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# Assessment 3: Robotics in a Middle School Online Community

## Background and Methodology

Communities are built upon the common interests of its members. The nascent community prototype developed is Robotics in Middle School, http://jvpuglia.wix.com/roboticsmiddleschool, where the model aims to provide a learning platform for individuals interested in learning and growing in the field of robotics, specific to projects and areas related to middle school students and children. Dialogue and sharing of information through discussions, articles and multimedia aim to build a community that is engaging, purposeful and fits the needs of this growing population. With the recent focus in STEM topics with students, robotics has emerged as an area of great interest and growth for many schools, clubs and parents (Eguchi, 2014).

The community aims to ensure that it follows a model of controlled growth at its onset to ensure success. Potential members of the community can view the site and decide whether to become full members. The barrier to entry is minimal, but requires prospective members to give their email address and give a short response as to why they would like to participate. For now, there is one community manager, James Puglia, who brings experience as a robotics club advisor, teacher of middle school robotics and holds an instructor's certificate from the Carnegie Mellon Robotics Academy in teaching EV3 Robotics. Once the community becomes more established, other members, depending upon their participation and passion, will be encouraged to play an active role and co-community stewards are expected to help the community grow and set an appropriate tone for further development (Kraut and Resnick, 2011, Wenger et Al., 2009). For practical purposes, the site encourages participation for members in several formats directly

on the learning and members pages and on the extension page to post quick questions and answers. There are clearly delineated markers on the extension page to ensure that members are directed back to the original community. Community growth will be fostered through the community manager's outreach to middle school robotics clubs, feeds, word of mouth and through personal recommendations from its members.

## Design Decisions

Kraut and Resnick (2011) offer that communities have different levels of engagement. An online community must establish a way for members to find information about it before joining. Kraut and Resnick (2011) content members should have an easy way to gain entry to and then leave a community if they so desire. The Robotics in Middle School Community (RIMSC) offers such a setting.

Integral in the design decision is meeting the needs of its potential audience, which in this case are individuals interested in learning more about the topic of robotics in the middle school. This online community makes it easy for members to navigate, post articles, join it and also potentially bridge emerging technologies, such as video hangouts, with the goal of helping community members learn (Kraut and Resnick, 2011).

Membership contribution is important for communities to grow and develop into meaningful places for learning to occur (Kraut and Resnick, 2011; Wenger et. Al, 2009). To that end, the "Learning Page" in the RIMSC site offers main topic areas, including EV3 Robotics, Create 2 Roomba, Baxter Research and a section for Other Topics. Here, member can write articles in the form of "blog-type" posts where other members of the community will eventually moderate and edit before they become live and eventually archived. This page also will allow for members to post or embed videos for learning in this area of robotics.

This community also has an “Ask/Answer ???” page that leads users gently to an area where they can post quick/questions and answers, which are also available to find through a quick search. Here, the tools are not driving the community but this platform to this page allows members to get relevant information (Kraut and Resnick, 2011).

Millington discusses how to move newcomers to full-time community participants and to ensure that outside “trolls” do not tarnish the site (Millington, 2012). RIMSC adheres to Millington’s principle through the “Members” page where an embedded 3 question survey exists for newcomers to request membership. The short response of why they want to become a member of the community and giving an email address also offers a reasonable barrier to entry that ensures members are committed to the learning objectives of the community. Members are also encourage to give expert advice and to share information (Wenger et. Al., 2009). To round out the site, the “Home” page offers a slideshow and a description of a current topic and the “Guidelines” page gives directions on how to use the community pages and expected behavior of its members.

## Possible Alternate Design Approaches

Alternate design approaches include using a “blog” type format with a stronger social presence with Twitter and Facebook. While social media platforms can grow communities expeditiously in many cases, the hope is to not spread this community in too many online spaces.

An alternative design would include a section that allows visitors to become members of the community without answering any questions. It would be a shorter process. In addition, more managers to start may also be a place to grow the community before making it “live” where there is an established group of individuals that can drive it forward together.

## Compare with Existing Sites

An online community melds technology with members of the community in manners which individuals can interact with one another (Wenger et. Al., 2009). As such, there are varying forms of communities related to working with robotics with younger students. The FIRST Community requests individuals to share unique stories about their experiences with robotics related to the FIRST LEGO League and Tech Challenges. There is a forum also for people to post messages and they have links to Twitter and Facebook feeds. LEGO offers message boards and has a forum for EV3 Robots. Most of the questions here are technical in nature. There are other smaller forums and communities related to middle school robotics, but they mostly appear private and to the specific locale of the group, club or school.

There is a Robo Online Community geared for older individuals. Other companies, such as iRobot, have a somewhat limited forum which primarily consists of emailing a representative from the company who answers educationally-related questions.

## Finished Project and Objectives

The finished product(s) of this paper and the prototype RIMSC online environment aims to foster meaningful learning experience, as the community goal is to help individuals learn, share and contribute to the topic of learning robotics in middle school. There are also venues available to bridge the online community with potential local gatherings and events.

