ABSTRACT

This template describes the formatting and content requirements for submissions to the Internet Safety Technical Task Force's Technical Advisory Board. (This format should be familiar to any technologist who has submitted to ACM publications.) Please follow the structure of the template below. If necessary, please repeat information to accord with the template questions and layout. *Please note: Your submission should be no longer than four pages including diagrams and bibliography.*

Keywords

Sample keywords: filtering, searching, identification, verification.

Functional Goals

Please indicate the functional goals of the submitted technology by checking the relevant box(es):

X Limit harmful contact between adults and minors

XLimit harmful contact between minors

XLimit/prevent minors from accessing inappropriate content on the Internet

XLimit/prevent minors from creating inappropriate content on the Internet

☐ Limit the availability of illegal content on the Internet

☐ Prevent minors from accessing particular sites without parental consent

X Prevent harassment, unwanted solicitation, and bullying of minors on the Internet

☐ Other – please specify

PROBLEM INTRODUCTION

icouldbe.org is an online career development and educational planning and mentoring program matching underserved middle and high school students with volunteer adult mentors. Bringing adults and students together online poses many risks to users. Icouldbe.org has developed a variety of solutions to address each of these risks: Adult identity verification – icouldbe.org requires every adult to register online and agree to a verification identity check and criminal and sex-offender background checks which are provided by Trufina and is fully automated through our site. Content filtering – icouldbe.org has developed a complex filtering system that monitors every activity area, email and post by every user, searching for inappropriate content or any personally identifying information (all mentees and mentors are identified only by username – and are prevented from contacting each other out of the icouldbe.org site)

PROPOSED SOLUTION

The icouldbe.org program depends on an enormously intricate, dynamic and conditional website. We would be pleased to provide you with a website tour along with test usernames and passwords so that you can fully experience its complexity. icouldbe.org uses an ASP based social networking platform to sustain an online mentoring community consisting of four different user interfaces. Mentors and mentees use customizable user homepages and individualized, interactive classroom activity areas. Also available are threaded discussion boards and email functionalities. Using proprietary algorithms, icouldbe.org monitors all contact between the adults and students ensuring safe communications. The rigorous content filter flags potentially dangerous or inappropriate content and messages for personal staff review.

Students create their own pathways through our dynamic and conditional curriculum and learn at their own pace. At the same time, mentors provide qualitative support and guidance and, ultimately, verify a student's completion of curricular units when they feel the student is ready and has finished the activities to the best of his or her abilities.

Teachers have access to the front end; but also benefit from a customized administrative area that highlights information about their students and enables them to oversee, participate and grade students in all of their interactions. The icouldbe.org program requires that schools sign a contract to guarantee that icouldbe.org will be integrated into an existing class curriculum. Currently icouldbe.org is in classes such as technology / computers, English, career development, business, finance, law, science, among many others. We work closely with all of our partner schools to find the right class for the icouldbe.org program to meet the needs of individual schools. Teachers will be required to provide students with one class period per week to engage with their mentors and work through the icouldbe.org curriculum. The program starts in the second week of the school year and continues each week for the duration of the school year. Students can also access their icouldbe.org accounts on their own time at any time of day, seven days a week.

Top level administrators benefit from a staff administrative area where all users can be monitored and supervised to ensure that best practices and consistent communication goals are met and that all standards are upheld. Queries sorted by levels and frequencies of participation, amongst many other factors, are available to administrators to

provide partners, teachers, funders and mentors with valuable information on program progress and impact. The majority of community prompts and directions are automated—triggered by the regularity of a user's log-in and the frequency of his or her contributions.

icouldbe.org is able to generate several sub-site portals based on one code base, which allows us to serve multiple populations with tailored and highly flexible curricula as well as individually sponsor-branded sites.

In Addition to the Above Description, Please Address Each of the Following:

The icouldbe.org website has several technical attributes that allow for safe interactions between students (mentees) and adults (mentors). This is done through the use of technology that examines user communications and filters potentially dangerous words. All communication is "anonymous" – members always use usernames. Real names and external email addresses are not allowed. Emails are exchanged through an internal intranet. External emails (gmail, yahoo mail, etc.) between members are not allowed.

The website has several features including a course room with over thirty units that facilitates interactions between members on a huge number of career related activities. The site has a discussion board, an internal email system, personalized user home pages, a user search function, an admin area for teachers and an admin area for icouldbe staff that allows the site to be monitored.

