IRB ANNUAL/CONTINUING REVIEW FORM (Progress Report Form)

This form should be submitted 30 days prior to the anniversary date for projects exceeding one year in duration. Report activities that occurred over the past year and minor changes to an approved protocol. Other changes require filing an amendment. Training certification must be current before approval is granted. (Exempt status projects do not require Annual Review.)

A. Protocol Information

IRB Protocol No.: 14-114		
PI Name and Dept.:Fred Martin, Computer Science		
PI Email and Phone: fredm@cs.uml.edu, x4-1964		
Project Title: Middle School Pathways in Computer Science		
Project Manager, Email and Phone (if applicable):		
Initial Approval Date: 7/7/14	Last Annual Review Date: n/a	Today's Date: 7/7/15

B. Study Staff (Double left click on box to access check box tool.)
Insert the name of all personnel currently involved with human subjects and their role. Check the type and date of training completed for each. (Training certificates must be renewed every 3 years and on file with the IRB office.):
Name:Fred Martin Role: PI Email: fredm@cs.uml.edu Training: ( )NIH (x)CITI Date: 2014-06-27
Name:Diane Schilder Role: evaluator Email: dschilder@eval-inc.com Training: ( )NIH (x)CITI Date: 2014-06-13
Name:Mark Sherman Role: PhD student Email: msherman@cs.uml.edu Training: ( )NIH (x)CITI Date: 2014-01-06
Name:Lijun Ni Role: consultant Email: lijun.ni.gt@gmail.com Training: ( )NIH ( )CITI Date: 2015-06-25
Name: Role: Email: Training: ( )NIH ( )CITI Date:

Additional Staff or Comments:

C. Funding Source
( ) No Funding.
(x) Federal Funding, list agency: NSF
( ) UML Funding, describe:
( ) Other, describe:
( ) Funding completed, date:

D. Study Status (check all that apply)
(x) Project is proceeding on schedule.
(x) Participant recruitment
( ) a) No participants enrolled to date.
(x) b) Is ongoing with projected end date of:2017-08-31
( ) c) Completed as of (date):
( ) d) Needs expanded: Request increase from original approved of to .
( ) e) Recruitment, intervention & data collection completed as of (date):
(x) Data analysis- is ongoing: expected end date of: 2017-08-31
( ) Data analysis- is complete but data still has identifiers
( ) Data analysis- is complete and identifiers have been removed as of (date):
( ) Other:

E. Study Information
1. Study Abstract (Provide a brief abstract of the study) Middle School Pathways in Computer Science is an NSF-supported project that's created a partnership between the University of Massachusetts Lowell (UML), the Tri-City Technology Education Collaborative Inc. (TRITEC), and the urban school districts of Medford and Everett, MA to bring project-based, socially-relevant computing experiences to district middle school students.

The project will have immediate impact on the Medford and Everett districts' students and teachers, and will result in a sustainable program with ongoing benefits for the districts. The project will also contribute to the

growing literature on computational thinking and appropriate ways to assess that learning in middle school students.

The project will result in a 15- to 20-hour computing curriculum that is integrated with existing district technology and engineering courses. By the second project year, the curriculum will be in all seven district middle schools, and will be delivered to 450 students per year. In addition, the team will conduct intensive 30-hour summer camps attended by 140 students per project year.

Over the project's 3-year period, 1,100 students will participate during the school day, with 360 students also receiving a summer-intensive experience. Project curriculum will include creative project work and career awareness activities.

Using MIT App Inventor, a blocks-based design environment for building mobile apps, students will develop their own apps that support socially relevant activities in their communities. University computer science students and industry professionals will visit project classrooms and work with middle school students.

The team will investigate (1) student learning outcomes: how the project's school-day and summer-intensive project work and career awareness activities influence students' attitudes toward computing and ability to engage in computing practices; (2) teacher outcomes: how the project's collaborative professional development model leads to teacher content learning and curricular adoptions; and (3) broadening participation outcomes: how the school-day intervention leads to students' choice of continued involvement in computing, including the summer camps and future opportunities beyond middle school.

