Computing for Everyone: Introduction to Computing via a Media Context for Non-CS Majors

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Studies of computing education report students find computing to be dull, lacking creativity, and irrelevant.

Our Hypothesis: By teaching computing in a context that is useful and creative, we can improve success rates and draw in broader participation.

Next steps:
- Text for Python course now available from Prentice-Hall.
- A follow-on course covering data structures in Java, continuing in a media context, started Spring 2005—75% female
- Created a new CS minor, and a new BS in Computational Media—36 students signed up in first semester.

CS1315 Introduction to Media Computation

Goal: Learning programming and CS concepts within the context of media manipulation and creation: Converting images to grayscale and negatives, splicing and reversing sounds, writing programs to generate HTML, creating movies out of Web-accessed content. Computing for communications, not calculation.

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Success Rate</th>
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</thead>
<tbody>
<tr>
<td>Georgia Tech’s CS 1 (male-majority)</td>
<td></td>
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<tr>
<td>2000 - 2002 (average)</td>
<td>930</td>
</tr>
<tr>
<td>Media Computation (female-majority)</td>
<td></td>
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<tr>
<td>Spring 2003-Fall 2004 (average)</td>
<td>260.8</td>
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</tbody>
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Example student work