Using Game Jams as a School Transition Event

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Abstract: The Mini Game Jam was an idea that the lead author as a way to enable primary school children to experience how a game jam works but on a smaller timescale and was first run in Glasgow in June 2013. Now into year three of the event it is gaining popularity with more schools within Glasgow who are seeing the benefit of the event by working in their school learning communities to use as a transition from primary to secondary school. This paper will discuss how the event came about and how it works. It will also give an account of one schools experiences of being involved from the beginning until now. Finally, this paper will discuss the need for future events like this to engage more children positively within not just games but computing as a whole.

1. Introduction

Game Jams are an increasingly popular event worldwide with the main Game Jam taking place in the January of each year at various locations throughout the world. A Game Jam is a 24-72 hour event where people get together and work in teams to create a game on the theme they are given at the start of the Jam (Global Game Jam, 2015). With applications like Scratch (Resnick, Kafai & Maeda, 2003) and Kodu (Fowler, Fristce & MacLauren, 2012) game construction is becoming more accessible to children and therefore an event like the Game Jam would be a great way for children to become more involved in constructing their own games while working as part of a team.

This paper will discuss how the Mini Game Jam event has progressed from idea through to year 3 of an event which is becoming increasingly popular among learning communities in Glasgow. It will also give one schools experience of being a part of the Mini Game Jam since the first event and go on to discuss the benefits to schools of holding such events.

2. Background

2.1 Previous Work
Games-based Construction Learning (GBCL) and games-based learning (GBL) have been promoted within the Scottish curriculum with learning experiences looking at children working together to design and produce their own games (Technologies: Experiences & Outcomes, 2010). With this in mind research has been undertaken to introduce GBCL into Primary schools (Wilson, Hainey & Connolly, 2012) within one local authority in Scotland with the aim of producing an implementation framework (Wilson, Hainey & Connolly, 2013) that would then allow more schools to successfully implement GBCL in their schools. The research involved children aged 8-11 undertaking eight 1 hour lessons using Scratch to construct a game. The first four lessons were all about showing the basics of what is needed to make a simple maze game (Maze Game, 2013) and the other 4 lessons let the children develop the game they had created or take what they had been taught and construct a new game.

Scratch is a program that takes its inspiration from Logo (Papert, 1980). It is a visual-based tool that uses blocks that are snapped together to create scripts. It is primarily aimed at children aged around eight. Scratch was chosen as the tool to use for the jam as the children had experience of using it and it was already installed on the schools network in the authority and would therefore ensure all schools could take part.

2.2 The Mini Game Jam concept
It was a culmination of the end of the research and hearing more about game jams in general that led to the Mini Game Jam idea coming about. Throughout the research children had shown time and time again they very much enjoyed undertaking the work and were keen to keep undertaking Scratch lessons – some children

downloaded Scratch at home in order to learn more for themselves. However, given the age of the children involved a full 48-hour jam wouldn't have been feasible and therefore the idea of a shortened down jam which only lasted for the school day; from 9.30am until 2.30pm and it meant that children could participate in their own game jam without time being a big issue.

2.3 The First Mini Game Jam

The idea for the day then was simply to get the children from 2 classes in 2 different primary schools to come together and spend a day making games using Scratch at University, using the lessons they had been given during the research which they had not long finished participating in. The children would be put into teams of 4, pairs of children from each school put together and then have to come up with their own game idea then make it during the day figure 1 shows one teams design on paper and a screenshot of the actual game in Scratch. They stuck to their design idea and worked well in order to get if from paper to Scratch,
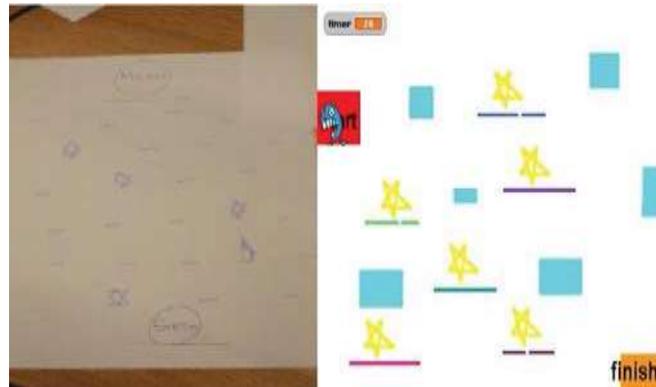

Figure 1: From Paper to Scratch

Help was given to the children from University lecturers where the first event was held to get their ideas shaped and also during the day with their programming. At the end of the day all teams had come up with games some more successful than others however all the children had enjoyed their time working in the team.

Figure 2 shows the winning teams game called nector collector (Scratch Online, 2013). A simple game that had the player control a bee using the arrows keys to move around and collect the nector (the circles) while trying to avoid being hit by the black squares flying about trying to slow you down.

