly="true",
Comment="/**\t * Construction script, the place to spawn components and do other setup.\t * @note Name used in CreateBlueprint function\t */", DisplayName="Construction Script",
ToolTip="Construction script, the place to spawn components and do other setup.@note Name used in CreateBlueprint function", Category, CppFromBpEvent,
OverrideNativeName="UserConstructionScript"))
        virtual void bpf__UserConstructionScript_pf();
public:
};
```

2.6.4 Skysphere

```
#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/CoreUObject/Public/UObject/NoExportTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class USceneComponent;
class UMaterialInstanceDynamic;
class ADirectionalLight;
class UCurveLinearColor;
#include "BP_Sky_Sphere_pf1379775596.generated.h"
UCLASS(config=Engine,                                     Blueprintable,           BlueprintType,
meta=(ReplaceConverted="/Engine/EngineSky/BP_Sky_Sphere.BP_Sky_Sphere_C",
OverrideNativeName="BP_Sky_Sphere_C"))
class ABP_Sky_Sphere_C_pf1379775596 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="BP_Skydome",
OverrideNativeName="SkySphereMesh"))
        UStaticMeshComponent* bpv_SkySphereMesh_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="BP_Skydome",
OverrideNativeName="Base"))
        USceneComponent* bpv_Base_pf;
    UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Sky
Material", Category="Default", OverrideNativeName="Sky material"))
        UMaterialInstanceDynamic* bpv_Skyxmaterial_pft;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Refresh
Material", Category="Default", Tooltip="Use this to update the sky material after moving
a directional light", OverrideNativeName="Refresh material"))
        bool bpv_Refreshxmaterial_pft;
    UPROPERTY(EditInstanceOnly, BlueprintReadWrite, meta=(DisplayName="Directional
Light Actor", Category="Default", Tooltip="Assign your level's directional light actor
to this variable to match the sky's sun position and color",
OverrideNativeName="Directional light actor"))
        ADirectionalLight* bpv_Directionallightxactor_pftt;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Colors Determined
By Sun Position", Category="Default", Tooltip="If enabled, sky colors will change
according to the sun's position", OverrideNativeName="Colors determined by sun
position"))
        bool bpv_Colorsxdeterminedxbysunxposition_pftttt;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Sun Height",
Category="Override settings", UIMin="-1", UIMax="1", Tooltip="If no directional light
is assigned, this value determines the height of the sun", OverrideNativeName="Sun
height"))
        float bpv_Sunxheight_pft;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Sun Brightness",
Category="Default", Tooltip="Brightness multiplier for the sun disk",
OverrideNativeName="Sun brightness"))
        float bpv_Sunxbrightness_pft;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Horizon Falloff",
Category="Override settings", Tooltip="Affects the size of the gradient from zenith
color to horizon color", OverrideNativeName="Horizon Falloff"))
        float bpv_HorizonxFalloff_pft;
```

```

        UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Zenith Color",
Category="Override settings", OverrideNativeName="Zenith Color"))
        FLinearColor bpv_ZenithxColor_pft;
        UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Horizon Color",
Category="Override settings", OverrideNativeName="Horizon color"))
        FLinearColor bpv_Horizonxcolor_pft;
        UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Cloud Color",
Category="Override settings", OverrideNativeName="Cloud color"))
        FLinearColor bpv_Cloudxcolor_pft;
        UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Overall Color",
Category="Override settings", OverrideNativeName="Overall Color"))
        FLinearColor bpv_OverallxColor_pft;
        UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Cloud Speed",
Category="Default", Tooltip="Panning speed for the clouds", OverrideNativeName="Cloud speed"))
        float bpv_Cloudxspeed_pft;
        UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Cloud Opacity",
Category="Default", Tooltip="Opacity of the panning clouds", OverrideNativeName="Cloud opacity"))
        float bpv_Cloudxopacity_pft;
        UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Stars Brightness",
Category="Default", Tooltip="Multiplier for the brightness of the stars when the sun is below the horizon", OverrideNativeName="Stars brightness"))
        float bpv_Starsxbrightness_pft;
        UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Horizon Color Curve",
Category="Default", OverrideNativeName="Horizon color curve"))
        UCurveLinearColor* bpv_Horizonxcolorxcurve_pfTT;
        UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Zenith Color Curve",
Category="Default", OverrideNativeName="Zenith color curve"))
        UCurveLinearColor* bpv_Zenithxcolorxcurve_pfTT;
        UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Cloud Color Curve",
Category="Default", OverrideNativeName="Cloud color curve"))
        UCurveLinearColor* bpv_Cloudxcolorxcurve_pfTT;
        ABP_Sky_Sphere_C_pf1379775596(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
        virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
        static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
        static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
        static void __StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
        UFUNCTION(BlueprintCallable, meta=(BlueprintInternalUseOnly="true",
Comment="/**\t * Construction script, the place to spawn components and do other setup.\t *
* @note Name used in CreateBlueprint function\t */", DisplayName="Construction Script",
ToolTip="Construction script, the place to spawn components and do other setup.@note
Name used in CreateBlueprint function", Category, CppFromBpEvent,
OverrideNativeName="UserConstructionScript"))
        virtual void bpf_UserConstructionScript_pf();
        UFUNCTION(BlueprintCallable,
OverrideNativeName="UpdateSunDirection")
        virtual void bpf_UpdateSunDirection_pf();
        UFUNCTION(BlueprintCallable,
OverrideNativeName="RefreshMaterial"))
        virtual void bpf_RefreshMaterial_pf();
public:
};

```

2.6.5 Browser Blueprint

```
#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/Engine/EngineTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UBoxComponent;
class UWidgetComponent;
class UStaticMeshComponent;
class USceneComponent;
class UPrimitiveComponent;
class AActor;
#include "browserSCreEn_pf3995835070.generated.h"
UCLASS(config=Engine,                                     Blueprintable,           BlueprintType,
meta=(ReplaceConverted="/Game/browser/browserSCreEn.browserSCreEn_C",
OverrideNativeName="browserSCreEn_C"))
class AbrowserSCreEn_C_pf3995835070 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Box"))
        UBoxComponent* bpv_Box_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Widget"))
        UWidgetComponent* bpv_Widget_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="StaticMesh"))
        UStaticMeshComponent* bpv_StaticMesh_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="DefaultSceneRoot"))
        USceneComponent* bpv_DefaultSceneRoot_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OverlappedComponent_1"))
        UPrimitiveComponent* b01_K2Node_ComponentBoundEvent_OverlappedComponent_1_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherActor_1"))
        AActor* b01_K2Node_ComponentBoundEvent_OtherActor_1_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherComp_1"))
        UPrimitiveComponent* b01_K2Node_ComponentBoundEvent_OtherComp_1_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherBodyIndex_1"))
        int32 b01_K2Node_ComponentBoundEvent_OtherBodyIndex_1_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_bFromSweep"))
        bool b01_K2Node_ComponentBoundEvent_bFromSweep_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_SweepResult"))
        FHitResult b01_K2Node_ComponentBoundEvent_SweepResult_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OverlappedComponent"))
        UPrimitiveComponent* b01_K2Node_ComponentBoundEvent_OverlappedComponent_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherActor"))
        AActor* b01_K2Node_ComponentBoundEvent_OtherActor_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherComp"))
        UPrimitiveComponent* b01_K2Node_ComponentBoundEvent_OtherComp_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherBodyIndex"))
        int32 b01_K2Node_ComponentBoundEvent_OtherBodyIndex_pf;
```

```

    AbrowserSCreen_C__pf3995835070(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
    static
void
__StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
    void bpf__ExecuteUbergraph_browserSCreen_pf_0(int32 bpp__EntryPoint_pf);
    void bpf__ExecuteUbergraph_browserSCreen_pf_1(int32 bpp__EntryPoint_pf);
    UFUNCTION(meta=(OverrideNativeName="BndEvt__browserSCreen_Box_K2Node_ComponentBoundEvent_1_ComponentEndOverlapSignature__DelegateSignature"))
    virtual
void
bpf__BndEvt__browserSCreen_Box_K2Node_ComponentBoundEvent_1_ComponentEndOverlapSignature__DelegateSignature_pf(UPrimitiveComponent* bpp__OverlappedComponent_pf, AActor* bpp__OtherActor_pf, UPrimitiveComponent* bpp__OtherComp_pf, int32 bpp__OtherBodyIndex_pf);
    UFUNCTION(meta=(OverrideNativeName="BndEvt__browserSCreen_Box_K2Node_ComponentBoundEvent_0_ComponentBeginOverlapSignature__DelegateSignature"))
    virtual
void
bpf__BndEvt__browserSCreen_Box_K2Node_ComponentBoundEvent_0_ComponentBeginOverlapSignature__DelegateSignature_pf(UPrimitiveComponent* bpp__OverlappedComponent_pf, AActor* bpp__OtherActor_pf, UPrimitiveComponent* bpp__OtherComp_pf, int32 bpp__OtherBodyIndex_pf, bool bpp__bFromSweep_pf, FHitResult const& bpp__SweepResult_pf const);
public:
};

```

2.6.6 Buttons

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/UMG/Public/UMG.h"
#include "Runtime/UMG/Public/Blueprint/UserWidget.h"
class UButton;
class AThirdPersonCharacter_C__pf2222656877;
#include "buttons_pf1010915279.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/buttons.buttons_C", OverrideNativeName="buttons_C"))
class Ubuttons_C__pf1010915279 : public UUserWidget
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Button",
Category="buttons", OverrideNativeName="Button"))
        UButton* bpv__Button_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Button_1",
Category="buttons", OverrideNativeName="Button_1"))
        UButton* bpv__Button_1_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_AsThird_Person_Character"))
        AThirdPersonCharacter_C__pf2222656877*
b01_K2Node_DynamicCast_AsThird_Person_Character_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_bSuccess"))

```

```

        bool b01__K2Node_DynamicCast_bSuccess__pf;
        UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_AsThird_Person_Character_1"))
        AThirdPersonCharacter_C__pf2222656877*
b01__K2Node_DynamicCast_AsThird_Person_Character_1_pf;                         DuplicateTransient,
        UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_bSuccess_1"))
        bool b01__K2Node_DynamicCast_bSuccess_1_pf;
        Ubuttons_C__pf1010915279(const FObjectInitializer& ObjectInitializer = FObjectInitializer::Get());
        virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
        static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
        static void __StaticDependenciesAssets(TArray<FBlueprintDependencyData>& AssetsToLoad);
        static void __StaticDependencies_DirectlyUsedAssets(TArray<FBlueprintDependencyData>& AssetsToLoad);
        void void bpf__ExecuteUbergraph_buttons_pf_0(int32 bpp__EntryPoint_pf);
        void void bpf__ExecuteUbergraph_buttons_pf_1(int32 bpp__EntryPoint_pf);
        UFUNCTION(meta=(OverrideNativeName="BndEvt_buttons_Button_K2Node_ComponentBoundEvent_2_OnButtonClickedEvent_DelegateSignature"))
        virtual void bpf__BndEvt_buttons_Button_K2Node_ComponentBoundEvent_2_OnButtonClickedEvent_DelegateSignature_pf();
        UFUNCTION(meta=(OverrideNativeName="BndEvt_buttons_Button_1_K2Node_ComponentBoundEvent_1_OnButtonClickedEvent_DelegateSignature"))
        virtual void bpf__BndEvt_buttons_Button_1_K2Node_ComponentBoundEvent_1_OnButtonClickedEvent_DelegateSignature_pf();
public:
        virtual void GetSlotNames(TArray<FName>& SlotNames) const override;
        virtual void PreSave(const class ITargetPlatform* TargetPlatform) override;
        virtual void InitializeNativeClassData() override;
};

```

2.6.7 Walking animation

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Animation/AnimClassData.h"
#include "Runtime/Engine/Classes/Animation/AnimNode_Root.h"
#include "Runtime/Engine/Classes/Animation/AnimNode_SequencePlayer.h"
#include "Runtime/AnimGraphRuntime/Public/AnimNodes/AnimNode_StateResult.h"
#include "Runtime/Engine/Classes/Animation/AnimNodeStateMachine.h"
#include "Runtime/Engine/Classes/Animation/AnimNodeBase.h"
#include "Runtime/Engine/Classes/Animation/AnimInstance.h"
#include "NewAnimBlueprint_pf1113082999.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/NewFolder2/NewAnimBlueprint.NewAnimBlueprint_C",
OverrideNativeName="NewAnimBlueprint_C"))
class UNewAnimBlueprint_C_pf1113082999 : public UAnimInstance
{
public:
    GENERATED_BODY()
    UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_Root"))
    FAnimNode_Root bpv__AnimGraphNode_Root_pf;
    UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_SequencePlayer"))
    FAnimNode_SequencePlayer bpv__AnimGraphNode_SequencePlayer_pf;

```

```

UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_StateResult"))
FAnimNode_StateResult bpv__AnimGraphNode_StateResult__pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_StateMachine"))
FAnimNode_StateMachine bpv__AnimGraphNode_StateMachine__pf;
UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Speed",
Category="Default", MultiLine="true", OverrideNativeName="speed"))
float bpv__speed__pf;
UNewAnimBlueprint_C_pf1113082999(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
static void __StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
void __InitAllAnimNodes();
void __InitAnimNode_AnimGraphNode_Root();
void __InitAnimNode_AnimGraphNode_SequencePlayer();
void __InitAnimNode_AnimGraphNode_StateResult();
void __InitAnimNode_AnimGraphNode_StateMachine();
UFUNCTION(meta=(OverrideNativeName="ExecuteUbergraph_NewAnimBlueprint"))
void bpf__ExecuteUbergraph_NewAnimBlueprint_pf(int32 bpp__EntryPoint_pf);
UFUNCTION(BlueprintCallable, meta=(BlueprintInternalUseOnly="true",
AnimBlueprintFunction="true", Category, OverrideNativeName="AnimGraph"))
virtual void bpf__AnimGraph_pf(/*out*/ FPoseLink& bpp__AnimGraph_pf);
public:
};

```

2.6.8 Idle animation

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Animation/AnimClassData.h"
#include "Runtime/Engine/Classes/Animation/AnimNode_Root.h"
#include "Runtime/Engine/Classes/Animation/AnimNode_TransitionResult.h"
#include "Runtime/Engine/Classes/Animation/AnimNode_SequencePlayer.h"
#include "Runtime/AnimGraphRuntime/Public/AnimNodes/AnimNode_StateResult.h"
#include "Runtime/Engine/Classes/Animation/AnimNode_StateMachine.h"
#include "Runtime/Engine/Classes/Animation/AnimNodeBase.h"
#include "Runtime/Engine/Classes/Animation/AnimInstance.h"
#include "NewAnimBlueprint_pf2112534721.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/Meena/NewAnimBlueprint.NewAnimBlueprint_C",
OverrideNativeName="NewAnimBlueprint_C"))
class UNewAnimBlueprint_C_pf2112534721 : public UAnimInstance
{
public:
GENERATED_BODY()
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_Root"))
FAnimNode_Root bpv__AnimGraphNode_Root__pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_TransitionResult_1"))
FAnimNode_TransitionResult bpv__AnimGraphNode_TransitionResult_1__pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_TransitionResult"))
FAnimNode_TransitionResult bpv__AnimGraphNode_TransitionResult__pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_SequencePlayer_1"))
FAnimNode_SequencePlayer bpv__AnimGraphNode_SequencePlayer_1__pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_StateResult_1"))