The communication filtering is performed at different levels depending on the part of the site in use. Some of the filters replace the disallowed word(s) with asterisks. Other sections send the communication to an admin area where it is reviewed the staff and then action taken:
- If an innocent mistake is made, the word is edited and the message passed on.
- If a serious violation is found, the communication is deleted and the teacher plus mentee are informed of the issue.
- If an adult sent the message, the message is edited and the mentor is informed of the violation.
- Multiple violations result in the mentor or mentee losing privileges.
- "False hits" (messages with a flagged word that is permitted in certain contexts) are reviewed by admin and passed on to the final reader.

When a user sends an internal email to another member, the code on the website examines every word in the message. The filter looks for the following:

PERSONAL INFO: Social networking sites, words without a top level domain such as ".com" - such as xanga,

livejournal, blackplanet, facebook, myspace. Words indicating possible attempts to contact the other user external to icouldbe – such as phone, call me, address, meet me.

PHONE NUMBERS: Attempts are made to filter numeric strings that appear to be US phone numbers.

EMAIL ADDRESS FILTER: This filter removes email addresses that follow legal email formats, except icouldbe.org email address.

URL FILTER: The URL filter will catch commonly formatted URLs. Certain addresses, e.g., icouldbe.org, and poetry.com are excluded from the filter.

HTML FILTER: Removes HTML tags from user input - for security to prevent the user from injecting scripts and bypassing filtering routines.

LASTNAME: We attempt to remove the user's last name from user submitted text.

PROFANITY: A list of inappropriate words are filtered from communications.

A typical case: A user sends an internal email message: "Hello- my name is Joe Smith. You can email me at js@gmail.com." The filter detects a user's last name and an email address and is blocked by admin before being read by the receiver. When admin reviews the message they will see the words "Smith" and "js@gmail.com" highlighted. They can then either edit these words or delete the email. The user (and if a mentee, the user's teacher) can then be sent an email informing them of the problem.

Users can defeat the filtering technology by spelling numbers, entering in non-alphanumeric characters between letters, and using other ways to disguise their meaning. New social networking sites need to be continually added to our internal list. Some URLs appear to be innocuous when reviewed by admin but may contain personal information.

The code is evaluated through offline test code and is also under constant evaluation when online.

As mentioned above, the code catches many types of inadvertent user exchange of personal information. However, intentional attempts to circumvent the system are possible.

Implementation requirements (hardware, software, end user aptitudes): The solution we provide is an online website that is hosted on Windows Server 2003/IIS6. The database is mostly SQL Server and has a small MS Access portion. The software is written in ASP, Javascript, AJAX, HTML and utilizes several third party COM components.

Use of both the front end (user interface) and back end (admin) portions of the system requires no special skills.

Describe the technical standards used in implementing the proposed technology and identify the standards bodies that are the home of existing or proposed future standards: The icouldbe.org website is moving towards compliance with W3C's HTML standards.

Discuss the technology's reliance and use of law and policy for success: The icouldbe.org website is compliant with COPPA.

Discuss the viability of the technology in both the US and international context: Internationally, the same process can be used to filter communication as used in the US. In fact, icouldbe has a pilot program in place for a school in Tanzania. The key challenge for international implementation is to have the words in the filter properly translated while taking into account the local idioms and usage. Also, a native language speaker is required to review the messages stopped by the filter.

Detail effectiveness to date. Please provide any information possible on "failures" of the technology: The technology has been successful in capturing and eliminating personal information from hundreds of thousands of user posts and emails. Failures occur when new methods of online user interaction are developed. This requires constant vigilance from the staff. For example - users who want to meet in Second Life need to be detected, some URLs exchanged by users look safe but may contain personal information. Also, the success of the filtering partially depends on icouldbe staff recognizing that the words highlighted by the filtering system are truly problematic and should be deleted from the communication.

EXPERTISE
Kate Schrauth, Executive Director and former Chair of the icouldbe.org Board of Directors, has the primary responsibility of successfully managing and growing icouldbe.org to serve thousands of students throughout the US and internationally. With over 22 years of nonprofit leadership experience, Ms. Schrauth has played a variety of roles including Founder and Director of Artists for Humanity & City Teens Design Company, and has held a variety of roles at organizations including Jumpstart, New School University and Harvard University.