Figure 2: 2013 winning game

The schools that were involved in year one were keen for the event to not be a one off after seeing how well the first event had gone and therefore it was decided to run the event again and look at making it an annual schools event.

2.4 Year 2 of the Mini Game Jam

Year 2 of the event saw one learning community of schools participate with the schools who had taken part in year 1 promoting the jam to the other schools in the community and another 2 schools agreed to participate along with them. This time however the focus was on having the event within the learning community at the Secondary school where all the children from the associated primary schools should normally transfer to after

their primary education is complete. This time the event was looked at the event as a transition event – a way of the children to get to know the school they will be moving on to and also a way of meeting other children who they will eventually be in classes with once they move.

The format was the same as the previous year the children would be split up into teams of 4 and work with other children that they don't know. However, this year the children were given a theme for their game to be based on, a lesson learned from year 1 was that the children found it a bit difficult just to come up with a game idea and not have anything to base it on. On the day 100 children from 4 schools came together and worked not only with University lecturers but with volunteers from the Games Industry who all gave up their time to come and mentor the children on the day.

The aim of the day was to let the children see that they are easily able to be creators of their own games rather than just being able to play them, and to have some fun while doing so. Given that the Commonwealth Games are happening soon, it seemed only appropriate that that should be the theme for the day. Each team consisted of 3 or 4 children, and to make it more interesting the teams consisted of children from different schools. The challenge was to then come up with a game based on the Commonwealth Games within a few hours using the programming language Scratch (whilst also getting to know your teammates too!).

The children quickly got into their stride, and before long the ideas were emerging and heading to the screen. Just watching them working together, and at some points coming up with compromises over colours in the game or who did what, was fantastic. By lunchtime a few teams were even starting to put final touches to their games.

Figure 3: Working on their games

While there were a lot of wonderful games in the end a hard decision had to be made, and the overall winner was Clydes Adventure (see figure 4), which was a game about getting the Commonwealth mascot Clyde through three different levels. It was chosen as the winner because it was very well designed, and also incorporated greatly the theme of the Commonwealth Games.

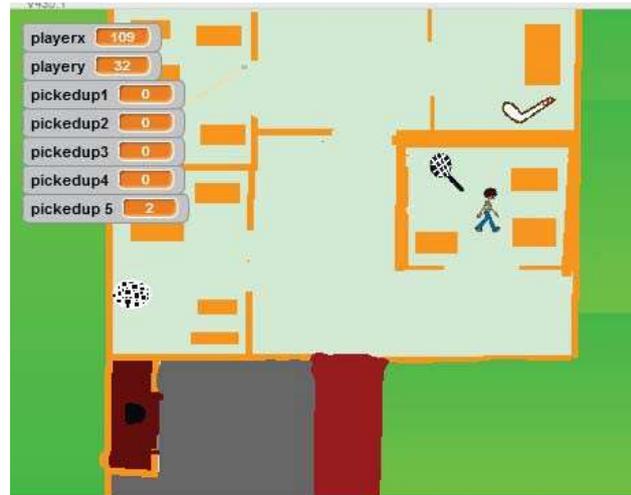**Figure 4:** Clydes Adventures 2014 Winning Game
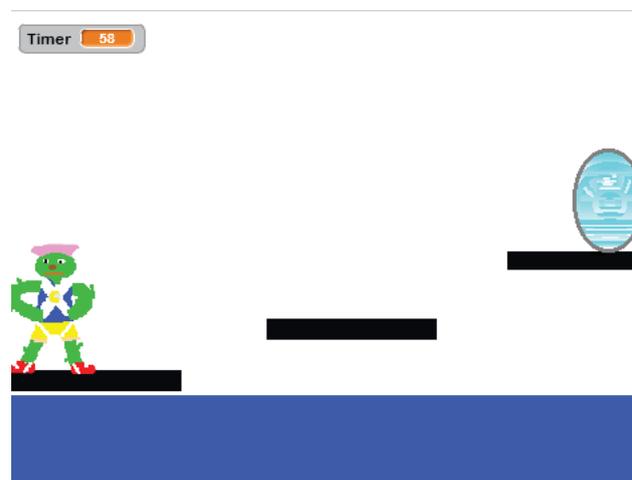
Figure 5: Scavenger Hunt, Runners Up 2014

The runners up were Sports Day Scavenger Hunt (see figure 5)*,* which showed some amazing teamwork as every member of the team was from a different school, so as well as getting to know each other in a short amount of time they also managed to come up with a great idea. Clydes Adventures and *Sports Day Scavenger Hunt* can be played online (Scratch Online, 2014a, 2014b).

A big difference between both years though was that on year 2 all 4 class teachers were given some after school continuous professional development (CPD) sessions to build up their knowledge of Scratch in order for them to be able to deliver the lessons to their classes who were participating in the event. By getting the teachers to deliver the lessons it then becomes integrated into class time and it means that all children going into the event have been given the same basic Scratch training in order for them to be able to come up with their games.