```

```

FAnimNode_StateResult bpv__AnimGraphNode_StateResult_1_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_SequencePlayer"))
FAnimNode_SequencePlayer bpv__AnimGraphNode_SequencePlayer_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_StateResult"))
FAnimNode_StateResult bpv__AnimGraphNode_StateResult_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_StateMachine"))
FAnimNode_StateMachine bpv__AnimGraphNode_StateMachine_pf;
UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Speed",
Category="Default", MultiLine="true", OverrideNativeName="speed"))
float bpv__speed_pf;
UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_Event_DeltaTimeX"))
float b01_K2Node_Event_DeltaTimeX_pf;
UNewAnimBlueprint_C_pf2112534721(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
static void __StaticDependenciesAssets(TArray<FBpDependencyData>&
AssetsToLoad);
static void __StaticDependencies_DirectlyUsedAssets(TArray<FBpDependencyData>&
AssetsToLoad);
void __InitAllAnimNodes();
void __InitAnimNode_AnimGraphNode_Root();
void __InitAnimNode_AnimGraphNode_TransitionResult_1();
void __InitAnimNode_AnimGraphNode_TransitionResult();
void __InitAnimNode_AnimGraphNode_SequencePlayer_1();
void __InitAnimNode_AnimGraphNode_StateResult_1();
void __InitAnimNode_AnimGraphNode_SequencePlayer();
void __InitAnimNode_AnimGraphNode_StateResult();
void __InitAnimNode_AnimGraphNode_StateMachine();
void bpf_ExecuteUbergraph_NewAnimBlueprint_pf_0(int32 bpp__EntryPoint_pf);
void bpf_ExecuteUbergraph_NewAnimBlueprint_pf_1(int32 bpp__EntryPoint_pf);
void bpf_ExecuteUbergraph_NewAnimBlueprint_pf_2(int32 bpp__EntryPoint_pf);
UFUNCTION(meta=(Comment="/** Executed when the Animation is updated */",
ToolTip="Executed when the Animation is updated", CppFromBpEvent,
OverrideNativeName="BlueprintUpdateAnimation")
virtual void bpf_BlueprintUpdateAnimation_pf(float bpp__DeltaTimeX_pf);
UFUNCTION(meta=(OverrideNativeName="EvaluateGraphExposedInputs_ExecuteUbergraph
_NewAnimBlueprint_AnimGraphNode_TransitionResult_B7CFD529496B8F495AA77194577B601E"))
virtual void bpf_EvaluateGraphExposedInputs_ExecuteUbergraph_NewAnimBlueprint_AnimGraphNode_Transi
tionResult_B7CFD529496B8F495AA77194577B601E_pf();
UFUNCTION(meta=(OverrideNativeName="EvaluateGraphExposedInputs_ExecuteUbergraph
_NewAnimBlueprint_AnimGraphNode_TransitionResult_F6F67D6D40A79812BE26A2B17B656411"))
virtual void bpf_EvaluateGraphExposedInputs_ExecuteUbergraph_NewAnimBlueprint_AnimGraphNode_Transi
tionResult_F6F67D6D40A79812BE26A2B17B656411_pf();
UFUNCTION(BlueprintCallable, meta=(BlueprintInternalUseOnly="true",
AnimBlueprintFunction="true", Category, OverrideNativeName="AnimGraph"))
virtual void bpf_AnimGraph_pf(/*out*/ FPoseLink& bpp__AnimGraph_pf);
public:
};

```

2.6.9 AI Level 1

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/Engine/EngineTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class UBoxComponent;
class USceneComponent;
class UPrimitiveComponent;
class AActor;
class AThirdPersonCharacter_C_pf2222656877;
#include "nextlevelAI_1_pf4121121222.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/nextlevel/nextlevelAI_1.nextlevelAI_1_C",
OverrideNativeName="nextlevelAI_1_C"))
class AnextlevelAI_1_C_pf4121121222 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Plane"))
    UStaticMeshComponent* bpv__Plane_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="SM_Door"))
    UStaticMeshComponent* bpv__SM_Door_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Box"))
    UBoxComponent* bpv__Box_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="DefaultSceneRoot"))
    USceneComponent* bpv__DefaultSceneRoot_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OverlappedComponent"))
    UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OverlappedComponent_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherActor"))
    AActor* b01__K2Node_ComponentBoundEvent_OtherActor_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherComp"))
    UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OtherComp_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherBodyIndex"))
    int32 b01__K2Node_ComponentBoundEvent_OtherBodyIndex_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_bFromSweep"))
    bool b01__K2Node_ComponentBoundEvent_bFromSweep_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_SweepResult"))
    FHitResult b01__K2Node_ComponentBoundEvent_SweepResult_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_AsThird_Person_Character"))
    AThirdPersonCharacter_C_pf2222656877*
b01__K2Node_DynamicCast_AsThird_Person_Character_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_bSuccess"))
    bool b01__K2Node_DynamicCast_bSuccess_pf;
    AnextlevelAI_1_C_pf4121121222(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBlueprintDependencyData>&
AssetsToLoad);

```

```

    static void
__StaticDependencies_DirectlyUsedAssets(TArray<FBlueprintDependencyData>&
AssetsToLoad);
    void bpf__ExecuteUbergraph_nextlevelAI_1_pf_0(int32 bpp__EntryPoint_pf);
    UFUNCTION(meta=(OverrideNativeName="BndEvt__nextlevel_Box_K2Node_ComponentBound
Event_0_ComponentBeginOverlapSignature__DelegateSignature"))
    virtual void
bpf__BndEvt__nextlevel_Box_K2Node_ComponentBoundEvent_0_ComponentBeginOverlapSignature
__DelegateSignature_pf(UPrimitiveComponent* bpp__OverlappedComponent_pf, AActor*
bpp__OtherActor_pf, UPrimitiveComponent* bpp__OtherComp_pf, int32
bpp__OtherBodyIndex_pf, bool bpp__bFromSweep_pf, FHitResult const&
bpp__SweepResult_pf const);
public:
};

```

2.6.10 AI Level 2

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/Engine/EngineTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class UBoxComponent;
class USceneComponent;
class UPrimitiveComponent;
class AActor;
class AThirdPersonCharacter_C_pf2222656877;
#include "nextlevelAI_2_pf4121121222.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/nextlevel/nextlevelAI_2.nextlevelAI_2_C",
OverrideNativeName="nextlevelAI_2_C"))
class AnextlevelAI_2_C_pf4121121222 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Plane"))
        UStaticMeshComponent* bpv__Plane_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="SM_Door"))
        UStaticMeshComponent* bpv__SM_Door_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Box"))
        UBoxComponent* bpv__Box_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="DefaultSceneRoot"))
        USceneComponent* bpv__DefaultSceneRoot_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OverlappedComponent"))
        UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OverlappedComponent_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherActor"))
        AActor* b01__K2Node_ComponentBoundEvent_OtherActor_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherComp"))
        UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OtherComp_pf;

```

```

        UPROPERTY(Transient,                                            DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherBodyIndex"))
        int32 b01__K2Node_ComponentBoundEvent_OtherBodyIndex_pf;
        UPROPERTY(Transient,                                            DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_bFromSweep"))
        bool b01__K2Node_ComponentBoundEvent_bFromSweep_pf;
        UPROPERTY(Transient,                                            DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_SweepResult"))
        FHitResult b01__K2Node_ComponentBoundEvent_SweepResult_pf;
        UPROPERTY(Transient,                                            DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_AsThird_Person_Character"))
        AThirdPersonCharacter_C_pf2222656877*
b01__K2Node_DynamicCast_AsThird_Person_Character_pf;
        UPROPERTY(Transient,                                            DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_bSuccess"))
        bool b01__K2Node_DynamicCast_bSuccess_pf;
        AnextlevelAI_2_C_pf4121121222(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
        virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
        static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
        static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
        static void __StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
        void bpf__ExecuteUbergraph_nexlevelAI_2_pf_0(int32 bpp_EntryPoint_pf);
        UFUNCTION(meta=(OverrideNativeName="BndEvt_nexlevel_Box_K2Node_ComponentBound
Event_0_ComponentBeginOverlapSignature__DelegateSignature"))
        virtual void
bpf__BndEvt__nexlevel_Box_K2Node_ComponentBoundEvent_0_ComponentBeginOverlapSignature
__DelegateSignature_pf(UPrimitiveComponent* bpp_OverlappedComponent_pf, AActor*
bpp_OtherActor_pf, UPrimitiveComponent* bpp_OtherComp_pf, int32
bpp_OtherBodyIndex_pf, bool bpp_bFromSweep_pf, FHitResult const&
bpp_SweepResult_pf const);
public:
};

```

2.6.11 Physics Level

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/Engine/EngineTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class UBoxComponent;
class USceneComponent;
class UPrimitiveComponent;
class AActor;
class AThirdPersonCharacter_C_pf2222656877;
#include "nexlevelphy1_pf4121121222.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/nexlevel/nexlevelphy1.nexlevelphy1_C",
OverrideNativeName="nexlevelphy1_C"))
class Anextlevelphy1_C_pf4121121222 : public AActor
{
public:
    GENERATED_BODY()

```

```

    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Plane"))
    UStaticMeshComponent* bpv__Plane_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="SM_Door"))
    UStaticMeshComponent* bpv__SM_Door_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Box"))
    UBoxComponent* bpv__Box_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="DefaultSceneRoot"))
        USceneComponent* bpv__DefaultSceneRoot_pf;
        UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OverlappedComponent"))
            UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OverlappedComponent_pf;
            UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherActor"))
                AActor* b01__K2Node_ComponentBoundEvent_OtherActor_pf;
                UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherComp"))
                    UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OtherComp_pf;
                    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherBodyIndex"))
                        int32 b01__K2Node_ComponentBoundEvent_OtherBodyIndex_pf;
                        UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_bFromSweep"))
                            bool b01__K2Node_ComponentBoundEvent_bFromSweep_pf;
                            UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_SweepResult"))
                                FHitResult b01__K2Node_ComponentBoundEvent_SweepResult_pf;
                                UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_AsThird_Person_Character"))
                                    AThirdPersonCharacter_C_pf2222656877*
b01__K2Node_DynamicCast_AsThird_Person_Character_pf;
                                    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_bSuccess"))
                            bool b01__K2Node_DynamicCast_bSuccess_pf;
                            Anextlevelphy1_C_pf4121121222(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
                            virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
                            static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
                            static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
                            static void __StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
                            void bp__ExecuteUbergraph1_pf_0(int32 bpp__EntryPoint_pf);
                            UFUNCTION(meta=(OverrideNativeName="BndEvt__nextlevel_Box_K2Node_ComponentBound
Event_0_ComponentBeginOverlapSignature_DelegateSignature"))
                                virtual void
bp__BndEvt__nextlevel_Box_K2Node_ComponentBoundEvent_0_ComponentBeginOverlapSignature
__DelegateSignature_pf(UPrimitiveComponent* bpp__OverlappedComponent_pf, AActor*
bpp__OtherActor_pf, UPrimitiveComponent* bpp__OtherComp_pf, int32
bpp__OtherBodyIndex_pf, bool bpp__bFromSweep_pf, FHitResult const&
bpp__SweepResult_pf const);
public:
};

```

2.6.12 Programming Level 1

```
#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/Engine/EngineTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class UBoxComponent;
class USceneComponent;
class UPrimitiveComponent;
class AActor;
class AThirdPersonCharacter_C_pf2222656877;
#include "nextlevelPL_ADD_pf4121121222.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/nextlevel/nextlevelPL_ADD.nextlevelPL_ADD_C,/Game/nextlevel/nextlevel.nextlevel_C", OverrideNativeName="nextlevelPL_ADD_C"))
class AnextlevelPL_ADD_C_pf4121121222 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Plane"))
    UStaticMeshComponent* bpv__Plane_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="SM_Door"))
    UStaticMeshComponent* bpv__SM_Door_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Box"))
    UBoxComponent* bpv__Box_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="DefaultSceneRoot"))
    USceneComponent* bpv__DefaultSceneRoot_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OverlappedComponent"))
    UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OverlappedComponent_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherActor"))
    AActor* b01__K2Node_ComponentBoundEvent_OtherActor_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherComp"))
    UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OtherComp_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherBodyIndex"))
    int32 b01__K2Node_ComponentBoundEvent_OtherBodyIndex_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_bFromSweep"))
    bool b01__K2Node_ComponentBoundEvent_bFromSweep_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_SweepResult"))
    FHitResult b01__K2Node_ComponentBoundEvent_SweepResult_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_AsThird_Person_Character"))
    AThirdPersonCharacter_C_pf2222656877*
b01__K2Node_DynamicCast_AsThird_Person_Character_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_bSuccess"))
    bool b01__K2Node_DynamicCast_bSuccess_pf;
    AnextlevelPL_ADD_C_pf4121121222(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
```

```

        static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
        static void __StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
        void bpf__ExecuteUbergraph_nextlevelPL_ADD_pf_0(int32 bpp__EntryPoint_pf);
        UFUNCTION(meta=(OverrideNativeName="BndEvt_nextlevel_Box_K2Node_ComponentBound
Event_0_ComponentBeginOverlapSignature_DelegateSignature"))
        virtual void
bpf_BndEvt_nextlevel_Box_K2Node_ComponentBoundEvent_0_ComponentBeginOverlapSignature
__DelegateSignature_pf(UPrimitiveComponent* bpp_OverlappedComponent_pf, AAActor*
bpp_OtherActor_pf, UPrimitiveComponent* bpp_OtherComp_pf, int32
bpp_OtherBodyIndex_pf, bool bpp_bFromSweep_pf, FHitResult const&
bpp_SweepResult_pf const);
public:
};

```

2.6.13 Programming Level 2

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/Engine/EngineTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class UBoxComponent;
class USceneComponent;
class UPrimitiveComponent;
class AActor;
class AThirdPersonCharacter_C_pf2222656877;
#include "nextlevelPl_multi_pf4121121222.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/nextlevel/nextlevelPl_multi.nextlevelPl_multi_C",
OverrideNativeName="nextlevelPl_multi_C"))
class AnextlevelPl_multi_C_pf4121121222 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Plane"))
    UStaticMeshComponent* bpv_Plane_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="SM_Door"))
    UStaticMeshComponent* bpv_SM_Door_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Box"))
    UBoxComponent* bpv_Box_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="DefaultSceneRoot"))
    USceneComponent* bpv_DefaultSceneRoot_pf;
    UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OverlappedComponent"))
    UPrimitiveComponent* b01_K2Node_ComponentBoundEvent_OverlappedComponent_pf;
    UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherActor"))
    AActor* b01_K2Node_ComponentBoundEvent_OtherActor_pf;
    UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherComp"))
    UPrimitiveComponent* b01_K2Node_ComponentBoundEvent_OtherComp_pf;
    UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherBodyIndex"))
    int32 b01_K2Node_ComponentBoundEvent_OtherBodyIndex_pf;

