



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

Name(s) Mohammed Abdulwahhab; Simar Chhabra; Keshav Rao	Project Number 35421
Project Title Building Habit Forming Educational Applications Using Software and Cognitive Analytics	
Abstract Objectives/Goals Thousands of executives and entrepreneurs from well-known corporations spend excessive time and effort creating applications that succeed in the business world. As they research, plan and execute, they meticulously manipulate and emphasize certain features to enhance the effectiveness of their mobile or web product. In this project, we apply fundamental concepts of psychology to examine the strategies that make software applications successful and determine the habit-forming features that are optimized in order to retain users. Methods/Materials We created an application, PeerEditr, that gives students the ability to obtain crowdsourced feedback on academic projects. Initially, we surveyed 40 randomly selected students from our school and asked them their opinion of several different aspects of the application. These included efficiency, simplicity, functionality, connectedness and rewards. We had them rate these components on a 5 point scale and also asked them whether they would reuse the application again. After applying our research information and implementing new design techniques, or habit-forming features, into PeerEditr, we resurveyed these same individuals. We also consequently asked a new group of randomly chosen 40 students to rate the application to eliminate bias. Results We found that 75% of the resurveyed individuals would use PeerEditr again, a 42.5% improvement, and the mean value scores of the 5 point questionnaire increased by an average of 1.7 points for all the different components. Compared to the rating of the originally polled individuals, the newly surveyed people had a mean score increase of 1.4 and a 35% increase in user retention. Conclusions/Discussion Our results indicated that the collective variable of habit conditioning attributes directly led to the maintenance of a consistent user base, as the amount of users who would reuse PeerEditr increased significantly. The applications of our project are immense, as it can be utilized in any form of software, including educational, gaming, news, and social networking products. Our project helps substantiate the claim that features that condition users' behaviors leads to greater user retention.	
Summary Statement We conjecture that if certain habit forming features in popular internet platforms are isolated and implemented in an educational application, the replication will have higher user retention than that of the original.	
Help Received None	