STATE OF NEVADA

**GOVERNOR'S OFFICE OF
SCIENCE, INNOVATION &
TECHNOLOGY**
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Brian Sandoval
Governor

Brian L. Mitchell
Director

PUBLIC MEETING MINUTES

Name of Organization: Computer Science Subcommittee

Date and Time of Meeting: Friday, February 16, 2018 @ 11:00 A.M.

Place of Meeting: Nevada State Library and Archives
                             Governor's Office of Science Innovation and Technology
                             100 North Stewart Street, Suite 220
                             Carson City, NV 89701

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I. Call to Order / Roll Call:
The Computer Science Subcommittee was called to order by Chair Mark Newburn at 11:03
a.m. on February 16, 2018, on the tele-conference remote site, listed above.

Members Present
Mark Newburn
Cindi Chang
Dave Brancamp
Dr. Andreas Stefik
Dr. Pavel Solin
Heather Crawford-Ferre
Kimberly De Lemos
Kindra Fox
Melissa Scott

Members Absent
Frank Matthews
Kris Carroll
Rob Sidford

Staff Present
Brian Mitchell
Debra Petrelli

A quorum was declared.

II. **Public Comment** (No action may be taken upon a matter raised under public comment period unless the matter itself has been specifically included on an agenda as an action item.)
Chair Mark Newburn

There was no public comment

III. **Welcoming Remarks and Announcements**
Chair Mark Newburn

Chair Newburn welcomed everyone.

IV. **Approval of the Minutes from the January 16, 2018 Meeting** (For possible action)
Chair Mark Newburn

Chair Newburn asked if there were any corrections to the January 16, 2018 Minutes as written. None were made. Dr. Andreas Stefik made a motion to approve the Minutes of January 18, 2018, as written. Dave Brancamp seconded the motion. The motion passed unanimously.

V. **Update on SB 200/Computer Science FAQ sheet** (For information only)
Cindi Chang, Education Programs Professional - Department of Education

Ms. Chang said the Computer Science (CS) FAQ sheet has been concluded based on questions she received. She pointed out the complete document has been posted on the Department of Education's website under K-12 Computer Science. She requested if anyone had anything else to add, questions or answers, to please submit that information to her.

Chair Newburn commented that some items on the FAQ sheet will be decided by the State Board of Education and pointed out one goal of this subcommittee is to outline recommendations that need to be made. He said he has earmarked some items on the FAQ sheet recommendations to be made to the State Board of Education, which includes a list of approved CS courses, the specific amount of CS under the ½ credit, as well as the rigorous CS course, counting as a 1/4 math credit or 1/3 science credit, but not count for both (currently other courses can count in place of the ½ credit for computer literacy). He added that the FAQ sheet should be considered a "working document" until such time that the State Board of Education has made some of those final decisions. He recommended the wording referring to this subcommittee on the FAQ sheet as "Governing Board" be changed to "Advisory Board.

VI. **Discussion on Nevada Computer Science Summit** (For possible action)
Mark Newburn, Chair; Cindi Chang

Ms. Chang presented an outline of the upcoming first annual Nevada Computer Science Summit with the following topics for discussion by the subcommittee:
1) UNLV Student Union Ballroom and breakout rooms

2) Save the Date Flyer
3) Brand Marketing Agreement
4) Proposed Agenda
5) Conference bags and giveaways
6) Exhibitors
7) Members assignments
8) Total conference budget allowance

Ms. Chang further discussed the budget for the Summit, which currently has available $13,074.79 remaining from the CS writing standards grant, in addition to the $20,000 grant received, for a total of $33,074.79.

Ms. Chang commented on the "Save the Date" flyer, and said it had gone out to all school district curriculum directors and superintendents in the state. She discussed brand marketing material and pointed out the same person who made the CSforNV logo can do branding materials including logos for t-shirts, invitation flyers and display board designs. It was asked how many flyers or how much printed material is anticipated. Ms. Chang answered, that for programs, it will depend on how many people actually register for the event. She added that an electronic flyer invitation could also be produced to send digitally. She pointed out that decisions for the agenda will need to be made soon, including key-note speakers and break-out session topics and speakers. She said other items include conference bags and giveaways and possibly a raffle. She said she has already had several organizations reach out to her inquiring to be exhibitors and/or vendors. She said NCLab and Code.org have committed to provide a key-note speaker. She added they and others may provide a potential funding stream for the summit. She also discussed assignments for members of the CS subcommittee to assist in putting together the details of the summit.