```

```

    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_bFromSweep"))
    bool b01_K2Node_ComponentBoundEvent_bFromSweep_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_SweepResult"))
    FHitResult b01_K2Node_ComponentBoundEvent_SweepResult_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_AsThird_Person_Character"))
    AThirdPersonCharacter_C_pf2222656877*
b01_K2Node_DynamicCast_AsThird_Person_Character_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_bSuccess"))
    bool b01_K2Node_DynamicCast_bSuccess_pf;
    AnextlevelPl_multi_C_pf4121121222(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBpDependencyData>&
AssetsToLoad);
    static void __StaticDependencies_DirectlyUsedAssets(TArray<FBpDependencyData>&
AssetsToLoad);
    void bpf__ExecuteUbergraph_nextlevelPl_multi_pf_0(int32 bpp_EntryPoint_pf);
    UFUNCTION(meta=(OverrideNativeName="BndEvt_nextlevel_Box_K2Node_ComponentBound
Event_0_ComponentBeginOverlapSignature_DelegateSignature"))
    virtual void
bpf_BndEvt_nextlevel_Box_K2Node_ComponentBoundEvent_0_ComponentBeginOverlapSignature
__DelegateSignature_pf(UPrimitiveComponent* bpp_OverlappedComponent_pf, AAActor*
bpp_OtherActor_pf, UPrimitiveComponent* bpp_OtherComp_pf, int32
bpp_OtherBodyIndex_pf, bool bpp_bFromSweep_pf, FHitResult const&
bpp_SweepResult_pf const);
public:
};

```

2.6.14 Probability Level

```

#pragma once
#include "Blueprint\BlueprintSupport.h"
#include "Runtime/Engine/Classes/Engine/EngineTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class UBoxComponent;
class USceneComponent;
class UPrimitiveComponent;
class AActor;
class AThirdPersonCharacter_C_pf2222656877;
#include "nextlevelPROB1_pf4121121222.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/nextlevel/nextlevelPROB1.nextlevelPROB1_C",
OverrideNativeName="nextlevelPROB1_C"))
class AnextlevelPROB1_C_pf4121121222 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Plane"))
    UStaticMeshComponent* bpv_Plane_pf;

```

```

UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="SM_Door"))
UStaticMeshComponent* bpv__SM_Door_pf;
UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Box"))
UBoxComponent* bpv__Box_pf;
UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="DefaultSceneRoot"))
USceneComponent* bpv__DefaultSceneRoot_pf;
UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OverlappedComponent"))
UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OverlappedComponent_pf;
UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherActor"))
AActor* b01__K2Node_ComponentBoundEvent_OtherActor_pf;
UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherComp"))
UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OtherComp_pf;
UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherBodyIndex"))
int32 b01__K2Node_ComponentBoundEvent_OtherBodyIndex_pf;
UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_bFromSweep"))
bool b01__K2Node_ComponentBoundEvent_bFromSweep_pf;
UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_SweepResult"))
FHitResult b01__K2Node_ComponentBoundEvent_SweepResult_pf;
UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_AsThird_Person_Character"))
ATHirdPersonCharacter_C_pf2222656877*
b01__K2Node_DynamicCast_AsThird_Person_Character_pf;
UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_bSuccess"))
bool b01__K2Node_DynamicCast_bSuccess_pf;
AnextlevelPROB1_C_pf4121121222(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
static void __StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
void bpf__ExecuteUbergraph_nexlevelPROB1_pf_0(int32 bpp__EntryPoint_pf);
UFUNCTION(meta=(OverrideNativeName="BndEvt_nexlevel_Box_K2Node_ComponentBound
Event_0_ComponentBeginOverlapSignature__DelegateSignature"))
virtual void
bpf__BndEvt__nexlevel_Box_K2Node_ComponentBoundEvent_0_ComponentBeginOverlapSignature
__DelegateSignature_pf(UPrimitiveComponent* bpp__OverlappedComponent_pf, AActor*
bpp__OtherActor_pf, UPrimitiveComponent* bpp__OtherComp_pf, int32
bpp__OtherBodyIndex_pf, bool bpp__bFromSweep_pf, FHitResult const&
bpp__SweepResult_pf const);
public:
};

```

2.6.15 Probability Level 2

#pragma once

```

#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/Engine/EngineTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class UBoxComponent;
class USceneComponent;
class UPrimitiveComponent;
class AActor;
class AThirdPersonCharacter_C_pf2222656877;
#include "nextlevelPROB2_pf4121121222.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/nextlevel/nextlevelPROB2.nextlevelPROB2_C",
OverrideNativeName="nextlevelPROB2_C"))
class AnextlevelPROB2_C_pf4121121222 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Plane"))
        UStaticMeshComponent* bpv__Plane__pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="SM_Door"))
        UStaticMeshComponent* bpv__SM_Door__pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Box"))
        UBoxComponent* bpv__Box__pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="DefaultSceneRoot"))
        USceneComponent* bpv__DefaultSceneRoot__pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OverlappedComponent"))
        UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OverlappedComponent__pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherActor"))
        AActor* b01__K2Node_ComponentBoundEvent_OtherActor__pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherComp"))
        UPrimitiveComponent* b01__K2Node_ComponentBoundEvent_OtherComp__pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_OtherBodyIndex"))
        int32 b01__K2Node_ComponentBoundEvent_OtherBodyIndex__pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_bFromSweep"))
        bool b01__K2Node_ComponentBoundEvent_bFromSweep__pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_ComponentBoundEvent_SweepResult"))
        FHitResult b01__K2Node_ComponentBoundEvent_SweepResult__pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_AsThird_Person_Character"))
        AThirdPersonCharacter_C_pf2222656877*
b01__K2Node_DynamicCast_AsThird_Person_Character__pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_DynamicCast_bSuccess"))
        bool b01__K2Node_DynamicCast_bSuccess__pf;
    AnextlevelPROB2_C_pf4121121222(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
        virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
        static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
        static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
}

```

```

        static void
__StaticDependencies_DirectlyUsedAssets(TArray<FBlueprintDependencyData>&
AssetsToLoad);
    void bpf__ExecuteUbergraph_nextlevelPROB2_pf_0(int32 bpp__EntryPoint_pf);
    UFUNCTION(meta=(OverrideNativeName="BndEvt__nextlevel_Box_K2Node_ComponentBound
Event_0_ComponentBeginOverlapSignature__DelegateSignature"))
    virtual void
bpf__BndEvt__nextlevel_Box_K2Node_ComponentBoundEvent_0_ComponentBeginOverlapSignature
__DelegateSignature_pf(UPrimitiveComponent* bpp__OverlappedComponent_pf, AActor*
bpp__OtherActor_pf, UPrimitiveComponent* bpp__OtherComp_pf, int32
bpp__OtherBodyIndex_pf, bool bpp__bFromSweep_pf, FHitResult const&
bpp__SweepResult_pf const);
public:
};

```

2.6.16 Options Menu

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/UMG/Public/UMG.h"
#include "Runtime/UMG/Public/Blueprint/UserWidget.h"
class UButton;
class UIImage;
#include "options_menu_pf1943380977.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/main_menu/options_menu.options_menu_C",
OverrideNativeName="options_menu_C"))
class Uoptions_menu_C_pf1943380977 : public UUserWidget
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Button",
Category="options_menu", OverrideNativeName="Button"))
    UButton* bpv__Button_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Button_0",
Category="options_menu", OverrideNativeName="Button_0"))
    UButton* bpv__Button_0_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Button_1",
Category="options_menu", OverrideNativeName="Button_1"))
    UButton* bpv__Button_1_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Button_2",
Category="options_menu", OverrideNativeName="Button_2"))
    UButton* bpv__Button_2_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Button_3",
Category="options_menu", OverrideNativeName="Button_3"))
    UButton* bpv__Button_3_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_0",
Category="options_menu", OverrideNativeName="Image_0"))
    UIImage* bpv__Image_0_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_1",
Category="options_menu", OverrideNativeName="Image_1"))
    UIImage* bpv__Image_1_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_2",
Category="options_menu", OverrideNativeName="Image_2"))
    UIImage* bpv__Image_2_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_3",
Category="options_menu", OverrideNativeName="Image_3"))
    UIImage* bpv__Image_3_pf;
}

```

```

UIImage* bpv__Image_3_pf;
UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_4",
Category="options_menu", OverrideNativeName="Image_4"))
UIImage* bpv__Image_4_pf;
UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_5",
Category="options_menu", OverrideNativeName="Image_5"))
UIImage* bpv__Image_5_pf;
Uoptions_menu_C_pf1943380977(const FObjectInitializer& ObjectInitializer = FObjectInitializer::Get());
virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
static void __StaticDependenciesAssets(TArray<FBlueprintDependencyData>& AssetsToLoad);
static void __StaticDependencies_DirectlyUsedAssets(TArray<FBlueprintDependencyData>& AssetsToLoad);
void bpf__ExecuteUbergraph_options_menu_pf_0(int32 bpp__EntryPoint_pf);
void bpf__ExecuteUbergraph_options_menu_pf_1(int32 bpp__EntryPoint_pf);
void bpf__ExecuteUbergraph_options_menu_pf_2(int32 bpp__EntryPoint_pf);
void bpf__ExecuteUbergraph_options_menu_pf_3(int32 bpp__EntryPoint_pf);
void bpf__ExecuteUbergraph_options_menu_pf_4(int32 bpp__EntryPoint_pf);
UFUNCTION(meta=(OverrideNativeName="BndEvt_options_menu_Button_3_K2Node_ComponentBoundEvent_7_OnButtonClickedEvent_DelegateSignature"))
virtual void bpf__BndEvt_options_menu_Button_3_K2Node_ComponentBoundEvent_7_OnButtonClickedEvent_DelegateSignature_pf();
UFUNCTION(meta=(OverrideNativeName="BndEvt_options_menu_Button_2_K2Node_ComponentBoundEvent_6_OnButtonClickedEvent_DelegateSignature"))
virtual void bpf__BndEvt_options_menu_Button_2_K2Node_ComponentBoundEvent_6_OnButtonClickedEvent_DelegateSignature_pf();
UFUNCTION(meta=(OverrideNativeName="BndEvt_options_menu_Button_K2Node_ComponentBoundEvent_5_OnButtonClickedEvent_DelegateSignature"))
virtual void bpf__BndEvt_options_menu_Button_K2Node_ComponentBoundEvent_5_OnButtonClickedEvent_DelegateSignature_pf();
UFUNCTION(meta=(OverrideNativeName="BndEvt_options_menu_Button_1_K2Node_ComponentBoundEvent_4_OnButtonClickedEvent_DelegateSignature"))
virtual void bpf__BndEvt_options_menu_Button_1_K2Node_ComponentBoundEvent_4_OnButtonClickedEvent_DelegateSignature_pf();
UFUNCTION(meta=(OverrideNativeName="BndEvt_options_menu_Button_0_K2Node_ComponentBoundEvent_0_OnButtonClickedEvent_DelegateSignature"))
virtual void bpf__BndEvt_options_menu_Button_0_K2Node_ComponentBoundEvent_0_OnButtonClickedEvent_DelegateSignature_pf();
public:
    virtual void GetSlotNames(TArray<FName>& SlotNames) const override;
    virtual void PreSave(const class ITargetPlatform* TargetPlatform) override;
    virtual void InitializeNativeClassData() override;
};

```

2.6.17 Pause Menu

```

#pragma once
#include "Blueprint\BlueprintSupport.h"
#include "Runtime/UMG/Public/UMG.h"
#include "Runtime/UMG/Public/Blueprint/UserWidget.h"

```

```

class UIImage;
class UButton;
class UHorizontalBox;
class UOptions_menu_C_pf1943380977;
#include "pauseMenu_pf2042440083.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/pauseMenu/pauseMenu.pauseMenu_C",
OverrideNativeName="pauseMenu_C"))
class UpauseMenu_C_pf2042440083 : public UUserWidget
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_0",
Category="pauseMenu", OverrideNativeName="Image_0"))
        UIImage* bpv_Image_0_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_2",
Category="pauseMenu", OverrideNativeName="Image_2"))
        UIImage* bpv_Image_2_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_3",
Category="pauseMenu", OverrideNativeName="Image_3"))
        UIImage* bpv_Image_3_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_4",
Category="pauseMenu", OverrideNativeName="Image_4"))
        UIImage* bpv_Image_4_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_5",
Category="pauseMenu", OverrideNativeName="Image_5"))
        UIImage* bpv_Image_5_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="options",
Category="pauseMenu", OverrideNativeName="options"))
        UButton* bpv_options_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="quit",
Category="pauseMenu", OverrideNativeName="quit"))
        UButton* bpv_quit_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="quit_box",
Category="pauseMenu", OverrideNativeName="quit_box"))
        UHorizontalBox* bpv_quit_box_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Quit to Desktop",
Category="pauseMenu", OverrideNativeName="QuittoDesktop"))
        UButton* bpv_QittoDesktop_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Quit to main menu",
Category="pauseMenu", OverrideNativeName="Quittomainmenu"))
        UButton* bpv_Quittomainmenu_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="resume",
Category="pauseMenu", OverrideNativeName="resume"))
        UButton* bpv_resume_pf;
    UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="New Var 0",
Category="Default", MultiLine="true", OverrideNativeName="NewVar_0"))
        UOptions_menu_C_pf1943380977* bpv_NewVar_0_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="Temp_bool_Variable"))
        bool b01_Temp_bool_Variable_pf;
    UpauseMenu_C_pf2042440083(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBPBlueprintDependencyData>&
AssetsToLoad);
    static void __StaticDependencies_DirectlyUsedAssets(TArray<FBPBlueprintDependencyData>&
AssetsToLoad);
    void bpf_ExecuteUbergraph_pauseMenu_pf_0(int32 bpp_EntryPoint_pf);

```

