What's New....

In the Computer Science Department at Montana State University

From the Chair

It is my pleasure to welcome you to our inaugural newsletter! It is an exciting time to be a computer scientist. During the past generation, computer scientists have transformed society by contributing to technologies such as the internet, social media, and smart phones. Computer scientists will continue to transform society in the future by contributing to personalized robots, the "Internet of Things" and "Smart Everything". Consequently, computer scientists have career opportunities that are fun, creative, impactful and well paying.

Through the generous support of Greg and Susan Gianforte, our department has launched three inititaives to introduce more students and teachers to the world of computing. First, you can request our professional comedian robotics professor, Hunter Lloyd, to give an assembly at your school. Second, I look forward to team-teaching a dual enrollment course (CSCI 107, T**he Joy and Beauty of Computing**, 3 credits) at Bozeman High School (BHS) with Business Teacher, Kerri Cobb during the first four months of 2014. Kerri will teach the course at BHS in the future. Finally, Hunter Lloyd will offer a one week course through Montana State University's Master of Science in Education (MSSE) program in late June entitled **Computer Science in the Classroom: Computational Thinking for Teachers**. Optionally, teachers taking this course can take an exam that certifies them to be eligible to teach the The Joy and Beauty of Computing as a dual enrollment course at their home high school. To learn more about these initiatives, please contact our Demand Generation Coordinator, Sharlyn Izurieta.

As a final tidbit, did you know that the week of December 9th is **Computer Science Education Week**? To learn more, visit http://csedweek.org/ and please participate in the **Hour of Code**.

Happy Computing

- John Paxton

How to Train Your Robot

Hunter Lloyd visits Montana Schools

Hunter Lloyd, Professor of Computer Science at MSU-Bozeman, and his menagerie of robots and inventions will tour all four corners of the state of Montana over the next three years. Hunter uses his comedic skills and Looney the Robot to motivate students. The purpose is to interest students in pursuing a computer science degree at a university (of course, we hope that students choose MSU - Go Cats!) and challenging them to use their imagination.

The robotics program presentations are supported through a gift from the Gianforte Family Foundation. Through this gift, all school visit expenses are at no cost to the school. To find out how you can request an assembly at your school, please contact Sharlyn Izurieta, Demand Generation Coordinator, Sharlyn.Izurieta@coe.montana.edu or (406) 994-4794.

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The Joy and Beauty of Computing

John Paxton, CS Department Chair, will be co-teaching **The Joy and Beauty of Computing** with Bozeman High School (BHS) teacher Kerri Cobb. The dual enrollment pilot course purpose is to give high school students a gentle introduction to computing by introducing computational thinking skills through Python, providing an overview of the opportunities in computing and surveying the exciting ways in which computing is transforming society. In the future, Ms. Cobb will teach the course at BHS.

Interested Montana teachers can become certified to teach the course at their own high schools through MSU's Master of Science in Education (MSSE) course, **Computer Science in the Classroom: Computational Thinking for Teachers**. To learn how to register or for more information, please contact Sharlyn Izurieta, Sharlyn.Izurieta@coe.montana.edu, or (406) 994-4794

CodeMontana: Helping Montana Youth

CodeMontana is a new program started in September, 2013. The program was developed to provide Montana high school students the opportunity to learn computer programming skills while also earning prizes. The goal is to "prepare Montana Youth for high paying careers in technology here in Montana", according to the CodeMontana website, http://www.codemontana.org/.

The founders of CodeMontana, Greg Gianforte, Bozeman Technology Incubator, and Rob Irizarry, Startup Bozeman, have designed CodeMontana to give students the opportunity to learn and gain valuable programming experience while in high school, preparing them for a degree program at a university.

The program is off to a great start with over 500 Montana high school students completing more than 14,000 programming exercises as of November, 2013.

Did you Know?

By 2018, the majority of STEM jobs will involve Computing (71%)?

- Where are the STEM Students? STEMConnector, 2012-2013

New CS Course for Teachers

A new summer course is being offered to educators from Montana and around the nation through Montana State University's Master of Science in Education (MSSE) program. The course, **Computer Science in the Classroom: Computational Thinking for Teachers**, will be offered in June. The 2 credit course will be taught by MSU CS Professor Hunter Lloyd during one week on the MSU campus. Teachers will learn the rudiments of computational thinking using Python and will also gain a high level understanding of computing's impacts and possibilities. Teachers will develop computationally relevant homework for their classes and share these ideas with other participants for feedback. An online course system, such as D2L, is used so that students can meet each other and complete pre-readings before the on-campus week begins.

Teachers who take the course also have the option to take an exam that certifies them to teach **The Joy and Beauty of Computing** as a dual enrollment course at their home high school. Through a donation from the Gianforte Family Foundation, fifteen partial scholarships will be awarded to 15 teachers to help offset tuition and fees.

To learn more about the new course, the MSSE program and how you can apply for a scholarship, please contact our Demand Generation Coordinator, Sharlyn Izurieta at Sharlyn.Izurieta@coe.montana.edu or (406) 994-4794.

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