In addition, the technology in place to foster sharing of information offers it in a variety of formats for different learning styles, including articles, questions, discussions, webinars, live and archived video instruction. The community and technology work together for the betterment of its members (Wenger et. Al, 2009 ).

Member roles at the onset are established as newcomers and they are given the opportunity to achieve greater roles of responsibility, in this case the ability to moderate/write

articles and to lead interactive webinars and video hangouts to help with projects specific to middle school robotics. (Kraut and Resnick, 2011). As a result of this, the members continue to offer the opportunity for positive inter-group interaction in a variety of formats.

Within the guidelines section and with community manager and member moderation, the norms and governing structure of the community are clear to all participants. The prototype of this online community offers individuals the opportunity to take on different roles and change their identities based on participation, feedback and knowledge in the area of middle school robotics (Millington, 2012).

References

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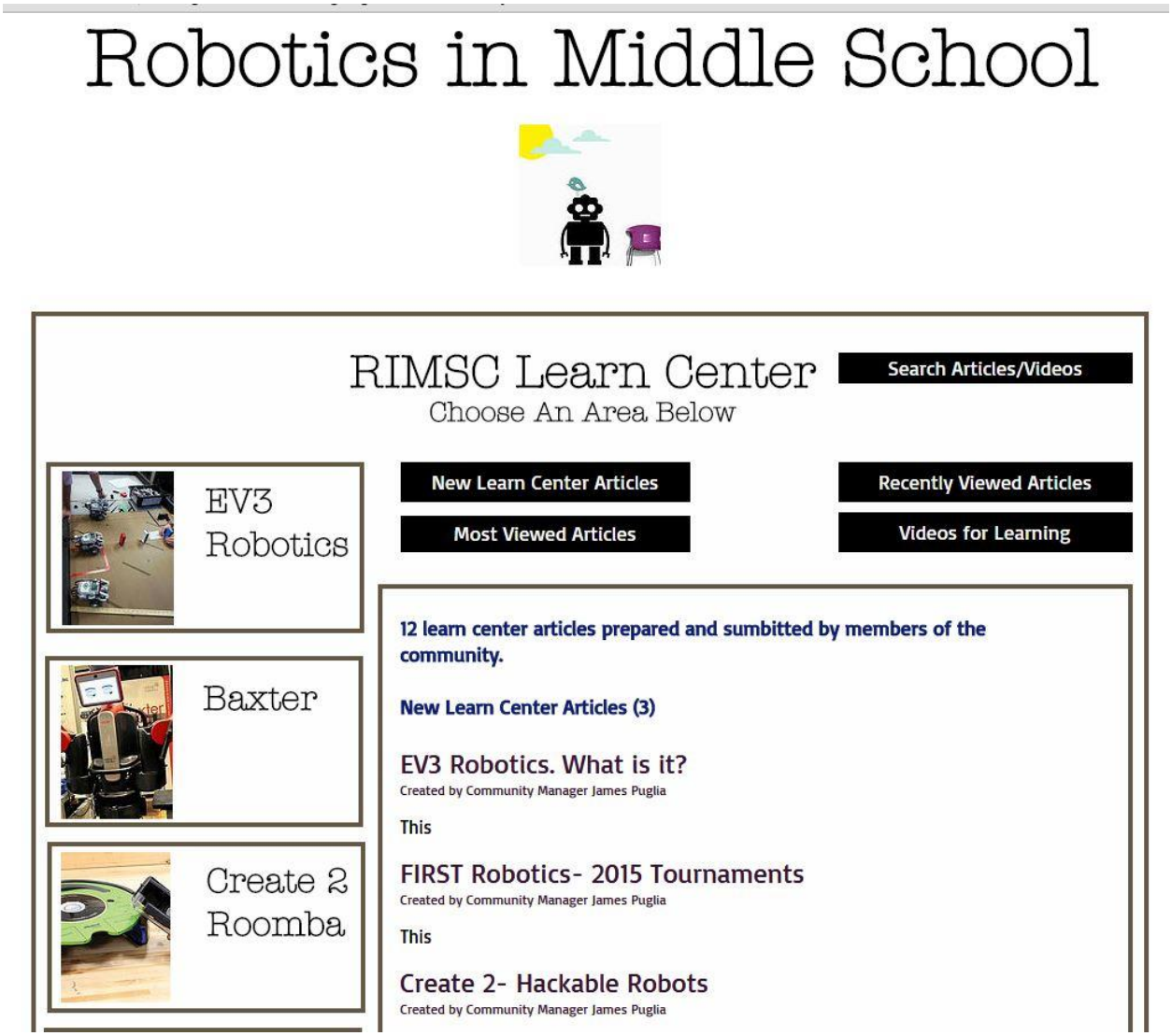
## Appendices

Appendix A: Example Page: RIMSC Learn Center Page



Appendix B- Turnitin Originality Report