```

        void bpf__ExecuteUbergraph_pauseMenu_pf_1(int32 bpp__EntryPoint_pf);
        void bpf__ExecuteUbergraph_pauseMenu_pf_2(int32 bpp__EntryPoint_pf);
        void bpf__ExecuteUbergraph_pauseMenu_pf_3(int32 bpp__EntryPoint_pf);
        void bpf__ExecuteUbergraph_pauseMenu_pf_4(int32 bpp__EntryPoint_pf);
    UFUNCTION(meta=(OverrideNativeName="BndEvt_pauseMenu_options_K2Node_ComponentBoundEvent_4_OnButtonClickedEvent_DelegateSignature"))
        virtual void
    bpf__BndEvt_pauseMenu_options_K2Node_ComponentBoundEvent_4_OnButtonClickedEvent_DelegateSignature_pf();
        UFUNCTION(meta=(OverrideNativeName="BndEvt_pauseMenu_QittoDesktop_K2Node_ComponentBoundEvent_3_OnButtonClickedEvent_DelegateSignature"))
        virtual void
    bpf__BndEvt_pauseMenu_QittoDesktop_K2Node_ComponentBoundEvent_3_OnButtonClickedEvent_DelegateSignature_pf();
        UFUNCTION(meta=(OverrideNativeName="BndEvt_pauseMenu_Qittomainmenu_K2Node_ComponentBoundEvent_2_OnButtonClickedEvent_DelegateSignature"))
        virtual void
    bpf__BndEvt_pauseMenu_Qittomainmenu_K2Node_ComponentBoundEvent_2_OnButtonClickedEvent_DelegateSignature_pf();
        UFUNCTION(meta=(OverrideNativeName="BndEvt_pauseMenu_quit_K2Node_ComponentBoundEvent_1_OnButtonClickedEvent_DelegateSignature"))
        virtual void
    bpf__BndEvt_pauseMenu_quit_K2Node_ComponentBoundEvent_1_OnButtonClickedEvent_DelegateSignature_pf();
        UFUNCTION(meta=(OverrideNativeName="BndEvt_pauseMenu_resume_K2Node_ComponentBoundEvent_0_OnButtonClickedEvent_DelegateSignature"))
        virtual void
    bpf__BndEvt_pauseMenu_resume_K2Node_ComponentBoundEvent_0_OnButtonClickedEvent_DelegateSignature_pf();
public:
    virtual void GetSlotNames(TArray<FName>& SlotNames) const override;
    virtual void PreSave(const class ITargetPlatform* TargetPlatform) override;
    virtual void InitializeNativeClassData() override;
};

```

2.6.18 Scratch

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/UMG/Public/UMG.h"
#include "Runtime/UMG/Public/Blueprint/UserWidget.h"
class UButton;
class UIImage;
class UWebBrowser;
class Ushowscratch_C_pf2495410777;
#include "showscratch_pf2495410777.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/NewFolder4/showscratch.showscratch_C",
OverrideNativeName="showscratch_C"))
class Ushowscratch_C_pf2495410777 : public UUserWidget
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Button_0",
Category="showscratch", OverrideNativeName="Button_0"))
        UButton* bpv__Button_0_pf;
    UPROPERTY(BlueprintReadWrite, Export, meta=(DisplayName="Image_1",
Category="showscratch", OverrideNativeName="Image_1"))
        UIImage* bpv__Image_1_pf;

```

```

        UPROPERTY(BlueprintReadWrite,           Export,           meta=(DisplayName="Image_2",
Category="showscratch", OverrideNativeName="Image_2"))
        UImage* bpv__Image_2_pf;
        UPROPERTY(BlueprintReadWrite,           Export,           meta=(DisplayName="WebBrowser_0",
Category="showscratch", OverrideNativeName="WebBrowser_0"))
        UWebBrowser* bpv__WebBrowser_0_pf;
        UPROPERTY(Transient,                         DuplicateTransient,
meta=(OverrideNativeName="Temp_int_Variable"))
        int32 b01__Temp_int_Variable_pf;
        UPROPERTY(Transient,                         DuplicateTransient,
meta=(OverrideNativeName="CallFunc_GetAllWidgetsOfClass_FoundWidgets"))
        TArray<Ushowscratch_C_pf2495410777*>
b01__CallFunc_GetAllWidgetsOfClass_FoundWidgets_pf;
        UPROPERTY(Transient,                         DuplicateTransient,
meta=(OverrideNativeName="CallFunc_Array_Get_Item"))
        Ushowscratch_C_pf2495410777* b01__CallFunc_Array_Get_Item_pf;
        Ushowscratch_C_pf2495410777(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
        virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
        static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
        static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
        static void __StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
        void bpf__ExecuteUbergraph_showscratch_pf_0(int32 bpp__EntryPoint_pf);
        UFUNCTION(meta=(OverrideNativeName="BndEvt__showscratch_Button_0_K2Node_ComponentBoundEvent_0_OnButtonClickedEvent__DelegateSignature"))
        virtual void bpf__BndEvt__showscratch_Button_0_K2Node_ComponentBoundEvent_0_OnButtonClickedEvent__DelegateSignature_pf();
public:
        virtual void GetSlotNames(TArray<FName>& SlotNames) const override;
        virtual void PreSave(const class ITargetPlatform* TargetPlatform) override;
        virtual void InitializeNativeClassData() override;
};

```

2.6.19 Menna Whole Animation

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Animation/AnimClassData.h"
#include "Runtime/Engine/Classes/Animation/AnimNode_Root.h"
#include "Runtime/Engine/Classes/Animation/AnimNode_TransitionResult.h"
#include "Runtime/Engine/Classes/Animation/AnimNode_SequencePlayer.h"
#include "Runtime/AnimGraphRuntime/Public/AnimNodes/AnimNode_StateResult.h"
#include "Runtime/AnimGraphRuntime/Public/AnimNodes/AnimNode_BlendSpacePlayer.h"
#include "Runtime/Engine/Classes/Animation/AnimNodeStateMachine.h"
#include "Runtime/Engine/Classes/Animation/AnimNodeBase.h"
#include "Runtime/Engine/Classes/Animation/AnimInstance.h"
#include "ThirdPerson_AnimBP_pf1380583971.generated.h"
UCLASS(config=Engine,                         Blueprintable,           BlueprintType,
meta=(ReplaceConverted="/Game/PN_interactiveSpruceForest/UE4_Mannequin/Mannequin/Animations/ThirdPerson_AnimBP.ThirdPerson_AnimBP_C",
OverrideNativeName="ThirdPerson_AnimBP_C"))
class UThirdPerson_AnimBP_C_pf1380583971 : public UAnimInstance
{
public:

```

```

GENERATED_BODY()
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_Root"))
FAnimNode_Root bpv_AnimGraphNode_Root_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_TransitionResult_3"))
FAnimNode_TransitionResult bpv_AnimGraphNode_TransitionResult_3_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_TransitionResult_2"))
FAnimNode_TransitionResult bpv_AnimGraphNode_TransitionResult_2_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_TransitionResult_1"))
FAnimNode_TransitionResult bpv_AnimGraphNode_TransitionResult_1_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_TransitionResult"))
FAnimNode_TransitionResult bpv_AnimGraphNode_TransitionResult_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_SequencePlayer_2"))
FAnimNode_SequencePlayer bpv_AnimGraphNode_SequencePlayer_2_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_StateResult_3"))
FAnimNode_StateResult bpv_AnimGraphNode_StateResult_3_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_SequencePlayer_1"))
FAnimNode_SequencePlayer bpv_AnimGraphNode_SequencePlayer_1_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_StateResult_2"))
FAnimNode_StateResult bpv_AnimGraphNode_StateResult_2_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_SequencePlayer"))
FAnimNode_SequencePlayer bpv_AnimGraphNode_SequencePlayer_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_StateResult_1"))
FAnimNode_StateResult bpv_AnimGraphNode_StateResult_1_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_BlendSpacePlayer"))
FAnimNode_BlendSpacePlayer bpv_AnimGraphNode_BlendSpacePlayer_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_StateResult"))
FAnimNode_StateResult bpv_AnimGraphNode_StateResult_pf;
UPROPERTY(meta=(OverrideNativeName="AnimGraphNode_StateMachine"))
FAnimNode_StateMachine bpv_AnimGraphNode_StateMachine_pf;
UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Is in Air?", Category="Default", OverrideNativeName="IsInAir?"))
    bool bpv_IsInAirk_pfzy;
    UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Speed", Category="Default", OverrideNativeName="Speed"))
        float bpv_Speed_pf;
        UPROPERTY(Transient, DuplicateTransient, meta=(OverrideNativeName="K2Node_Event_DeltaTimeX"))
            float b01_K2Node_Event_DeltaTimeX_pf;
            UThirdPerson_AnimBP_C_pf1380583971(const FObjectInitializer& ObjectInitializer = FObjectInitializer::Get());
                virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph) override;
                    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
                    static void __StaticDependenciesAssets(TArray<FBpDependencyData>& AssetsToLoad);
                    static void __StaticDependencies_DirectlyUsedAssets(TArray<FBpDependencyData>& AssetsToLoad);
                        void __InitAllAnimNodes();
                        void __InitAnimNode_AnimGraphNode_Root();
                        void __InitAnimNode_AnimGraphNode_TransitionResult_3();
                        void __InitAnimNode_AnimGraphNode_TransitionResult_2();
                        void __InitAnimNode_AnimGraphNode_TransitionResult_1();
                        void __InitAnimNode_AnimGraphNode_TransitionResult();
                        void __InitAnimNode_AnimGraphNode_SequencePlayer_2();
                        void __InitAnimNode_AnimGraphNode_StateResult_3();
                        void __InitAnimNode_AnimGraphNode_SequencePlayer_1();
                        void __InitAnimNode_AnimGraphNode_StateResult_2();
                        void __InitAnimNode_AnimGraphNode_SequencePlayer();
                        void __InitAnimNode_AnimGraphNode_StateResult_1();
                        void __InitAnimNode_AnimGraphNode_BlendSpacePlayer();
                        void __InitAnimNode_AnimGraphNode_StateResult();

```

```

        void __InitAnimNode_AnimGraphNode_StateMachine();
        void bpf_ExecuteUbergraph_ThirdPerson_AnimBP_pf_0(int32 bpp_EntryPoint_pf);
        void bpf_ExecuteUbergraph_ThirdPerson_AnimBP_pf_1(int32 bpp_EntryPoint_pf);
        void bpf_ExecuteUbergraph_ThirdPerson_AnimBP_pf_2(int32 bpp_EntryPoint_pf);
        void bpf_ExecuteUbergraph_ThirdPerson_AnimBP_pf_3(int32 bpp_EntryPoint_pf);
        void bpf_ExecuteUbergraph_ThirdPerson_AnimBP_pf_4(int32 bpp_EntryPoint_pf);
        void bpf_ExecuteUbergraph_ThirdPerson_AnimBP_pf_5(int32 bpp_EntryPoint_pf);
    UFUNCTION(meta=(Comment="/** Executed when the Animation is updated *",
ToolTip="Executed when the Animation is updated", CppFromBpEvent,
OverrideNativeName="BlueprintUpdateAnimation"))
    virtual void bpf_BlueprintUpdateAnimation_pf(float bpp_DeltaTimeX_pf);
    UFUNCTION(meta=(OverrideNativeName="EvaluateGraphExposedInputs_ExecuteUbergraph
_ThirdPerson_AnimBP_AnimGraphNode_TransitionResult_EB26C4B44509776D1C9FA6991E047C32"))
    virtual
bpf_EvaluateGraphExposedInputs_ExecuteUbergraph_ThirdPerson_AnimBP_AnimGraphNode_Tran
sitionResult_EB26C4B44509776D1C9FA6991E047C32_pf();
    UFUNCTION(meta=(OverrideNativeName="EvaluateGraphExposedInputs_ExecuteUbergraph
_ThirdPerson_AnimBP_AnimGraphNode_TransitionResult_175FFF54400CA0EC412B7083B0989D7E"))
    virtual
bpf_EvaluateGraphExposedInputs_ExecuteUbergraph_ThirdPerson_AnimBP_AnimGraphNode_Tran
sitionResult_175FFF54400CA0EC412B7083B0989D7E_pf();
    UFUNCTION(meta=(OverrideNativeName="EvaluateGraphExposedInputs_ExecuteUbergraph
_ThirdPerson_AnimBP_AnimGraphNode_TransitionResult_F867B5374C7EFB9ED9010FA7431019DF"))
    virtual
bpf_EvaluateGraphExposedInputs_ExecuteUbergraph_ThirdPerson_AnimBP_AnimGraphNode_Tran
sitionResult_F867B5374C7EFB9ED9010FA7431019DF_pf();
    UFUNCTION(meta=(OverrideNativeName="EvaluateGraphExposedInputs_ExecuteUbergraph
_ThirdPerson_AnimBP_AnimGraphNode_TransitionResult_EA982A1F4C5300ED41A13CAD26E05A19"))
    virtual
bpf_EvaluateGraphExposedInputs_ExecuteUbergraph_ThirdPerson_AnimBP_AnimGraphNode_Tran
sitionResult_EA982A1F4C5300ED41A13CAD26E05A19_pf();
    UFUNCTION(meta=(OverrideNativeName="EvaluateGraphExposedInputs_ExecuteUbergraph
_ThirdPerson_AnimBP_AnimGraphNode_BlendSpacePlayer_02DCCD344B15638E3A268A84A40F216E"))
    virtual
bpf_EvaluateGraphExposedInputs_ExecuteUbergraph_ThirdPerson_AnimBP_AnimGraphNode_Blen
dSpacePlayer_02DCCD344B15638E3A268A84A40F216E_pf();
    UFUNCTION(BlueprintCallable, meta=(BlueprintInternalUseOnly="true",
AnimBlueprintFunction="true", Category, OverrideNativeName="AnimGraph"))
    virtual void bpf_AnimGraph_pf(/*out*/ FPoseLink& bpp_AnimGraph_pf);
public:
};

```

2.6.20 Third Person Character

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/InputCore/Classes/InputCoreTypes.h"
#include "Runtime/CoreUObject/Public/UObject/NoExportTypes.h"
#include "Runtime/Engine/Classes/GameFramework/Character.h"
class UPN_Bending_Component_C_pf1076788970;
class UCameraComponent;
class USpringArmComponent;
#include "ThirdPersonCharacter_pf789184499.generated.h"
UCLASS(config=Game, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/PN_interactiveSpruceForest/UE4_Mannequin/ThirdPersonChar
acter.ThirdPersonCharacter_C", OverrideNativeName="ThirdPersonCharacter_C"))
class AThirdPersonCharacter_C_pf789184499 : public ACharacter
{
public:

