

## Amazing Mazes

### Materials and Teaching Checklist – lesson 10

Lesson Name: Advanced Programming + WOW preparation

Date to be taught: 5/14/2013

#### “I Can” Skills:

Last Time	This Time	Next time
Create and test more <b>advanced</b> maze walker programs ( <b>breadcrumb</b> algorithm) Start creating display and presentations for the WOW!	Finish creating and testing more <b>advanced</b> maze walker programs ( <b>breadcrumb</b> algorithm) Finish creating display and presentations for the WOW!	

#### Before the Lesson:

Copies to Make	Materials to Bring	Visuals to Make
	<ul style="list-style-type: none"> <li>- <b>Projector</b></li> <li>- <b>Computers with Internet connectivity</b></li> <li>- <b>Materials for posters for the WOW!</b></li> </ul>	

#### During the Lesson:

Section	Time (min)	I Say / Do	They Say / Do
<b>Hook</b>	5	<b>Review and Teach-back</b> - Quick review and <b>teach-back</b> of last lesson: - Student volunteering to role-play maze walker, following the bread-crumbs algorithm.	- <b>Students guide/instruct volunteer student to execute a bread-crumbs walk in class</b>
<b>Activity 1</b>	10	<b>Summary of bread-crumbs algorithms</b> * The teacher copies and pastes the maze below the program at <a href="http://employees.org/~hmark/courses/ama-zingmazes/amazing-mazes-12-ultimate-algorithm-1.html">http://employees.org/~hmark/courses/ama-zingmazes/amazing-mazes-12-ultimate-algorithm-1.html</a> (this is a “replicated H shape” from previous lessons). * The teacher runs the walk in “slow motion” and asks the students to call out how the walker will walk at every decision point in the maze – following the <b>bread-crumbs</b> algorithm.	- Students call out the walker decisions based on the <b>bread-crumbs</b> algorithm

Activity 2	60	<p><b>Prepare for the WOW!</b></p> <ul style="list-style-type: none"> <li>- Based on the brainstorming we did with the students last week, students split into groups, where they prepare posters covering             <ul style="list-style-type: none"> <li>- different types of maze intersections/junctions</li> <li>- different walker programming commands to handle the above decision points</li> <li>- cover the following algorithms:                 <ul style="list-style-type: none"> <li>- left-hand walk</li> <li>- right-hand walk</li> <li>- bread-crumb walk</li> </ul> </li> </ul> </li> <li>- The students who will be presenting at the WOW (attending the booth/table), will prepare and rehearse the 3 computer-based displays/activities, as we brainstormed last week:             <ul style="list-style-type: none"> <li>- a laptop with a continuous loop showing the 2 videos we used on the first lesson (Google Earth Mazes, and Minecraft Maze) – downloadable from <a href="http://employees.org/~hmark/courses/amazingmazes/Combined%20Mazes.mp4">http://employees.org/~hmark/courses/amazingmazes/Combined%20Mazes.mp4</a></li> <li>- a laptop with a continuous loop displaying a PowerPoint presentation of a sample of mazes that students built in this apprenticeship (mainly in the last lesson) – downloadable from <a href="http://employees.org/~hmark/courses/amazingmazes/WOW-mazes.odp">http://employees.org/~hmark/courses/amazingmazes/WOW-mazes.odp</a></li> <li>- a laptop displaying a “person vs. computer” applet, enabling WOW guests to compete with a maze walker running the bread-crumbs algorithm, at <a href="http://employees.org/~hmark/courses/amazingmazes/amazing-mazes-competition.html">http://employees.org/~hmark/courses/amazingmazes/amazing-mazes-competition.html</a></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- <b>Some students will create posters for the WOW!</b></li> <li>- <b>Another group of students will prepare and rehearse the computer-based displays and activities for the WOW!</b></li> </ul>
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<b>Dismiss</b>		<p>Remind students of our goal regarding the WOW!:</p> <p>We will show how we learned to build mazes and how to program “fool proof” programs (programs that don't fail or break)..</p>	
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