Chair Newburn asked how many people are expected. Ms. Chang replied anywhere from 200 to 230. The group further discussed the NSF Grant funding for the summit and areas that could be most cost effective. Mr. Mitchell suggested allocating money for items that are reusable that can be used to continue to promote computer science long after the summit, i.e. printed or digital material. Ms. Chang said UNLV has also offered to live-stream the conference at a cost of $200, which would give those in rural and distant areas an option besides travel. Dr. Stefik suggested, for sponsors interested in the summit, they reach out to the group Girls Who Code, as well as other computer science groups from Google, and the group Access for All, which is dedicated to improving accessibility for consumers with disability. Chair Newburn suggested a press release to announce the summit. Ms. Chang suggested a smaller working group of the subcommittee be put together to make some of these upcoming decisions.   Ms. Chang said she has received two pricing options on the venue at University of Nevada, Las Vegas (UNLV). She presented two contracts from UNLV for their Ballroom venue; 1) UNLV Ballrooms Section A/B/C to include catered food totaling $8,860.50; and 2) UNLV Ballroom Sections A/B, no catering included totaling $2,948. She pointed out this venue does not require a certificate of insurance. She also commented that a decision would need to be made on the venue of the summit. A discussion on venue ensued. The group agreed the venue should be UNLV. Comments were made to hold the space now and add catering later or bringing in food.

Chair Newburn made a motion for the UNLV Ballroom as the venue for the Computer Science Summit. Mr. Mitchell seconded the motion. The motion passed unanimously.

Ms. Chang asked for any comments on the logo. Ms. Chang said she will move forward on costs for branding. She asked for volunteers for the working group to start work on an agenda and asked for volunteers. Heather Crawford-Ferre, Melissa Scott, Brian Mitchell, and Mark Newburn volunteered.

VII. Discussion on Changes to the 1/2 Credit Graduation Requirement (For possible action)
Mark Newburn, Chair

Chair Newburn commented on the changes to the ½ credit graduation requirement and suggested the group continue the discussion with a possible vote. Ms. Chang presented the suggested changes to Nevada Administrative Code (NAC) 389.450 "Prescribed courses of study for graduation." She next presented the suggested changes to NAC 389.664 "Units of credit required to receive standard diploma and the various changes." She said a discussion is needed on what grades are included for high school graduation course and whether that course should be based on high school standards. Mr. Brancamp said the Department of Education is currently getting many questions on this topic of what grades that course can be taught. Mr. Newburn commented that the ½ credit is a graduation requirement and should have high school content, however in earlier discussions middle school was targeted as a key area to hit all students. He said currently the ½ credit is considered a requirement for computer science for all students. He said there has been discussion on another class satisfying this ½ credit in high school and pushing this credit down to the middle school level. He added that in looking at other states, they seem to target middle school. There was further discussion on impact and the different outcomes for high school and middle school. Chair Newburn commented they will need school district input on any decisions made on the standards that are taught in this course whether it is at the 8th-grade level or the 6th-grade level.

Ms. De Lemos asked whether there was a probable timeline for implementation of this process. She said different schools have been inquiring. She said she was not aware that the ½ credit would be specific to a grade, but rather a middle school (6th grade through 8th grade) or high school (9th grade through 12th grade). She asked whether school districts will need to weigh into these types of decisions before any change or implementation takes place. Chair Newburn commented he does not expect any school district to make changes until this is resolved. Ms. Chang said, in looking at SB 200, Section 3 "Effective July 1, 2018, If the state board prescribes a high school computer education and technology course, the state board will prescribe the percentage of instructional time for the course that must be dedicated to computer science and computational thinking," the only thing needed to be solidified and put before the state board is that percentage of instruction time dedicated to computer science and computational thinking. She commented that she believes the Department of Education is currently looking at 50% of a teacher's instructional time being dedicated to computer science. Mr. Newburn said he does not believe the state board will do anything until our subcommittee comes forward with a recommendation. He added that the subcommittee's recommendation should be made by July 2018. Ms. De Lemos asked whether the teacher licensure would be impacted by the percentage chosen. She specified new teacher licensure, as she understands existing teacher licensure would be grandfathered in, only requiring additional training

professional development (PD). Chair Newburn suggested this item be an ongoing item in future meetings.