```

```

GENERATED_BODY()
UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="PN_Bending_Component"))
UPN_Bending_Component_C_pf1076788970* bpv__PN_Bending_Component_pf;
UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="MyCharacter",
OverrideNativeName="FollowCamera"))
UCameraComponent* bpv__FollowCamera_pf;
UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="MyCharacter",
OverrideNativeName="CameraBoom"))
USpringArmComponent* bpv__CameraBoom_pf;
UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Base Turn
Rate", Category="Default", OverrideNativeName="BaseTurnRate"))
float bpv__BaseTurnRate_pf;
UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Base Look Up
Rate", Category="Default", OverrideNativeName="BaseLookUpRate"))
float bpv__BaseLookUpRate_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="Temp_byte_Variable")) DuplicateTransient,
TEnumAsByte<ETouchIndex::Type> b01__Temp_byte_Variable_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="Temp_struct_Variable")) DuplicateTransient,
FVector b01__Temp_struct_Variable_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_InputActionEvent_Key_2")) DuplicateTransient,
FKey b01__K2Node_InputActionEvent_Key_2_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_InputActionEvent_Key_1")) DuplicateTransient,
FKey b01__K2Node_InputActionEvent_Key_1_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_InputActionEvent_Key")) DuplicateTransient,
FKey b01__K2Node_InputActionEvent_Key_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="Temp_struct_Variable_1")) DuplicateTransient,
FKey b01__Temp_struct_Variable_1_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_InputKeyEvent_Key_1")) DuplicateTransient,
FKey b01__K2Node_InputKeyEvent_Key_1_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_InputKeyEvent_Key")) DuplicateTransient,
FKey b01__K2Node_InputKeyEvent_Key_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="Temp_struct_Variable_2")) DuplicateTransient,
FKey b01__Temp_struct_Variable_2_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_InputAxisEvent_AxisValue_5")) DuplicateTransient,
float b01__K2Node_InputAxisEvent_AxisValue_5_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_InputAxisEvent_AxisValue_4")) DuplicateTransient,
float b01__K2Node_InputAxisEvent_AxisValue_4_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="CallFunc_BreakRotator_Roll")) DuplicateTransient,
float b01__CallFunc_BreakRotator_Roll_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="CallFunc_BreakRotator_Pitch")) DuplicateTransient,
float b01__CallFunc_BreakRotator_Pitch_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="CallFunc_BreakRotator_Yaw")) DuplicateTransient,
float b01__CallFunc_BreakRotator_Yaw_pf;
UPROPERTY(Transient, meta=(OverrideNativeName="K2Node_InputAxisEvent_AxisValue_3")) DuplicateTransient,
float b01__K2Node_InputAxisEvent_AxisValue_3_pf;

```

```

    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_InputTouchEvent_FingerIndex"))
    TEnumAsByte<ETouchIndex::Type> b01_K2Node_InputTouchEvent_FingerIndex_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_InputTouchEvent_Location"))
    FVector b01_K2Node_InputTouchEvent_Location_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_InputAxisEvent_AxisValue_2"))
    float b01_K2Node_InputAxisEvent_AxisValue_2_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_InputAxisEvent_AxisValue_1"))
    float b01_K2Node_InputAxisEvent_AxisValue_1_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_InputAxisEvent_AxisValue"))
    float b01_K2Node_InputAxisEvent_AxisValue_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_InputTouchEvent_FingerIndex_1"))
    TEnumAsByte<ETouchIndex::Type> b01_K2Node_InputTouchEvent_FingerIndex_1_pf;
    UPROPERTY(Transient,                                         DuplicateTransient,
meta=(OverrideNativeName="K2Node_InputTouchEvent_Location_1"))
    FVector b01_K2Node_InputTouchEvent_Location_1_pf;
ATHirdPersonCharacter_C_pf789184499(const FObjectInitializer& ObjectInitializer
= FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBPBlueprintDependencyData>&
AssetsToLoad);
    static void __StaticDependencies_DirectlyUsedAssets(TArray<FBPBlueprintDependencyData>&
AssetsToLoad);
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_0(int32
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_1(int32
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_2(int32
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_3(int32
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_4(int32
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_5(int32
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_6(int32
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_7(int32
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_8(int32
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_9(int32
    void bpp__EntryPoint_pf();                                bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_10(int32
    void bpp__EntryPoint_pf();                               bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_11(int32
    void bpp__EntryPoint_pf());                             bpf__ExecuteUbergraph_ThirdPersonCharacter_pf_12(int32
    UFUNCTION(meta=(OverrideNativeName="InpAxisEvt_LookUpRate_K2Node_InputAxisEvent
_53"))
    virtual void bpf__InpAxisEvt_LookUpRate_K2Node_InputAxisEvent_53_pf(float
bpp__AxisValue_pf);

```

```

    UFUNCTION(meta=(OverrideNativeName="InpAxisEvt_TurnRate_K2Node_InputAxisEvent_3
8"))
        virtual void bpf_InpAxisEvt_TurnRate_K2Node_InputAxisEvent_38_pf(float
bpp_AxisValue_pf);
    UFUNCTION(meta=(OverrideNativeName="InpAxisEvt_LookUp_K2Node_InputAxisEvent_40"
))
        virtual void bpf_InpAxisEvt_LookUp_K2Node_InputAxisEvent_40_pf(float
bpp_AxisValue_pf);
    UFUNCTION(meta=(OverrideNativeName="InpAxisEvt_Turn_K2Node_InputAxisEvent_47"))
        virtual void bpf_InpAxisEvt_Turn_K2Node_InputAxisEvent_47_pf(float
bpp_AxisValue_pf);
    UFUNCTION(meta=(OverrideNativeName="InpAxisEvt_MoveForward_K2Node_InputAxisEven
t_79"))
        virtual void bpf_InpAxisEvt_MoveForward_K2Node_InputAxisEvent_79_pf(float
bpp_AxisValue_pf);
    UFUNCTION(meta=(OverrideNativeName="InpAxisEvt_MoveRight_K2Node_InputAxisEvent_
90"))
        virtual void bpf_InpAxisEvt_MoveRight_K2Node_InputAxisEvent_90_pf(float
bpp_AxisValue_pf);
    UFUNCTION(meta=(OverrideNativeName="InpActEvt_LeftShift_K2Node_InputKeyEvent_0"
))
        virtual void bpf_InpActEvt_LeftShift_K2Node_InputKeyEvent_0_pf(FKey
bpp_Key_pf);
    UFUNCTION(meta=(OverrideNativeName="InpActEvt_LeftShift_K2Node_InputKeyEvent_1"
))
        virtual void bpf_InpActEvt_LeftShift_K2Node_InputKeyEvent_1_pf(FKey
bpp_Key_pf);
    UFUNCTION(meta=(OverrideNativeName="InpActEvt_Jump_K2Node_InputActionEvent_0"))
        virtual void bpf_InpActEvt_Jump_K2Node_InputActionEvent_0_pf(FKey
bpp_Key_pf);
    UFUNCTION(meta=(OverrideNativeName="InpActEvt_Jump_K2Node_InputActionEvent_1"))
        virtual void bpf_InpActEvt_Jump_K2Node_InputActionEvent_1_pf(FKey
bpp_Key_pf);
    UFUNCTION(meta=(OverrideNativeName="InpActEvt_ResetVR_K2Node_InputActionEvent_2
"))
        virtual void bpf_InpActEvt_ResetVR_K2Node_InputActionEvent_2_pf(FKey
bpp_Key_pf);
    UFUNCTION(meta=(OverrideNativeName="InpTchEvt_Pressed"))
        virtual void bpf_InpTchEvt_Pressed_pf(ETouchIndex::Type bpp_FingerIndex_pf,
FVector bpp_Location_pf);
    UFUNCTION(meta=(OverrideNativeName="InpTchEvt_Released"))
        virtual void bpf_InpTchEvt_Released_pf(ETouchIndex::Type bpp_FingerIndex_pf,
FVector bpp_Location_pf);
public:
};

```

2.6.21 Main Menu

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/UMG/Public/UMG.h"
#include "Runtime/UMG/Public/Blueprint/UserWidget.h"
class UButton;
class UIImage;
#include "main_menu_widget_pf1943380977.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/main_menu/main_menu_widget.main_menu_widget_C",
OverrideNativeName="main_menu_widget_C"))
class Umain_menu_widget_C_pf1943380977 : public UUserWidget
{
public:

```

```

GENERATED_BODY()
UPROPERTY(BlueprintReadWrite,           Export,          meta=(DisplayName="Exit",
Category="main_menu_widget", OverrideNativeName="Exit"))
UButton* bpv__Exit_pf;
UPROPERTY(BlueprintReadWrite,           Export,          meta=(DisplayName="Image_0",
Category="main_menu_widget", OverrideNativeName="Image_0"))
UImage* bpv__Image_0_pf;
UPROPERTY(BlueprintReadWrite,           Export,          meta=(DisplayName="Image_622",
Category="main_menu_widget", OverrideNativeName="Image_622"))
UImage* bpv__Image_622_pf;
UPROPERTY(BlueprintReadWrite,           Export,          meta=(DisplayName="Image_623",
Category="main_menu_widget", OverrideNativeName="Image_623"))
UImage* bpv__Image_623_pf;
UPROPERTY(BlueprintReadWrite,           Export,          meta=(DisplayName="Image_624",
Category="main_menu_widget", OverrideNativeName="Image_624"))
UImage* bpv__Image_624_pf;
UPROPERTY(BlueprintReadWrite,           Export,          meta=(DisplayName="Image_625",
Category="main_menu_widget", OverrideNativeName="Image_625"))
UImage* bpv__Image_625_pf;
UPROPERTY(BlueprintReadWrite,           Export,          meta=(DisplayName="Options",
Category="main_menu_widget", OverrideNativeName="Options"))
UButton* bpv__Options_pf;
UPROPERTY(BlueprintReadWrite,   Export,          meta=(DisplayName="Scratch Freeplay",
Category="main_menu_widget", OverrideNativeName="ScratchFreeplay"))
UButton* bpv__ScratchFreeplay_pf;
UPROPERTY(BlueprintReadWrite,   Export,          meta=(DisplayName="startbutton",
Category="main_menu_widget", OverrideNativeName="startbutton"))
UButton* bpv__startbutton_pf;
Umain_menu_widget_C_pf1943380977(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
static void __StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
void void __ExecuteUbergraph_main_menu_widget_pf_0(int32 bpp__EntryPoint_pf);
void void __ExecuteUbergraph_main_menu_widget_pf_1(int32 bpp__EntryPoint_pf);
void void __ExecuteUbergraph_main_menu_widget_pf_2(int32 bpp__EntryPoint_pf);
void void __ExecuteUbergraph_main_menu_widget_pf_3(int32 bpp__EntryPoint_pf);
void void __ExecuteUbergraph_main_menu_widget_pf_4(int32 bpp__EntryPoint_pf);
UFUNCTION(meta=(OverrideNativeName="BndEvt_main_menu_widget_ScratchFreeplay_K2
Node_ComponentBoundEvent_3_OnButtonClickedEvent_DelegateSignature"))
virtual void
bpf__BndEvt__main_menu_widget_ScratchFreeplay_K2Node_ComponentBoundEvent_3_OnButtonCli
ckedEvent_DelegateSignature_pf();
UFUNCTION(meta=(OverrideNativeName="BndEvt_main_menu_widget_Options_K2Node_Com
ponentBoundEvent_2_OnButtonClickedEvent_DelegateSignature"))
virtual void
bpf__BndEvt__main_menu_widget_Options_K2Node_ComponentBoundEvent_2_OnButtonClickedEven
t_DelegateSignature_pf();
UFUNCTION(meta=(OverrideNativeName="BndEvt_main_menu_widget_Exit_K2Node_Compon
entBoundEvent_1_OnButtonClickedEvent_DelegateSignature"))
virtual void
bpf__BndEvt__main_menu_widget_Exit_K2Node_ComponentBoundEvent_1_OnButtonClickedEvent_
DelegateSignature_pf();
UFUNCTION(meta=(OverrideNativeName="BndEvt_main_menu_widget_startbutton_K2Node
_ComponentBoundEvent_0_OnButtonClickedEvent_DelegateSignature"))

```

```

        virtual void
bpf__BndEvt__main_menu_widget_startbutton_K2Node_ComponentBoundEvent_0_OnButtonClicked
Event__DelegateSignature__pf();
    UFUNCTION(BlueprintCosmetic, meta=(Category="User Interface", Comment="/**\t *
Called after the underlying slate widget is constructed. Depending on how the slate
object is used\t * this event may be called multiple times due to adding and removing
from the hierarchy.\t * If you need a true called-once-when-created event, use
OnInitialized.\t */", Keywords="Begin Play", ToolTip="Called after the underlying slate
widget is constructed. Depending on how the slate object is usedthis event may be
called multiple times due to adding and removing from the hierarchy.If you need a true
called-once-when-created event, use OnInitialized.", CppFromBpEvent,
OverrideNativeName="Construct"))
    virtual void bpf__Construct__pf();
public:
    virtual void GetSlotNames(TArray<FName>& SlotNames) const override;
    virtual void PreSave(const class ITargetPlatform* TargetPlatform) override;
    virtual void InitializeNativeClassData() override;
};

Board
#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/CoreUObject/Public/UObject/NoExportTypes.h"
#include "Runtime/Engine/Classes/Components/ActorComponent.h"
#include "recievingSlates__pf1010915279.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/recievingSlates.recievingSlates_C",
OverrideNativeName="recievingSlates_C"))
class UrecievingSlates_C__pf1010915279 : public UActorComponent
{
public:
    GENERATED_BODY()
    UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Actor Speed",
Category="Default", OverrideNativeName="ActorSpeed"))
        float bpv__ActorSpeed__pf;
    UPROPERTY(EditDefaultsOnly, BlueprintReadWrite, meta=(DisplayName="Trail Pos",
Category="Default", OverrideNativeName="TrailPos"))
        FVector bpv__TrailPos__pf;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Actor Width
Scale", Category="Default", OverrideNativeName="Actor Width Scale"))
        float bpv__ActorxWidthxScale__pFTT;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Bending Strength
Scale", Category="Default", OverrideNativeName="Bending Strength Scale"))
        float bpv__BendingxStrengthxScale__pFTT;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Character Max
Speed", Category="Default", OverrideNativeName="Character Max Speed"))
        float bpv__CharacterxMaxxSpeed__pFTT;
    UPROPERTY(EditAnywhere, BlueprintReadWrite, meta=(DisplayName="Path Length",
Category="Default", tooltip, OverrideNativeName="Path Length"))
        float bpv__PathxLength__pFT;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_Event_DeltaSeconds"))
        float b01__K2Node_Event_DeltaSeconds__pf;
    UrecievingSlates_C__pf1010915279(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBlueprintDependencyData>&
AssetsToLoad);
    static void __StaticDependencies_DirectlyUsedAssets(TArray<FBlueprintDependencyData>&
AssetsToLoad);

```

```

    void bpf__ExecuteUbergraph_recivingSlates_pf_0(int32 bpp__EntryPoint_pf);
    UFUNCTION(meta=(Comment="/** Event called every frame if tick is enabled */",
    DisplayName="Tick", ToolTip="Event called every frame if tick is enabled",
    CppFromBpEvent, OverrideNativeName="ReceiveTick"))
        virtual void bpf__ReceiveTick_pf(float bpp__DeltaSeconds_pf);
public:
};

```

2.6.22 Question and Answer