2.5   Year 3 of Mini Game Jam
After the success of year 2 more schools across Glasgow were looking to take part. With that in mind it was opened up to the learning communities and 4 were selected to run Mini Game Jams this year. Already most of the teachers who are participating have undertaken CPD or had had previous experience with Scratch in school already. This year 22 schools and 256 children taking part in 4 local events during May 2015 which will lead to a final in June 2015.

3.   Being involved in the jam

Royston Primary School has been involved from the very beginning of the Mini Game Jam idea and the schools head teacher – co-author, has championed the event through not just their learning community but also across all of Glasgow's schools. This section discusses how the school started and progressed through the Mini Game Jam from idea to event.

In recent years my expectations have changed about the Mini Game Jam. Initially the event was seen as a chance for the children to demonstrate their learning in Games design. This was the "relevant" part of the Curriculum for Excellence (CfE) (Curriculum for Excellence, 2015), applying skills in a different way. Now 3 years down the road it has changed in a number of ways. The event is still linked to the original theme of relevant learning but is now coupled with our transition to Secondary School events. In addition to looking at skills for life and a possible future career in games design.

The expectations from the first Mini Game Jam were low - will this be an enjoyable, meaningful experience and will the children be able to demonstrate their shills. These expectations still remain but have now been added to – how do the children get on with their peers?; are their skills being challenged in unfamiliar contexts? To this end, I enjoy hearing from the children and staff on their return. From speaking with them I always find out that the Game Jams have met the expectations that we set out at the start.

Planning across CfE has evolved in recent years, trying to take account of meaningful opportunities to apply newly acquired skills. The Mini Game Jam has allowed staff to work backwards from an event and plan the sessions required to get the skills taught. In the first year it was trial and error, trying to get staff CPD sessions linked to allow them to feel confident and comfortable in supporting the delivery of the sessions by the Mini Game Jam organiser. Over the years we have been better at preparing and planning for this in class.

The biggest barrier to getting involved in the Mini Game Jam was ensuring that transport could be arranged to the venue. All the information was shared in plenty of time and staff knew clearly what was expected of them. In some cases CPD sessions had to be arranged to get staff up to speed on what was required, especially in confidently delivering the sessions. However, there was an eagerness on staff behalf to move forward with this area.

The children enjoyed designing their games during their class work and the chance to expand these opportunities into a Mini Game Jam were widely accepted. The pupils also saw the fun of working both in mixed teams and getting the chance to make friends ahead of moving to Secondary School. The chance to hear from Games Industry workers were also commented on by pupils returning from the Mini Game Jam last year.

There are many benefits from taking part in the Mini Game Jam and have been previously discussed. However, the main benefit that the children got from the Mini Game Jam is the chance to make meaningful links between what they learn in class and how these skills are applied in real life contexts. There is also the benefit of staff skills in ICT being increased through the engagement of the professionals who deliver the CPD sessions.

The school keeps their involvement in the Mini Game Jam because the children ask every year if it is on! This request from pupils allows us to facilitate the Mini Game Jam through the support of the Mini Game Jam organiser. Also on a more serious note we maintain our engagement in this area because I feel it is a truly meaningful way to showcase the skills being learning in other curricular areas – the main thrust of CfE.

4. Discussion

As well as providing children a day where they can get together and work with other children the Mini Game Jam is now becoming part of school learning. Teachers are undertaking CPD in order for them to then teach their own class who will participate in the event itself and build their own confidence in teaching GBCL too. Previous research has shown that primary teachers face barriers when trying to teach GBCL (Razak et al, 2012) with one reason being they are unsure where to start. Mini Game Jam helps with this as it gives the teachers something to work towards during the year – it is held at the same time every year. It also lends itself well to the transition program when children are getting ready to finish primary school and move onto secondary. By holding the event in the secondary school and by putting the children into teams with other children from different schools they are getting to not only see what their new school looks like but also getting to work with possible future classmates. The Mini Game Jam also shows children that they can be creators and hopefully by taking part in the event it will inspire them to want to learn more about a future career in games or computing as they are learning.

The mini game jam has been a great success with the schools who have participated hence why they want to keep taking part. By rolling the event out to more schools it shows that games construction is accessible to all. Even after a few lessons with Scratch children are able to produce a playable game to a given theme (Wilson, Hainey & Connolly, 2012).

5. Future work

Now that more schools have shown interest across Glasgow future plans include creating a model to roll out so that any school or indeed learning community can participate and have their own Mini Game Jam. The plan would include having all primary schools within the one learning community take part with the Scratch lessons this would benefit the local secondary in that all children would be coming to the school with similar levels of computing knowledge through a common interest.

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