POWER OF AR AND VR

CLASS-VR LESSONS



Co-funded by the European Union



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JACEK KAWAŁEK





INPORTANT

FIRST OF ALL, YOU NEED TO CAREFULLY EXPLAIN AND ENFORCEMENT THE SAFETY RULES FOR USING 3D GLASSES





WE IMPLEMENT OUR PROJECTS ON TWO SYSTEMS

CLASS VR



HTC







FOR HTC GLASSES WE USE UNITY



THIS IS A GREAT SYSTEM BUT IT ALLOWS YOU TO INVOLVE ONE PERSON







OF COURSE THIS CAN BE SOLVED DIFFERENTLY BY CREATING WEBSITES OR APPLICATIONS FOR USE ON A COMPUTER OR SMARTPHONE







A SOLUTION THAT CAN BE USED MORE EFFECTIVELY IN CLASSES IS TO USE THE CLASS-VR SYSTEM







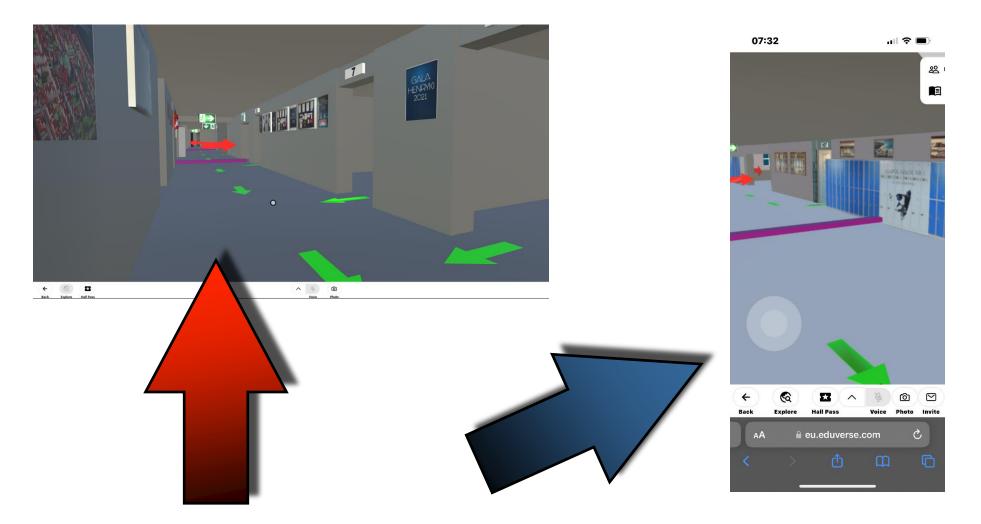
IN THIS SYSTEM WE CAN ANALYZE MANY STUDENTS AT THE SAME TIME







ADDITIONALLY, WE CAN ALSO USEMULTIPLE COMPUTERS AND SMARTPHONES







I WILL NOT EXPLAIN HOW TO USE THIS SYSTEM

ALL INFORMATIONAND TUTORIALS ARE VERY WELL PRESENTEDON THE INTERNET





EVERY SYSTEM HAS SOME LIMITATIONS

HOWEVER, IN ORDER TO USE IT EFFECTIVELY, YOU HAVE TO SIMPLY KNOW IT









NA PRZYKŁAD

ANIMATION THAT WE DID AS STANDARD FOR BIOLOGY IN BLENDER WILL LOOK VERY GOOD ON A BIG SCREEN





BIOLOGY PROTEIN BIOSYNTHESIS

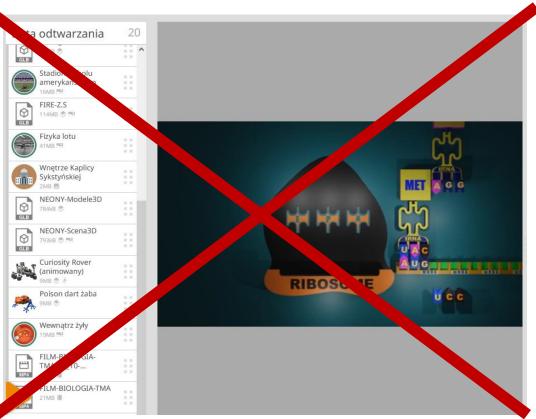
YouTube

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HOWEVER, IT IS NOT AT ALL SUITABLE FOR PRESENTATION IN 3D GLASSES





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TO SHOW THIS MOVIE IN 3D GLASSES IT NEEDS TO BE RENDERED IN

4K

IN

10 FOKAL LENGTH





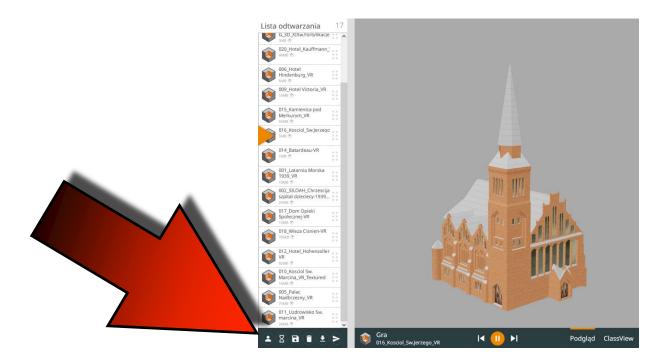
BIOLOGY PROTEIN BIOSYNTHESIS 4K 10 FOCAL LENGH VouTube