```

#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UStaticMeshComponent;
class USceneComponent;
class AActor;
#include "showwebsiteai_pf2495410777.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/NewFolder4/showwebsiteai.showwebsiteai_C",
OverrideNativeName="showwebsiteai_C"))
class Ashowwebsiteai_C_pf2495410777 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Cube"))
        UStaticMeshComponent* bpv__Cube_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="DefaultSceneRoot"))
        USceneComponent* bpv__DefaultSceneRoot_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="K2Node_Event_OtherActor"))
        AActor* b01_K2Node_Event_OtherActor_pf;
    UPROPERTY(Transient, DuplicateTransient,
meta=(OverrideNativeName="Temp_bool_Variable"))
        bool b01_Temp_bool_Variable_pf;
    Ashowwebsiteai_C_pf2495410777(const FObjectInitializer& ObjectInitializer =
FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBPDependencyData>&
AssetsToLoad);
    static void __StaticDependencies_DirectlyUsedAssets(TArray<FBPDependencyData>&
AssetsToLoad);
    void bpf__ExecuteUbergraph_showwebsiteai_pf_0(int32 bpp__EntryPoint_pf);
    UFUNCTION(meta=(Category="Collision", Comment="/** \t *\tEvent when this actor
overlaps another actor, for example a player walking into a trigger.\t *\tFor events
when objects have a blocking collision, for example a player hitting a wall, see \'Hit\'\t
events.\t *\t@note Components on both this and the other Actor must have
bGenerateOverlapEvents set to true to generate overlap events.\t */",
DisplayName="ActorBeginOverlap", ToolTip="Event when this actor overlaps another actor,
for example a player walking into a trigger.For events when objects have a blocking
collision, for example a player hitting a wall, see \'Hit\' events.@note Components on
both this and the other Actor must have bGenerateOverlapEvents set to true to generate
overlap events.", CppFromBpEvent, OverrideNativeName="ReceiveActorBeginOverlap"))
        virtual void bpf__ReceiveActorBeginOverlap_pf(AActor* bpp__OtherActor_pf);
public:
};

```

2.6.23 Video Player

```
#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UParticleSystemComponent;
class UAudioComponent;
#include "Blueprint_Effect_Sparks_pf3452383900.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/MobileStarterContent/Blueprints/Blueprint_Effect_Sparks.Blueprint_Effect_Sparks_C", OverrideNativeName="Blueprint_Effect_Sparks_C"))
class ABlueprint_Effect_Sparks_C_pf3452383900 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="Sparks"))
        UParticleSystemComponent* bpv_Sparks_pf;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Audio",
OverrideNativeName="Sparks Audio"))
        UAudioComponent* bpv_SparksxAudio_pft;
    ABlueprint_Effect_Sparks_C_pf3452383900(const FObjectInitializer&
ObjectInitializer = FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
    static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
    static void __StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
public:
};
```

Audio Player

```
#pragma once
#include "Blueprint/BlueprintSupport.h"
#include "Runtime/Engine/Classes/GameFramework/Actor.h"
class UAudioComponent;
class UParticleSystemComponent;
#include "Blueprint_Effect_Fire_pf3452383900.generated.h"
UCLASS(config=Engine, Blueprintable, BlueprintType,
meta=(ReplaceConverted="/Game/MobileStarterContent/Blueprints/Blueprint_Effect_Fire.Blueprint_Effect_Fire_C", OverrideNativeName="Blueprint_Effect_Fire_C"))
class ABlueprint_Effect_Fire_C_pf3452383900 : public AActor
{
public:
    GENERATED_BODY()
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Audio",
OverrideNativeName="Fire Audio"))
        UAudioComponent* bpv_FirexAudio_pft;
    UPROPERTY(BlueprintReadWrite, NonTransactional, meta=(Category="Default",
OverrideNativeName="P_Fire"))
        UParticleSystemComponent* bpv_P_Fire_pf;
    ABlueprint_Effect_Fire_C_pf3452383900(const FObjectInitializer&
ObjectInitializer = FObjectInitializer::Get());
    virtual void PostLoadSubobjects(FObjectInstancingGraph* OuterInstanceGraph)
override;
    static void __CustomDynamicClassInitialization(UDynamicClass* InDynamicClass);
```

```

    static void __StaticDependenciesAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
    static
__StaticDependencies_DirectlyUsedAssets(TArray<FBueprintDependencyData>&
AssetsToLoad);
public:
};

```

2.6.24 Game Build Script

```
{
    "manifestChunkId": -1,
    "pluginName": "NativizedAssets",
    "outputDir": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
",
    "moduleDependencies": [
        "Package'/Script/CoreUObject'",
        "Package'/Script/Engine'",
        "Package'/Script/MagicLeapARPin'",
        "Package'/Script/NavigationSystem'",
        "Package'/Script/SlateCore'",
        "Package'/Script/UMG'",
        "Package'/Script/WebBrowserWidget'",
        "Package'/Script/AnimGraphRuntime'",
        "Package'/Script/ClothingSystemRuntimeNv'",
        "Package'/Script/HeadMountedDisplay'",
        "Package'/Script/InputCore'",
        "Package'/Script/PhysicsCore'",
        "Package'/Script/Blu'",
        "Package'/Script/MediaAssets'",
        "Package'/Script/Landscape'",
        "Package'/Script/StaticMeshDescription'",
        "Package'/Script/MeshDescription'",
        "Package'/Script/AudioExtensions'",
        "Package'/Script/AudioPlatformConfiguration'",
        "Package'/Script/AIModule'",
        "Package'/Script/GameplayTasks'"
    ]
}
```

```

    "Package'/Script/GameplayTags'",
    "Package'/Script/ClothingSystemRuntimeInterface'",
    "Package'/Script/PropertyAccess'",
    "Package'/Script/PropertyPath'",
    "Package'/Script/MovieScene'",
    "Package'/Script/Slate'",
    "Package'/Script/AudioMixer'",
    "Package'/Script/MediaUtils'

],
"convertedAssets":
{

"/MagicLeapPassableWorld/MagicLeapARPinInfoActor.MagicLeapARPinInfoActor_C":


{
    "assetType": "Class'/Script/Engine.Blueprint'",
    "targetObjPath":


"/MagicLeapPassableWorld/MagicLeapARPinInfoActor.MagicLeapARPinInfoActor_C",

        "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/MagicLeapARPinInfoActor_pf2635949152.h",
        "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/MagicLeapARPinInfoActor_pf2635949152.cpp"
    },
    "/Game/NewFolder4/showscratch.showscratch_C":


{
    "assetType": "Class'/Script/UMGEeditor.WidgetBlueprint'",
    "targetObjPath": "/Game/NewFolder4/showscratch.showscratch_C",

        "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/showscratch_pf2495410777.h",
        "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/showscratch_pf2495410777.cpp"
    },
    "/Game/main_menu/main_menu_widget.main_menu_widget_C":


{

```

```

    "assetType": "Class'/Script/UMGEdition.WidgetBlueprint'",
    "targetObjPath":
"/Game/main_menu/main_menu_widget.main_menu_widget_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/main_menu_widget_pf1943380977.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/main_menu_widget_pf1943380977.cpp"
},
"/Game/main_menu/options_menu.options_menu_C":
{
    "assetType": "Class'/Script/UMGEdition.WidgetBlueprint'",
    "targetObjPath": "/Game/main_menu/options_menu.options_menu_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/options_menu_pf1943380977.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/options_menu_pf1943380977.cpp"
},
"/Game/pauseMenu/pauseMenu.pauseMenu_C":
{
    "assetType": "Class'/Script/UMGEdition.WidgetBlueprint'",
    "targetObjPath": "/Game/pauseMenu/pauseMenu.pauseMenu_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/pauseMenu_pf2042440083.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/pauseMenu_pf2042440083.cpp"
},
"/Game/Meena/NewAnimBlueprint.NewAnimBlueprint_C":
{
    "assetType": "Class'/Script/Engine.AnimBlueprint'",
    "targetObjPath":
"/Game/Meena/NewAnimBlueprint.NewAnimBlueprint_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/NewAnimBlueprint_pf2112534721.h",

```

```

        "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/NewAnimBlueprint_pf2112534721.cpp"
    },
    "/Game/buttons.buttons_C":
{
    "assetType": "Class'/Script/UMGEeditor.WidgetBlueprint'",
    "targetObjPath": "/Game/buttons.buttons_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/buttons_pf1010915279.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/buttons_pf1010915279.cpp"
},
"/Game/ThirdPersonBP/Blueprints/ThirdPersonCharacter.ThirdPersonCharacter_C":
{
    "assetType": "Class'/Script/Engine.Blueprint'",
    "targetObjPath":
"/Game/ThirdPersonBP/Blueprints/ThirdPersonCharacter.ThirdPersonCharacter_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/ThirdPersonCharacter_pf2222656877.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/ThirdPersonCharacter_pf2222656877.cpp"
},
"/Game/NewFolder4/showwebsite.showwebsite_C":
{
    "assetType": "Class'/Script/Engine.Blueprint'",
    "targetObjPath": "/Game/NewFolder4/showwebsite.showwebsite_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/showwebsite_pf2495410777.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/showwebsite_pf2495410777.cpp"
},
"/Game/NewFolder2/NewBlueprint.NewBlueprint_C":

```

```

{
    "assetType": "Class'/Script/Engine.Blueprint'",
    "targetObjPath": "/Game/NewFolder2/NewBlueprint.NewBlueprint_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/NewBlueprint_pf1113082999.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/NewBlueprint_pf1113082999.cpp"
},
"/Engine/EngineSky/BP_Sky_Sphere.BP_Sky_Sphere_C":
{
    "assetType": "Class'/Script/Engine.Blueprint'",
    "targetObjPath": "/Engine/EngineSky/BP_Sky_Sphere.BP_Sky_Sphere_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/BP_Sky_Sphere_pf1379775596.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/BP_Sky_Sphere_pf1379775596.cpp"
},
"/Game/browser/webBrowser.webBrowser_C":
{
    "assetType": "Class'/Script/UMGEeditor.WidgetBlueprint'",
    "targetObjPath": "/Game/browser/webBrowser.webBrowser_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/webBrowser_pf3995835070.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/webBrowser_pf3995835070.cpp"
},
"/Game/browser/browserSCreen.browserSCreen_C":
{
    "assetType": "Class'/Script/Engine.Blueprint'",
    "targetObjPath": "/Game/browser/browserSCreen.browserSCreen_C",
}

```

```

    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/browserSCreen_pf3995835070.h",

    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/browserSCreen_pf3995835070.cpp"

},

"/Game/Blocks/Print.Print_C":

{

    "assetType": "Class'/Script/Engine.Blueprint'",

    "targetObjPath": "/Game/Blocks/Print.Print_C",

    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/Print_pf2665110325.h",

    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/Print_pf2665110325.cpp"

},

"/Game/Blocks/plus.plus_C":

{

    "assetType": "Class'/Script/Engine.Blueprint'",

    "targetObjPath": "/Game/Blocks/plus.plus_C",

    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/plus_pf2665110325.h",

    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/plus_pf2665110325.cpp"

},

"/Game/Blocks/Parameter.Parameter_C":

{

    "assetType": "Class'/Script/Engine.Blueprint'",

    "targetObjPath": "/Game/Blocks/Parameter.Parameter_C",

    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/Parameter_pf2665110325.h",

    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/Parameter_pf2665110325.cpp"

},

```

```

"/Game/Blocks/multiplication.multiplication_C":
{
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    "targetObjPath": "/Game/Blocks/multiplication.multiplication_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/multiplication_pf2665110325.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/multiplication_pf2665110325.cpp"
},
"/Game/Blocks/minus.minus_C":
{
    "assetType": "Class'/Script/Engine.Blueprint'",
    "targetObjPath": "/Game/Blocks/minus.minus_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/minus_pf2665110325.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/minus_pf2665110325.cpp"
},
"/Game/Blocks/Loop.Loop_C":
{
    "assetType": "Class'/Script/Engine.Blueprint'",
    "targetObjPath": "/Game/Blocks/Loop.Loop_C",
    "generatedHeaderPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Public/Loop_pf2665110325.h",
    "generatedCppPath": "C:/Users/shafi/Documents/Unreal
Projects/projectfor499/projectfor499/Intermediate/Plugins/NativizedAssets/Windows/Game
/Source/NativizedAssets/Private/Loop_pf2665110325.cpp"
},
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}

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3 Results

We set out to build a system that especially targets our current state and culture. For that we have built a low resource, low requirement and appropriate for our culture app for our country. We have successfully created that. We have used Bengali text all around and also used Bengali language as audio. We hope that this project will reach its

target audience and be helpful in lifting Bangladeshi youth in topics that they are not naturally exposed to. We present our results below.

3.1 Level Demonstrations:

Below are the looks at the levels we created.

3.1.1 Look At All the Levels

This figure shows our first programming level.

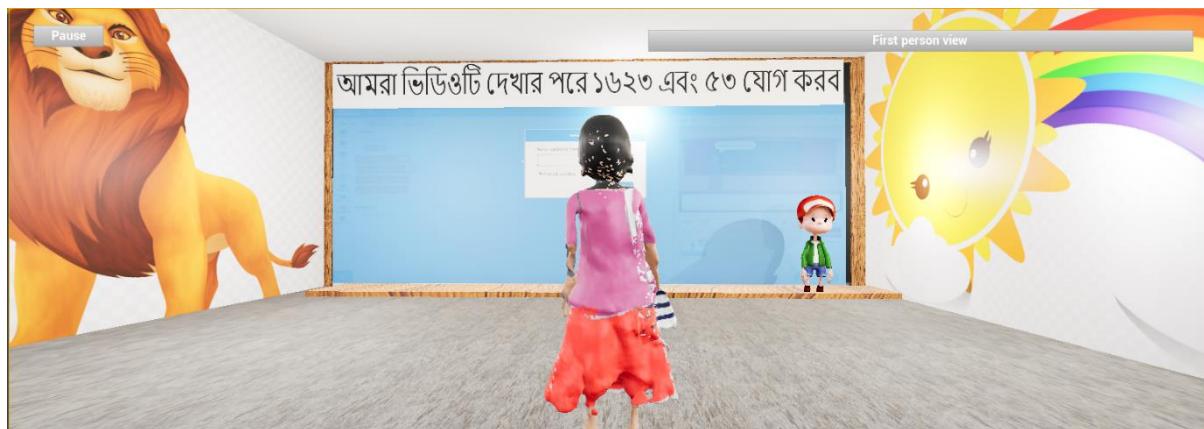


Figure 39. Programming Level addition

This is a snapshot from our first level. Which is a programming level. In this Level we teach the students how to add two numbers using scratch.

This figure shows our second programming level.

