Sonic Pi Composition Lesson Plan #5: Debugging, optimisation, and efficiency

"Writing a tune is like sculpting. You get four or five notes, you take one out and move one around, and you do a bit more and eventually, as the sculptor says 'In that rock there is a statue, we have to go find it." –John Williams

Lesson Overview:

The aim of this lesson is to (1) **reflect on the sounds each student has chosen** (individually and as a group) and their projects **fitness for purpose for their chosen film(s)**, (2) **hand in individual and group projects**.

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Wrap-up Activity: Quiz and reflection	15 minutes

Learning Outcomes:

Key concepts	Sonic Pi syntax to be taught this lesson	Interdisciplinary Curriculum Links			Learning Outcomes
		Computational Thinking	Programming	Music (strands)	
Music: -using 6 music elements (pitch, texture etc) to give feedback on each other's composition Programming:	(none)	Abstraction, making algorithms, debugging,	As per lessons 1-4, debugging	DI	Music: -All students will develop and finalise musical ideas for both individual and group projects -All students will adhere to the projects length constraints of under 2 minutes

-recap of any gaps		efficiency/optimi sation			Programming: -Lessons 1-4 -All students will adhere to the projects length constraints of under 2 minutes

Introduction: What did we cover in the last lesson (5 minutes)

Activity Overview: Every lesson in this unit of work starts with refreshing knowledge and identifying gaps in understanding from the previous lesson.

Student Activity:

1. For three minutes, students are to reflect on the code they saved at the end of the previous lesson
2. The teacher should roam the room, quickly surveying the code produced and ask a sample of students about key music and programming concepts covered in the previous lesson
3. If the teacher deems necessary, have a 2-3 minute discussion on identified concepts that need to be reinforced

Notes to the Teacher:

- Reflection will begin each lesson in this unit and the teacher should try to get around to all groups every two lessons

Activity 1: Class discussion on examples of film music about topical issues (10 minutes)

Activity Overview: Students are to discuss and reflect on the selected video's music and its fitness for purpose.

Suggested Teacher Instruction Sequence:
(none)

Suggested links and resources to facilitate activities:

- [video 1 minute] https://www.youtube.com/watch?v=jUY9I8s2vSQ UNICEF | For every child in emergencies

- [video 1 minute] https://www.youtube.com/watch?v=m1voWuTNmak UNICEF | A bomb explodes, growing up in Aleppo

Student Activity (20 minutes):

1. Play each video above
2. Discuss the music used in groups
3. Discuss as a class making notes on the board of the common characteristics of good music
4. Ask students to spend 2 minutes listening and reflecting on how their projects fit with their chosen film

Notes to the Teacher:

- It is important to emphasise that everyone's ideas are valid on what music is a good fit

- Students might have to take out sounds rather than put more in. Emphasise that the example videos are very simple and repetitive

Activity 2: Recap of Sonic Pi commands and student time for individual compositions **(30 minutes)**

Activity Overview: Extended time to complete and hand in individual compositions.

Suggested Teacher Instruction Sequence:

- If there are obvious gaps in understanding key music and programming concepts for the whole class, individuals or groups of students—this time is a good chance for the teacher to address misunderstandings and gaps

Student Activity (25 minutes):

1. Students to spend 25 minutes on their individual composition
2. Leave 5 minutes to ensure everyone has saved their final project properly

Activity 3: Student time for the development of individual projects and final hand in (30 minutes)

Activity Overview: Extended time to complete and hand in individual compositions.

Suggested Teacher Instruction Sequence:

- If there are obvious gaps in understanding on key music and programming concepts for the whole class, individuals or groups of students, this time is a good chance for the teacher to address misunderstandings and gaps

Student Activity (15 minutes):

1. Students to spend 25 minutes on their group project
2. Leave 5 minutes to ensure everyone has saved their final group project properly

Notes to the teacher:

- Students can go back to group work after 20 minutes if they feel they've finished their individual composition

Wrap-up activity: Quiz and reflection (15 minutes)

Activity Overview: All students to complete a quiz containing 10 questions on music and programming - as well as a few reflective questions on this lesson (all students will complete this each lesson).

Student Activity (10 minutes):

- Students individually complete the quiz and reflection on the key concepts in this lesson within 10 minutes linked here.

Administrative Details

Contact info   petriechris@gmail.com

Credits   Developed by Chris Petrie.

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