Nathaniel Calhoun, Director of Education, is in charge of curriculum development for icouldbe.org's US and international programs. Currently, Mr. Calhoun is working to expand icouldbe.org's presence internationally, with a focus on initiatives in East Africa and partnerships with UNICEF and Naomba.com. Before joining icouldbe.org, Nathaniel co-led the African Aids Awareness Campaign and spent several years as an educator in the developing world heading the English Department at Gambia's top high school and designing courses in English, Philosophy, History and Debate at a high school in Lebanon. Nathaniel received his BA in English, Philosophy and Religion and his MA in Literature from the University of Pennsylvania.

Bill Silverman, Chief Technology Officer, is responsible for the development and maintenance of the icouldbe.org website and database. Bill has a B.S. in Physics from SUNY Stony Brook. Bill has over 12 years of programming experience working with online communities, including many non-profits. He has developed dozens of websites and desktop applications that use SQL server, MS Access and MySQL databases.

COMPANY OVERVIEW
icouldbe.org exists to serve the most neglected students in our educational system. We harness the energy, expertise and experience of the thousands of other adults who are concerned about the future of these students. People from all walks of life and every profession, sign up to be volunteer online mentors with icouldbe.org and are paired with students who have an interest in their careers and experiences. Around this basic kernel of student interest and adult concern, we help to build relationships that re-engage young people and help them to focus on career development and educational planning. The attention and advice that students receive in this context encourages them to stay in school.

Since 2000, we have brought online mentoring to more than ten thousand students at scores of America's failing schools, in Native American Reservations and even to orphaned students in East Africa. Our volunteers expect us to connect them with the young people who need them most and we are constantly seeking partners who will help us to reach an ever broader population. At the beginning of the 2008-2009 academic year, we will become accessible to students who are blind or visually impaired. We will also explore using our program with university students, first in California and then in Africa and we will continue our partnership with UNICEF that has helped us to bring students from Ethiopia, Uganda, Germany and the USA into constructive dialogue with one another around health and development issues.

icouldbe.org was founded to address three issues that are critical for the success of low-income middle and high school students today:
- To combat the loss of career and educational guidance programs.
- To address the drop-out crisis in the US and the lack of access to formal education in the developing world.

To re-imagine the delivery of high-impact mentoring programs using emergent technologies in school-based

settings with highly-skilled, successful and caring adults acting as mentors.

icouldbe.org supports the educational and career development of young people by providing each teenager with up to three caring professionals from a broad array of career fields who guide them either toward college or the world of work. We make sure that mentoring relationships take root and have direction by giving structure to the interactions of our community. Our original, online mentoring curriculum has more content than an individual student could complete in three years of participation. We offer units on time management and study habits, community service, applying for jobs, searching for the right college and managing credit, to name just a few. We have also developed a set of units specifically for middle school students that helps get them thinking about the strategies and attitudes that will help them into and through their high school years. Our close cooperation with the classroom teachers in the schools that we serve helps us to ensure that students remain motivated, active and well-behaved as they tackle our challenging assignments and learn from our volunteers.

icouldbe.org students meet and interact with mentors online, free from any distinctions pertaining to age, socioeconomic status, race, ability or disability. And since icouldbe.org is a leader in creating safe online learning environments, members of the community can rest assured that they will be respected and treated appropriately. All of this combines to ensure that icouldbe.org is poised to benefit and assist underserved young people from all over the world.

BUSINESS MODEL OVERVIEW
icouldbe.org students do not have to pay for the service. Corporate sponsors, school districts and foundations cover all expenses of the program. Current sponsors include E*Trade Financial, Booz Allen Hamilton, Goldman Sachs. Mentors are asked to make a "donation" of $5.00 to cover half of the background check costs.

Costs per student range between $270 - $300 for a 12 month subscription.   However, students may remain on the site and in contact with their mentors for as many years following the end of their one-year subscription as they desire. School districts are offered a subsidized rate of $85 per student for a 12-month subscription, with private funding sources making up the difference.   Schools are recruited nationally and requests from any geographic location are accepted. Internationally, school, community centers and universities are recruited in Tanzania, Liberia, Nigeria and Uganda.

MORE INFORMATION
www.icouldbe.org. To request a test username and password, please contact Kate Schrauth atkate@icouldbe.org or 646.734.8133.

CONTACT INFORMATION
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CERTIFICATION
 I certify that I have read and agree to the terms of the Internet Safety Technical Task Force Intellectual Property Policy."