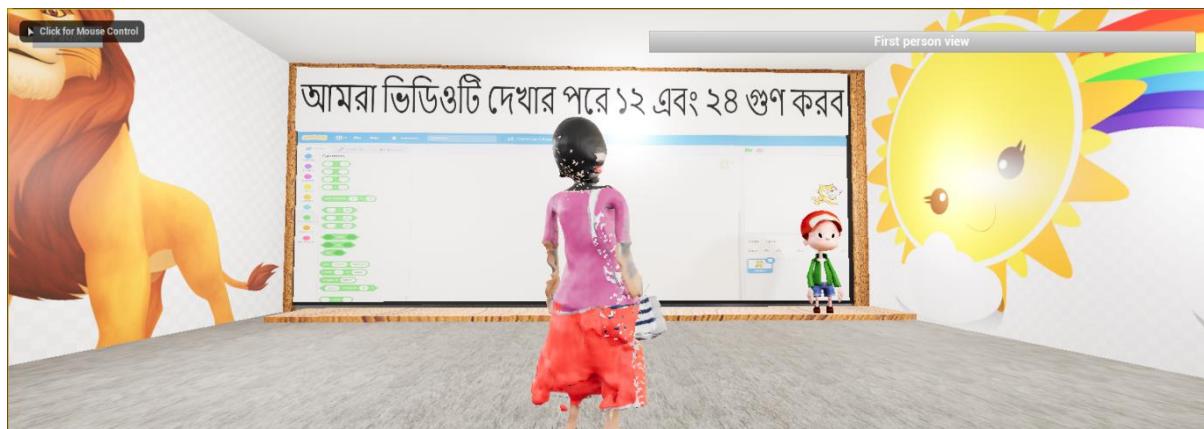


Figure 40. Programming Level Multiplication

This is a snapshot from our second level. Which is a programming level. In this Level we teach the students how to multiply two numbers using scratch.

This figure shows our third level Chemistry.



Figure 41. Chemistry Level

This is a snapshot from third level which contains a chemistry lesson and question and answers. We teach paper Chromatography here.

This figure shows our fourth level Physics.

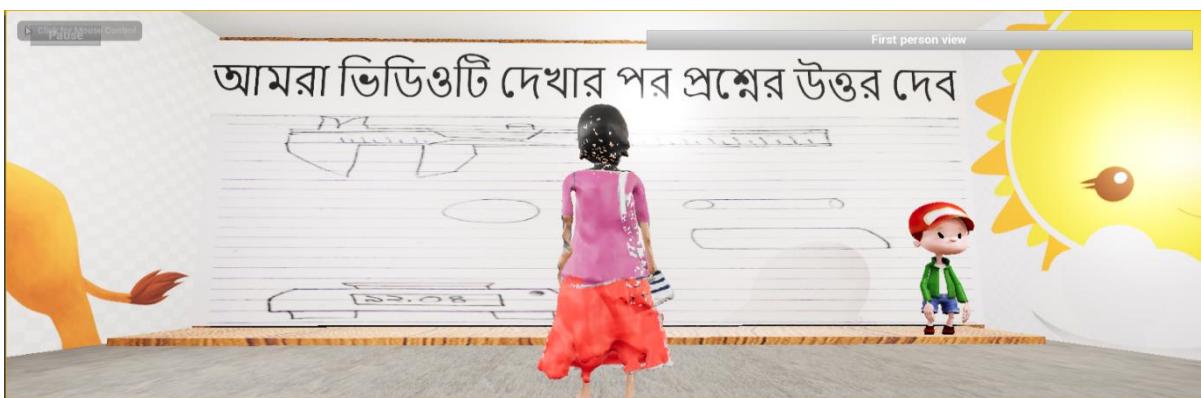


Figure 42. Physics Level

This is a snapshot from our fourth level which contains a physics lesson and question and answer section. We teach about vernier calipers here.

This figure shows our fifth level and our first probability level.

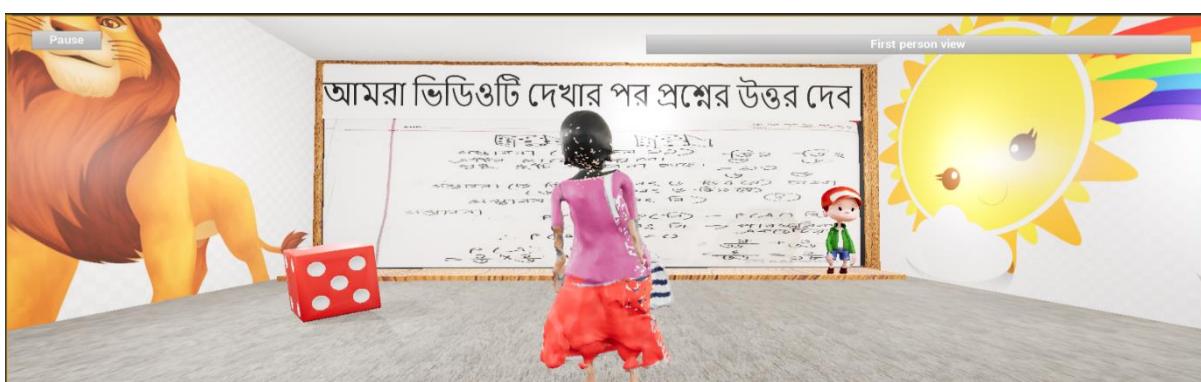


Figure 43. Probability Level 1

This is a snapshot our fifth level and first probability level. This level contains an interactable dice, a lesson on probability using dice and question and answer's part.

This figure shows our sixth and second probability level.

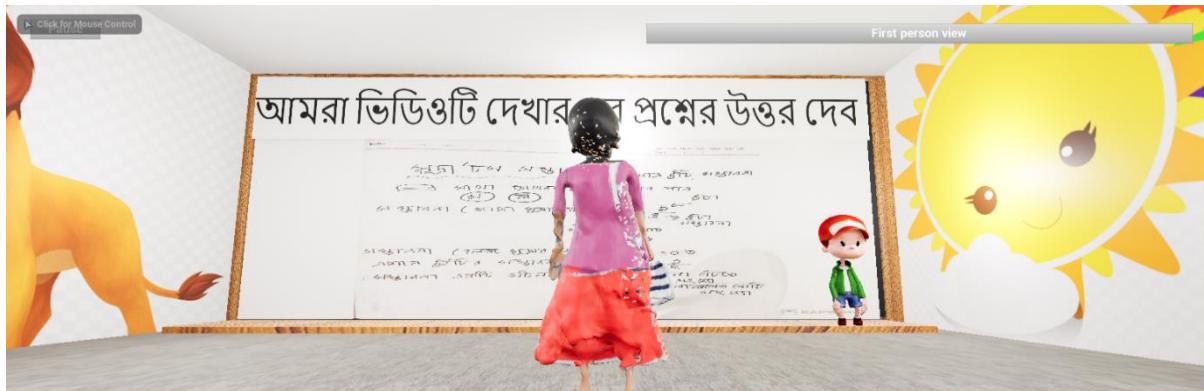


Figure 44. Probability Level 2

This is a snapshot our sixth level and first probability level. This level contains an interactable coin, a lesson on probability using coin and question and answer's part.

This Figure shows our seventh level and first AI level.

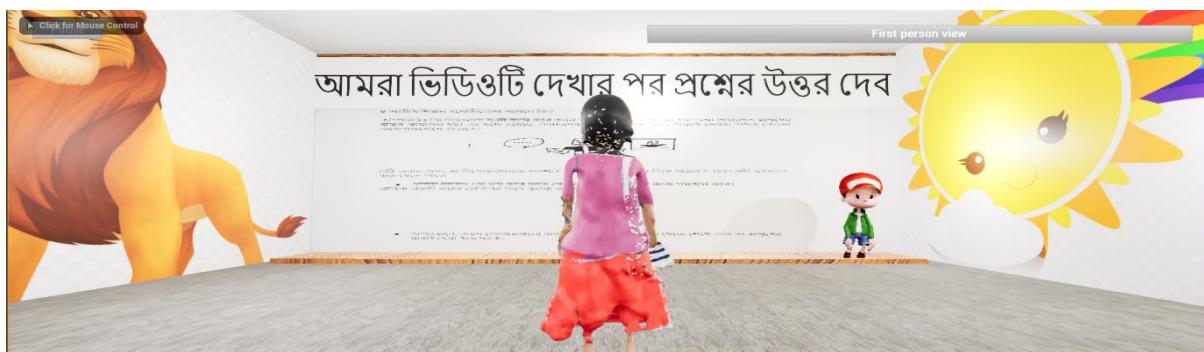


Figure 45. AI Level 1

This is snapshot form our seventh and first AI level. We give a basic lesson on AI and question and answer part is also included in this level.

This figure shows our Eighth and second AI level.

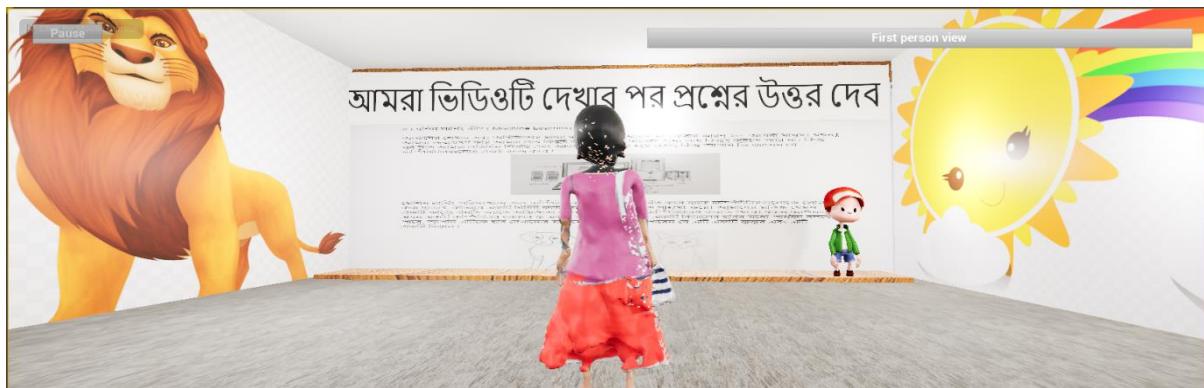


Figure 46. AI Level 2

This is snapshot form our seventh and first AI level. We give a basic lesson on ML and question and answer part is also included in this level.

3.2 Menus Demonstration

Here we will take a look at all the different menus.

3.2.1 Scratch Demonstration

This figure shows a in-game look of MIT-Scratch.

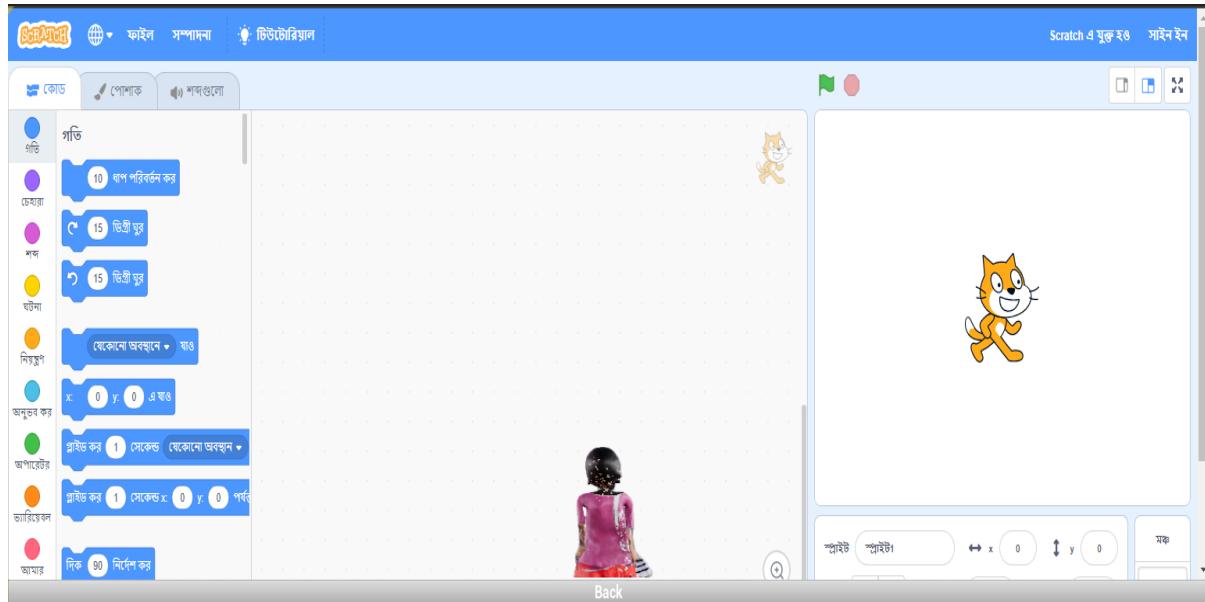


Figure 47. Scratch Demonstration

This is the in-game view of the MIT-scratch. We can access this form two programming levels by walking in to the designated area or from the main menu.

3.2.2 Main Menu

This figure shows the in-game view of our main menu.



Figure 48. Main Menu

Users will be greeted to this view when the boot up the game. Then they can choose the four options stated to use the four parts of the system.

3.2.3 Options Menu

This figure shows the in-game view of the options menu.



Figure 49. Options Menu

Players can get to this menu by pressing the options menu. From here they can choose the three graphics presets we made for there corresponding system.

3.2.4 Pause Menu

This figure shows the in-game view of the pause menu.

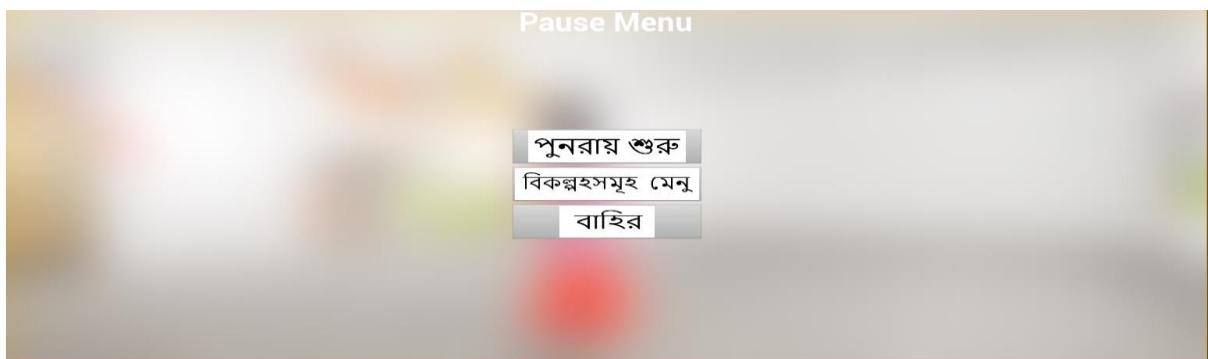


Figure 50. Pause Menu

Players can come to this menu pressing P, Escape on their keyboard or pressing pause on there screen. From here they can resume or go to options or exit.

3.2.5 Pause Menu with Quit Menu

This figure shows the in-game view of quit menu.