2. Summary of activities during past approval period: 5 project teachers were recruited for academic year 2014-2015 (first project year). All conducted activities in their classrooms, working with two classes of students each. Pre/post surveys were administered to project students and project teachers. Study instruments were revised and approved for work beginning summer 2015.

3. Were any manuscripts, publications, or conference presentations related to this study completed during the past approval period? ( )Yes or (x)No If yes, List here:

F. Research Procedures

( ) Protocol has not been altered since original approval or last continuing review.

(x) Protocol has been modified and a summary of the changes are provided. (Provide a brief description of the research procedures, incorporating elements of all approved amendments to date for the research.): AMD #2 to add 2 individuals to project personnel, add interview protocol, add 'debugging' activity, add 'summer camp experiences' questions to survey, add information relating to 'non-participating students' to summer camp consent. Approved on 6-29-15. AMD #1 to add questions accessing digital literacy and computational thinking to student survey. Approved on 2-4-15.

G. Participant Numbers (Enter N/A for questions that are not applicable.)

1. Number of participants proposed and approved by the IRB: 200 students to complete surveys, 18 to participate in interviews or focus groups, and 4 teachers to complete surveys
2. Number of participants screened: 210 students and 5 teachers
3. Number of participants enrolled (consented to participate): 163 students consented and and 5 teachers consented to participate
4. Number of participants who voluntarily withdrew: 0
5. Number of participants excluded by PI: A total of 66 students were excluded from the final analytic data file.
   a. Reasons for exclusion: Student data that were deleted from the final analytic data file were omitted for the following reasons: a) Students completed either a pre survey or post survey only and data could not be matched; b) Students did not enter the same unique identifying information on the pre as on the post and the data could not be matched; c) Despite signing the consent students indicated on either the pre or post survey that they did not assent to participate in the study.

H. Subject Safety (check at least one)

(x) Not applicable – there is nothing to report.

( ) Describe any problems encountered that involved risk or harm to participants or others since last annual review:
( )Describe any unexpected benefits to participants or others since the last annual review:
( ) Are you aware of new information, from other sources, that affect risks/benefits from participating in this study?
( )Yes or ( )No
If yes, provide the following:
1. Attach copies of any literature that provide new information on this study's risk/benefit ratio.
2. Summarize how this new information or experience impacts the risk/benefit ratio for this study:
3. Summarize any modifications proposed to the approved research based on these new results (an amendment form should also be submitted separately):

I. Amendments
( ) None requested at this time.
( ) Minor changes requested (such as personnel changes, elimination of a tool, etc.)
Explain changes:
(x) New amendment(s) submitted with continuing review (list type of change below and submit an Amendment Form):
Explain nature of changes/revisions: modification of post-survey for summer camp – add question on race/ethnicity.

J. Study Materials
1. Informed Consent (Check all that apply)
( ) The only change is the IRB approval signature/date needs updating.
(x) Approved consent form is still being used (form has no IRB signature line or date). **Form updated in AMD #2 on 6/29/15.**
( ) Consent form has minor revisions **and** the IRB approval signature/date needs updating.
Explain nature of revisions:
( ) Waiver of documentation of informed consent was approved.
( ) Waiver of informed consent was approved.
( ) Translated consent form(s) were required and the IRB approval signature/date needs to be updated.
( ) If translated consent forms **have** been revised they must be submitted with a signed copy of the Certification of Translation Form and the Back Translated document(s).
Explain nature of revisions:
( ) Data collection is complete, so the form is no longer needed.

2. If Informed Consent forms were used, are they are on file and available upon request for the IRB for all participants who agreed to participate in the research? (x)Yes ( )No ( )N/A

3. New or revised materials to be submitted for Annual Review (NOTE: *Submit **only** if materials are different from the last approved version).* Please provide a brief description of the changes.
( )Recruitment materials (For example, updated brochures or flyers.)
( )Informed consent forms or scripts. List titles of each:
( )Survey/interview tools. List titles of each:
( )Other, list name of form or document:

K. PI Assurance:
(x) I certify the accuracy of the information provided and I agree to abide by UMass Lowell policies and procedures governing research with human participants. This form has been submitted electronically from my email account.