VIII.   **Update on ECEP Conference in Atlanta** (For information only)
Dave Brancamp; Melissa Scott; Kim De Lemos (formally Moody); and Cindi Chang

Ms. Chang updated the subcommittee on the Expanding Computing Education Pathways (ECEP) Conference in Atlanta.   She referred to the ECEP Alliance Conference January 26-27, 2018 Report for the subcommittee to review. She said key takeaways included foundational planning for the Computer Science Summit, which was reported on earlier in this meeting. She said prior to going to the conference, by Nevada attendees Dave Brancamp, Melissa Scott, Kim De Lemos and Cindi Chang, they completed a computing data plan survey and compiled the results, then shared them with their group which included Utah and Virginia. She also shared their presentation submitted at the conference, "Complexities Around K-8 CS Education Data Collection," which she said has spawned conversation and has created a working group within ECEP, to include Cindi Chang from Nevada, Ashley Higgs from Utah and Rebecca Dovi from Virginia. They will be spearheading this topic. Ms. Chang has reached out to UNLV, UNR and Touro Universities to invite researchers that may also want to join the group. She commented that it will take this national group to really research how computer science education is being implemented in the K-8 realm because there currently is no data-based research behind it. The idea is that a framework will be produced that the entire country can use.

IX.   **Update on Teacher Licensure Paths** (For possible action)
Melissa Scott, Education Programs Professional, Nevada Department of Education

Ms. Scott commented that she, Cindi Chang and Dave Brancamp recently met with State of Nevada Department of Education, Office of Educator Licensure (Licensure) and they are ready to move forward with change recommendations to two existing Nevada Administrative Code (NAC) licensure endorsements; 1) NAC 391.196 Endorsement to Teach Advanced Computer Science, and 2) NAC 391.202 Endorsement to Teach Technology-based Applications and Computational Thinking. She said the current Computer Programing/Computer Science endorsement will be renamed Advanced Computer Science with the recommendations of three semester hours in methods for teaching computer science and nine semester hours of coursework in computer science, to include a course of study in computer science concepts and instruction in programming languages. She commented they are allowing the passing of the Praxis exam in computer science in lieu of the nine semester hours.

She said the second licensing endorsement is for Technology-based Applications and Computational Thinking will be the endorsement for the ½ credit course, discussed earlier. She said the recommendations include nine semester hours consisting of three semester hours in methods for teaching computer science, a course on computer science concepts and methods to teach computer applications. She added that Licensing has made it clear and recently changed regulations, by advising that a teacher does not need any type of endorsement for elementary teachers to teach computer science or computer applications. She pointed out that 391.202 Endorsement to teach technology-based applications and computational thinking is targeted to cover middle school up to through the AP Principals course. She added if a teacher is teaching anything above the AP Principals course they would be required to take the

Advanced Computer Science course. Ms. Chang commented that the endorsements build on each other and are tiered so if a teacher satisfies their Methods course for NAC 391.202, it will also satisfy the NAC 391.196 endorsement requirement.