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THE USE OF 3D GLASSES IN CLASSES SHOULD BE INTRODUCED GRADUALLY BY USING THE AVAILABLE TOOLS THAT NEED TO BE KNOWN VERY WELL







THE USE OF 3D GLASSES SHOULD NOT BE LONGER THAN 10-15 MINUTES DURING A LESSON





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← 360-SALA 208 Akcje d⊃ Przemianować Edytuj notatki nauczyciela 🖹 Edytuj notatki ucznia Usuń utwór Głoska bezdźwieczna 🖾 Usuń znacznik prostokątny Dodaj znacznik stereo (góra-dół) Dodaj znacznik stereo (obok siebi... Ustaw ikone z podglądu Właściciel A I. Kawalek 360-SALA 208 20 RMR III JPEG Podglad



360 PHOTOS AND VIDEOS LOOK VERY GOOD IN THIS SYSTEM WHICH CAN BE EASILY TAKEN WITH A DRONE OR 360 CAMERA









WHEN CREATING YOUR OWN MODELS AND SCENES IT IS GOOD TO USE ICONS THAT MAKE IT VERY EASY TO FIND THE RIGHT MODEL





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FOR BETTER EFFECTS DURING CLASSESWE CAN COMBINE 3D GLASSES WITH 3D PRINTING

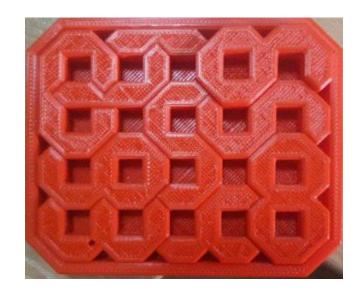
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Size (bytes)	666 180	
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YOU CAN PRESENT A SHORT ANIMATIONIN GLASSES OR ON THE SCREEN AND AFTER TURNING IT OFF GIVE THE PRINTED BLOCKS TO BE ARRANGED



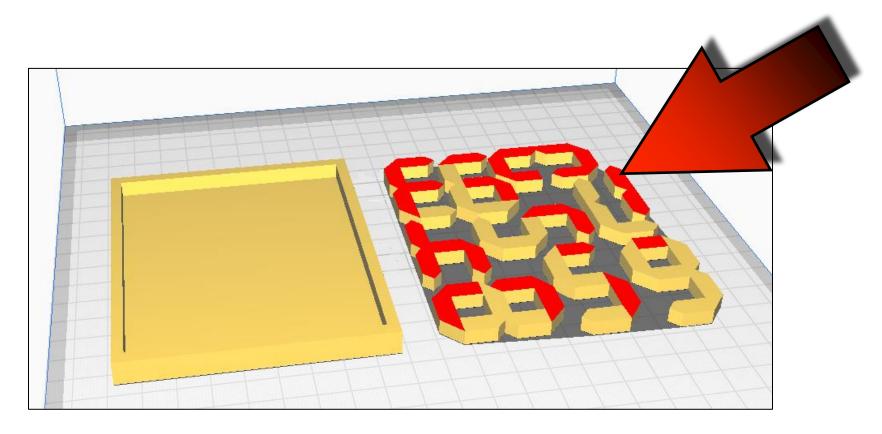


https://youtu.be/lzmngNM3iWl





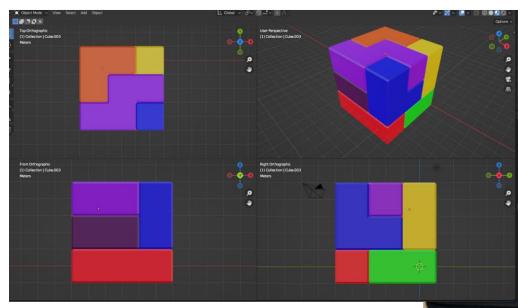
WHEN PRINTING, REMEMBER THAT THE WALLS IN THE MODELS ARE CORRECTLY REVERSEDIN THE ULTIMAKER CURA PROGRAM, THE RED COLOR INFORMS US ABOUT THE WRONG WALLS. THIS IS DESCRIBED IN THE TRAINING ON NUMBERS







