



Finalist 'Best Coding Project'

Name: Zaana Cooper

School: St Peter's School, Cambridge

Name of coding project: Arcade Games

1. Describe the coding project that you want to be considered for the award?

Our Year Seven students used Scratch to produce their own 100% original forest fantasy avatars that were animated to appear three dimensional and be seen from all profiles. They were also animated to do something such as look like they are talking, walking, dancing, flying, casting a magic spell. These avatars could be put into game at a later stage when students were taught further coding.

2. Why did you choose to use this project?

Too many students are replicating and using a selection of pre-made sprites to create their own games and presentations. I wanted to give the students the skills to be 100 % creative, to put their own stamp on their creations by learning about the editing/design tools within Scratch. This way they can design to a brief, be innovative and never be limited to templates.

Students gain a basic understanding of Scratch coding and it lets them begin to problem solve and understand the basics of coding such as using minimal blocks and choosing the most efficient ways to achieve a purpose. It allows them to experience the design and evaluation process.

3. How did you implement and use this project?

After learning the basics of Scratch, the students were given a brief: A gaming company is designing a video game set in a fantasy forest. Players can choose their avatars and we need a selection for them to choose from. The game is aimed at 10 year old boys and girls. Using vector mode you need to produce the front, back and side profiles of an avatar with the following: Separate head, body, and four limbs; facial features; fantasy extras of your choice such as horns, tails, wings. You must use the least coding possible with no blue blocks to animate your avatar so it appears three dimensional and can do something such as dance or fly. The students had a rubric to self and peer evaluate and refine or add to their designs. The students were able to use self teaching through the editing videos in the Scratch website, it meant they worked at their own pace and could return to videos as part of their problem solving. The students also used adobe Photo Shop to adapt forest photographs to import as settings for their avatars. Although a handful of students had learnt Scratch in previous schools, not one student knew the difference between bitmap and vector mode or could use the design tools effectively, before we started our project.

I had created avatars of my own for modelling and along the way I was able to show them 'shortcuts' I took to achieve certain outcomes. Having been through the process myself, I had a good idea of the obstacles that the students would encounter along the way.

4. What outcomes has it achieved for you and your class?

My students have gained an understanding of designing to a brief. Their understanding of vector and bitmap, images is very thorough. They understand how to use the design editing tools quickly and efficiently to design accurately, smoothly, symmetrically and in a way that lends easily to animation. They know the importance of originality and copyright but also how to use existing templates to adapt. Attention to detail, body proportions, cohesiveness and centre of rotation and minimal coding blocks have been key issues as students have managed to problem solve for themselves.

<https://scratch.mit.edu/projects/78347076/>