

Virtual Math Teams: Designing Software Support for Collaborative Math Problem Solving Online

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The Virtual Math Teams (VMT) project is an NSF-funded research program through which an interdisciplinary group of researchers at Drexel University investigates innovative uses of online collaborative environments to support effective K-12 mathematics learning. The project aims to extend the existing services of the Math Forum (<http://www.mathforum.org>) to solicit active participation of students to discuss math problems together, and to share their findings and experiences with other members of the Math Forum online community. In particular, in collaboration with researchers at Fraunhofer IPSI in, Darmstadt, Germany; the project is developing a service that includes a synchronous communication tool called VMT Chat and an integrated Wiki component to support asynchronous collaborative knowledge building activities. The chat tool provides two main interactive components, namely a text-based chat and a shared whiteboard. One of the unique features of this chat system is a referencing support mechanism that allows users to visually connect their chat postings to previous postings or to the graphics on the board. Moreover, in the near future small groups in the chat rooms will be able to automatically publish selected excerpts from their chat discussions on the Wiki, and hence share their findings with other groups. This poster will present the current state of our software development and outline our recent findings regarding how small groups of students put various features of the VMT system into use to co-construct mathematical objects, make sense of them jointly, and incorporate them into solution accounts to address their shared tasks.