SIMILARLY, WE CAN USE OUR PREVIOUS EXERCISE AND USE MAGNETIC CUBES









FOR BIOLOGY LESSONS WE HAVE PRINTED OVER 600 BLOCKS WHICH ARE VERY ENGAGED IN STUDENTS









POWER OF AR AND VR CLASS-VR SYSTEM CAN BE USED IN TWO WAYS

WHEN IT IS CONNECTED TO THE INTERNET

OR WHEN THERE IS NO POSSIBILITY TO USE IT





IN BOTH CASES, I RECOMMEND UPLOADING THE MODELS TO THE GLASSES BEFORE THE CLASSES

EVEN THOUGH WE REMOVE THEM FROM THE LIST, THEY WILL BE WRITTEN IN THE GLASSES

AND WHEN YOU CALL THEM AGAIN THEY WILL BE LOADED QUICKLY





HOWEVER, WHEN WE DO NOT HAVE ACCESS TO THE INTERNET, WE NEED TO UPLOAD THE ENTIRE LIST

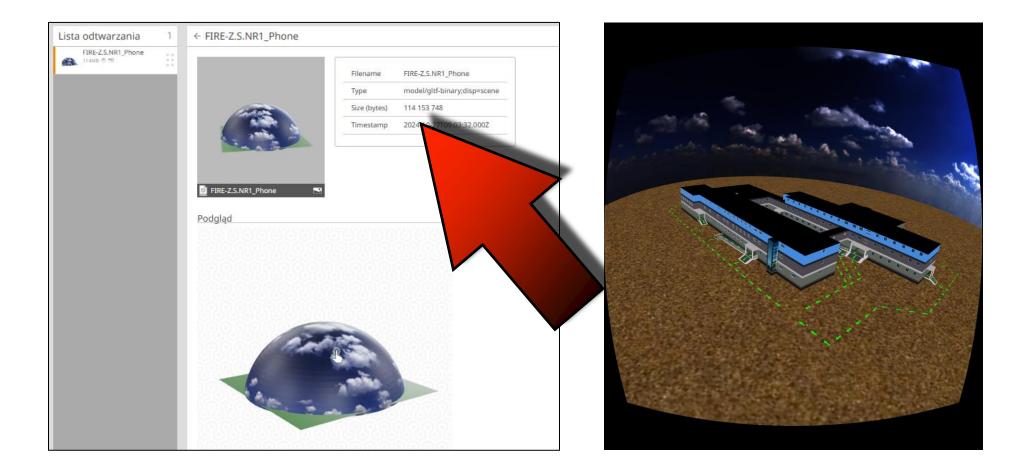
THIS IS A VERY USEFUL WAY WHEN WE GO SOMEWHERE TO CONDUCT TRAINING AND WE DON'T KNOW WHAT THE INTERNET ACCESS WILL BE LIKE.



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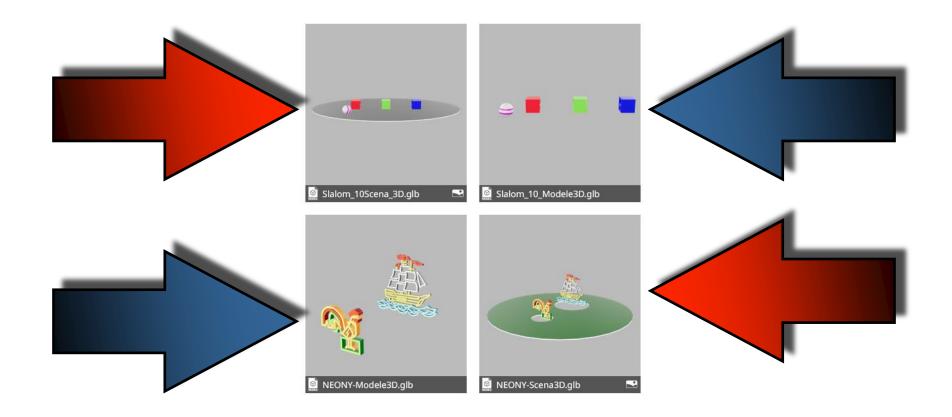
EVEN IF WE HAVE ACCESS TO THE INTERNET, IT IS BETTER TO UPLOAD SUCH LARGE MODELS IN ADVANCE TO THE GLASSES