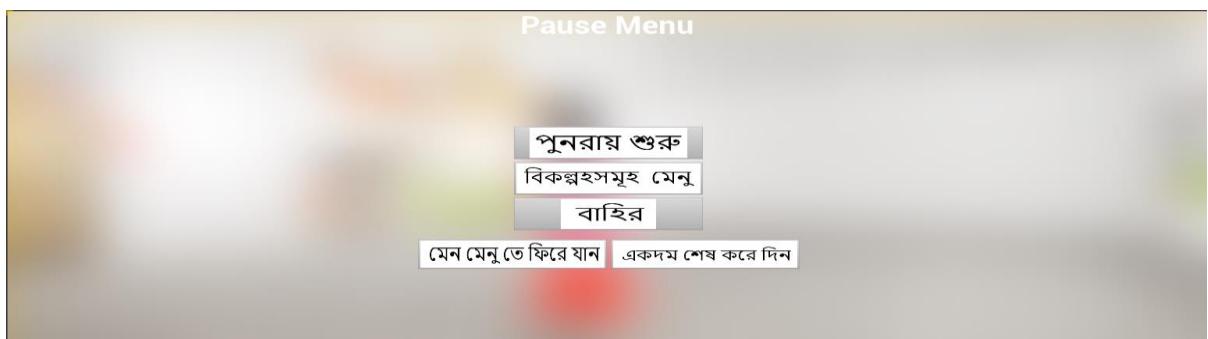


Figure 51. Pause Menu with quit menu

When player will select the quit option from the pause menu, they will see these two options to either go to main menu or quit completely.

3.2.6 Question and Answer Window

This figure shows the in-game view how question and answers windows.

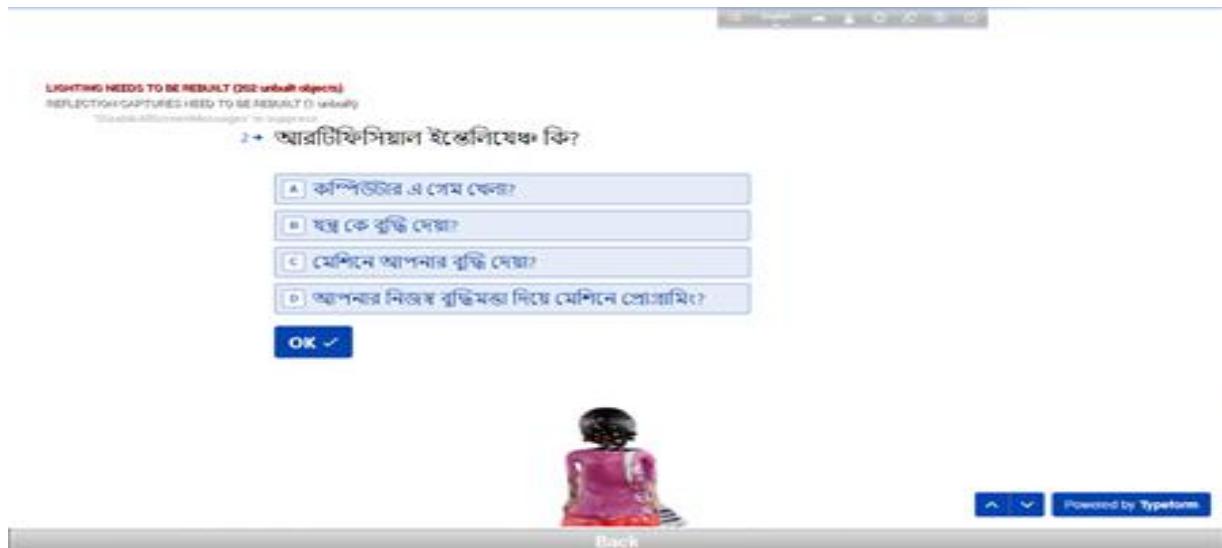


Figure 52. Question and Answer Window

Players will be greeted to this view when the step into the designated area given below.

This figure shows the in-game view of the location for Q&A.

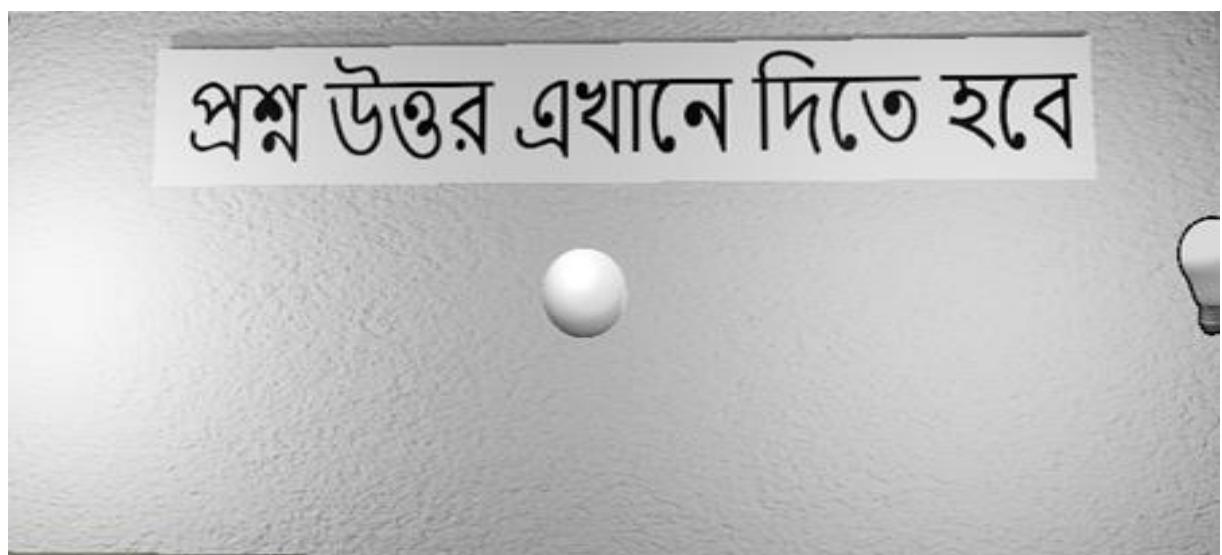


Figure 53. Question and Answer Window Location

When the players move to this location which is an invisible box trigger then the trigger will engage the widget and the browser and then the player will see the screen in figure 52.

3.3 VR Mode Demonstration

This figure shows the in-game VR view.



Figure 54. VR Mode

We have developed a separate application for VR. Everything is same with addition the VR capabilities and head tracking. We need to use VR box/Cardboard like device in conjunction with a VR controller bundled with VR Box like devices.

3.4 Survey

We have conducted a survey in Faridpur at Moyejuddin High School for our system. The permission was given by Mr. Mominul Islam. It was more of a focus group discussion. But we also included a question answer part.

3.4.1 Student feedback

They have loved the platform after learning something new. They even attended the MCQ's. Most of them loved the simple interface and some of them wanted to see some characters, some animations, attractive sounds and story lines. They wanted better graphics design also. They have enjoyed the tutorials. They have learned the basics of AI, ML, Probability, Sciences and programming. Some students have very sharp knowledge about these topics because they used to follow YouTube for learning. They even suggested that we should make tutorials like these. Some of the students did not understand due to their attention or lack of attentiveness. Overall, I have gotten mixed reviews about the platform. Due to students' shouts I've managed to clear only 3 students' reviews and the rest of them have felt shy only when I have tried to record their voices.

Some of them have come in front of the recorder. There's a table about how many students liked the specific topics. Some were confused about the system because their parents don't let them use any devices in their home. They were totally confused and shy to answer anything.

3.4.2 Focus group Discussion results

This figure shows the focus group discussion results of our survey.

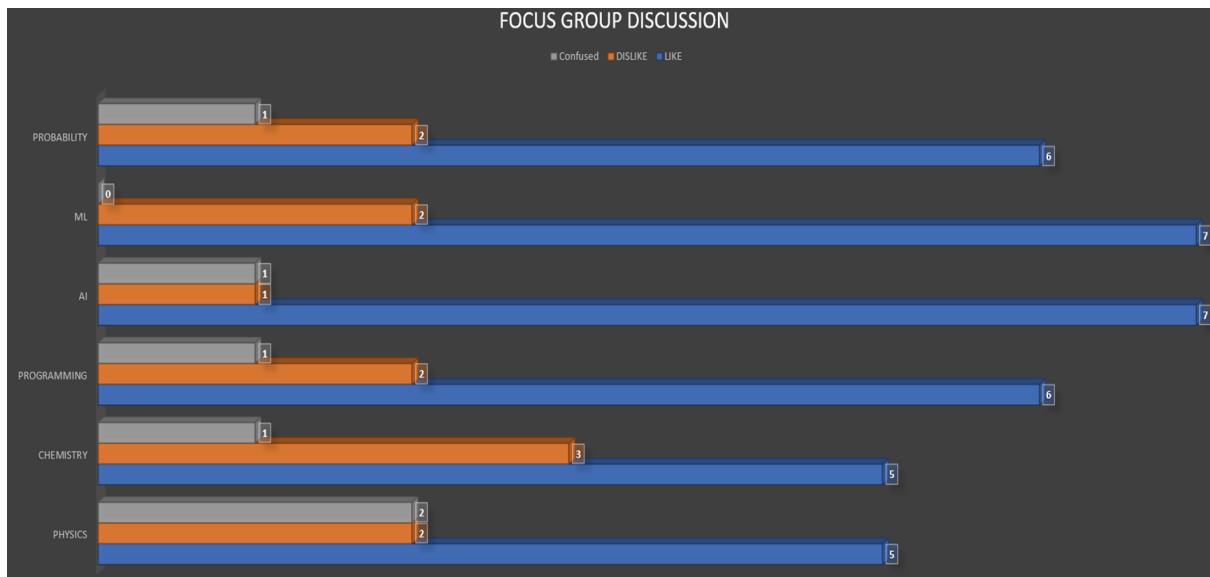


Figure 55. Focus Group Chart

In this chart we can see all the responses from each of the sections from our survey. Majority of the students liked each part. Most positive response we got from the ai section, and most disliked being chemistry, and the most confused and mixed feelings being physics.

3.4.3 Question And Answer

We did a survey with a handful of students by showing them all the features of our system, we made them watch our educational video tutorials and asked them to solve the questions given after the tutorials. Here is the chart of how they responded to the questions.

3.4.3.1 Question List

- আপনার নাম কি?
- মেশিন লারনিং কি?
- বাচ্চা দের মত করে কম্পিউটার এর সেখা কি বলি আমরা
- এখানে গাড়ি গুলো কে কম্পিউটার যে বুঝতে পারসে তা কি ভাবে হচ্ছে?
- আমরা মেশিন লারনিং কম্পিউটার কে সিখাই কিসের সাহজেজ?
- রিটেনশন ফ্যাক্টর মান জন্য সূত্র কি?

- ক্রমাটগ্রাফ কি?
- কেন আমরা এই পরীক্ষায় কাগজ ব্যবহার করব?
- ভার্নিয়ার ক্যালিপারে কয়টি স্কেল আছে?
- ভার্নিয়ার ক্যালিপার ব্যবহার করে কোন দৈর্ঘ্য পরিমাপের সূত্র কি?
- কোথায় আপনি বস্তুটি ভার্নিয়ার ক্যালিপারে রাখার কথা ?
- একটি ছক্কা/পাশায় কয়টি দিক থাকে?
- দুটি 6-পার্শ্বযুক্ত পাশার/ছক্কার জন্য একটি নির্দিষ্ট সংখ্যা বা কম ঘূর্ণায়মান হওয়ার সম্ভাবনা কত?
- একটি মুদ্রার কয়টি দিক আছে?
- একটি লেজ পাওয়ার সম্ভাবনা শতকরা কত?
- সম্ভাব্য ফলাফল দেখানোর জন্য একটি টেবিল লিখুন।

3.4.3.2 Results

This figure shows the Q&A results in a chart format.

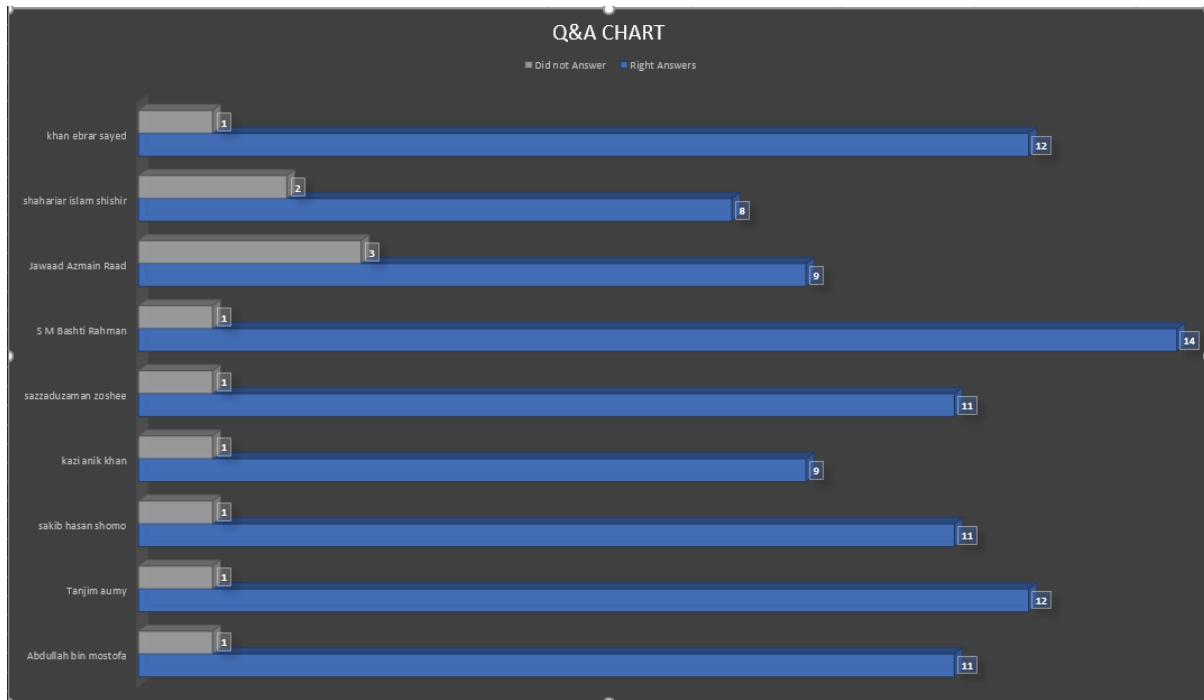


Figure 56. Q&A chart

Most of the students got most of the questions right. With one exception. No one answered the question সম্ভাব্য ফলাফল দেখানোর জন্য একটি টেবিল লিখুন from the coin probability level.

4 Conclusion

Our main goal is to make technology accessible to all the children around the country, and also, making the project user-friendly for users who are illiterate or semi-illiterate by making it text-free and adding audio logs and animations. This initiative will help the users learn the basics of the science branches, AI, and programming very easily. We have already tested this system in the hand of our target demographic. There feedback is positive on this system. From there feedback we can say that we have achieved what we set out to. Further we hope that this project will reach students in need at rural areas. In conclusion, we have built a system that is lightweight, low resource and tailored for our rural Bengali culture.

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