Chair Newburn asked whether these computer science endorsement courses, consisting of nine semester hours, could be completed during the summer. Ms. Scott replied it will partially rely on the universities participation in teaching these courses. She added that the Computer Science Concepts course is the code course the Regional Professional Development Program (RPDP) is offering who has a partnership with UNLV. She said any teacher taking the RPDP code course can apply for credit at UNLV to satisfy licensing endorsements NAC 319.196 (b) and/or NAC 391.202 (b) "A course of study on computer science concepts." She added that RPDP is also working on a new course for Methods for Teaching Computer Science. She said this course has been a requirement for this endorsement since 2004, however in the past, these courses have been difficult to find. Chair Newburn said he was concerned there is a requirement for a course that appears that currently nobody teaches. He asked whether there was an alternative. Ms. Scott replied that RPDP is currently working with the Department of Education to offer a solution. Dr. Stefik, Assistant Professor of Computer Science at UNLV, commented that because he feels this could be a potential roadblock, he will have discussions with the computer science group at UNLV, as well as inquiring into what other states are doing. He agreed this course has been offered at UNLV in the past, and it should be picked up again. A discussion on the percentage of computer science classes a teacher teaches and whether that would change the requirements of a licensure endorsement ensued.   Mr. Mitchell commented, in reference to the nine-credit hour's requirement, the requirements for the endorsement should not be too difficult to obtain or that required classes are unavailable. Ms. De Lemos, commented if teachers have the RPDP option it would be preferable, because it would be offered on a cost-effective basis. She added it also depends on whether teachers would have to pay the full cost if they elect to take the classes at UNLV. She added this is the main concern and will not be answered until those courses are actually offered. She said it must be very clear as to what a teacher needs to do at every level of the process of obtaining their endorsement to teach computer science, i.e. required classes, where those classes are offered, and how much it will cost.

There was a general discussion on verbiage in NAC 391.196. A follow-up discussion ensued on licensing regulations and the evaluation process which Licensure will conduct. Ms. Scott said she is anticipating these new endorsements will be ready to go by the March 2018 Commission on Nevada Department of Education Professional Standards (COPS) meeting and be on their agenda for approval to move forward. Chair Newburn said he agrees with the requirement changes and asking Licensure to actually implement these endorsements but is concerned about putting out new licensing requirements before the pathway has been developed. Ms. Scott said in actuality, these licensing regulations and the teachers they effect are not much different than the existing regulations. She pointed out the only difference is the addition of the Methods to Teach Computer Applications course, because previously it was not a method to teach this course, but rather a course in computer applications.

There was a discussion on the timeline and delaying these licensing regulations until after July 2018, which would result in them not going through until 2020. Chair Newburn said the concern is the pipeline has not been developed and by pushing these through now to beat a deadline might create a problem down the line. He said there are two approaches; 1) delay this

until the pipeline issue is resolved, or 2) go ahead with these licensing endorsement requirements and follow up on action items with the Board of Education. It was discussed that to create a new course at UNLV and get into their course catalog, is approximately a two-year process. Ms. Scott said she feels these regulations are not much different than the outdated regulations currently in place and believes these new regulations will not cause additional barriers. She added that RPDP is already developing these courses. Ms. De Lemos asked about the timeframe that school districts would be held accountable to when these regulations go into effect. There was further discussion on the associated timelines as well as discussion on verbiage in NAC 391.202. The group agreed upon the proposed changes to computer science licensing in NAC 391.196 Endorsement to teach advanced computer science and NAC 391.202 Endorsement to teach technology-based applications and computational thinking and suggested the Computer Science subcommittee continue to work with Dr. Stefik at UNLV and Frank Mathews at RPDP to make sure these courses exist. Dr. Stefik asked whether he could share these proposed changes with personnel at UNLV. Chair Newburn said the proposed changes to computer science licensing can be shared as "draft documents," as they are public documents and added they still have to be approved by two other boards before they become final.

Ms. Scott made a motion to approve the Proposed Changes to Computer Science Licensing in NAC 391.196 and NAC 391.202 with the current edits. Ms. De Lemos seconded the motion. The motion passed unanimously.

X. **Consider Future Agenda Items for the Next Meeting** (For information only)
Chair Mark Newburn

Chair Newburn said some topics to consider for the next Computer Science subcommittee meeting should include the Computer Science Summit, and Changes to the 1/2 Credit Graduation Requirement. He requested that any other suggestions could be emailed to him.

XI. **Determine Next Meeting Date** (For possible action)
Chair Mark Newburn

Chair Newburn said the next meeting of the Computer Science subcommittee will be at the call of the Chair.

XII. **Public Comment** (No action may be taken upon a matter raised under public comment period unless the matter itself has been specifically included on an agenda as an action item.)
Chair Mark Newburn

There was no public commit.

XIII. **Adjournment**
Chair Mark Newburn

Chair Newburn adjourned the meeting at 12:50 p.m.