YOU SHOULD ALSO CHECK BEFORE WHICH WILL BE BETTER FOR PRESENTATION A SCENE OR A 3D MODEL







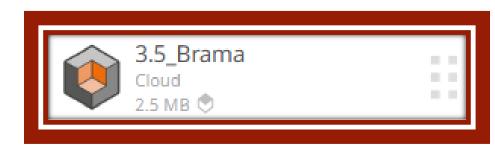
WHEN CREATING YOUR OWN MODELS, TRY TO KEEP THE MESH AS SIMPLE AS POSSIBLE

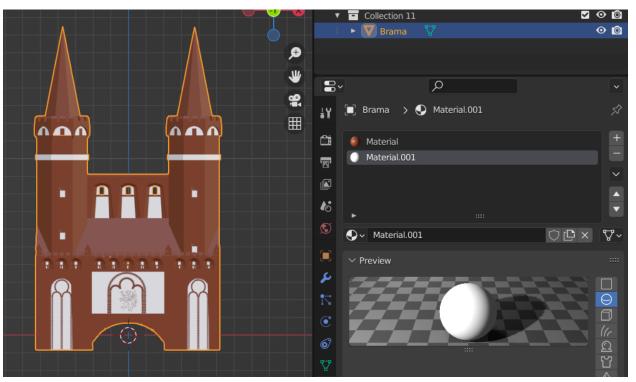






THIS MODEL WILL BE SUITABLE FOR PRESENTATION IN 3D GLASSES









AND AT THE SAME TIME IT CAN BE PRINTED ON A 3D PRINTER AS A GIFT





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YOU ALSO NEED TO TRY TO MAKE SURE THAT THE TEXTURE FILES ARE NOT TOO MUCH OF A BUFFER

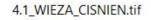






BEFORE USING THE MODEL IN CLASSES, LET'S CHECK IT BEFORE







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cegly.jpg







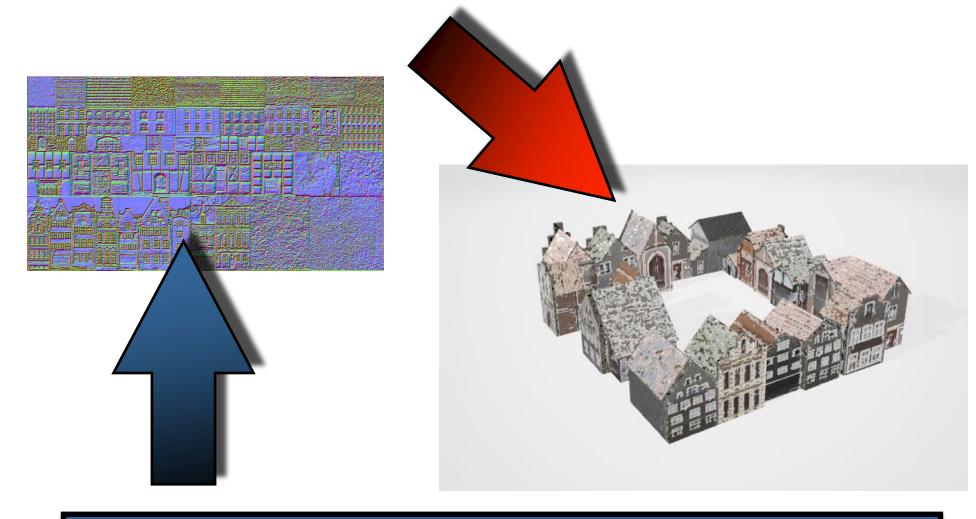
THAT'S WHY IT'S A GOOD SOLUTION TO PUT ALL THE TEXTURES IN ONE FILE, THEN THE SYSTEM WILL LOAD IT MUCH FASTER







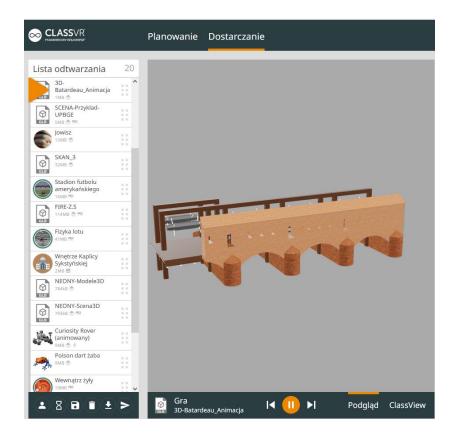
WE CAN ALSO USE NORMAL MAP WHICH WILL GIVE US THREE-DIMENSIONALITY EFFECT WITH A SIMPLE 3D MESH







AFTER THIS TRAINING WE SHOULD BE ABLE TO CREATE OUR OWN 3D MODELS AND EXPORT THEM TO GLB, A FILE THAT THESE SYSTEMS WILL READ







HOW TO CREATE SCENES AND INTERACTIONSI WILL SHOW IN MY NEXT TRAININGS

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THANK YOU FOR YOUR ATTENTION



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