Design

- BullyBlocker analyzes adolescents’ interactions with their social network to identify:
  - Warning signs: e.g., number of insulting messages and embarrassing pictures.
  - States of vulnerability: e.g., newcomers, age-gender group, members of minority groups, people with disabilities, etc.
  - The integration of these factors is guided by previous research results in psychology.
- Bullying Rank: Estimates the probability of a minor experiencing cyberbullying.
- The computed Bullying Rank is returned to the parent or guardian of the minor.
- The Bullying Rank is divided into three normalized levels of risk intensity: Low[0-0.33], Medium[0.34-0.66], High[0.67-1.00].

Identification and Notification Process

- Bullying Risk (Bullying Rank and key measures)
- Feedback and Anti-bullying Resources
- BullyBlocker aims to be a tool for parents’ involvement in their children’s safety

Risk Factors

- Daily Weighted Insult Count (DWIC) = Total Insults
- New Neighborhood Factor (NNF) [0-1]
- New School Factor (NSF) [0-1]
- Days Since New Neighborhood (DN)
- Days Since New School (DS)
- Photo Comment Insults +1
- New Neighborhood Decay Time (NNDT)
- New School Decay Time (NSDT)
- Warning Signs (WS) [0-1]
- Vulnerability Factors (VF) [0-1]
- Age and Gender Factor (AGF) [0-1]
- BR levels
  - Low risk: [0,0.33]
  - Moderate risk: [0.34,0.66]
  - Severe risk: [0.67,1.00]

Architecture

- Facebook Graph API
- Data Collection Module
- Cyberbullying Identification Module
- Resource Generator
- Bullying Rank Computation
- Notification (Bullying rank, stats, resources)
- Permanent Storage
- Parent Feedback

Problem and Contributions

- Cyberbullying is the use of online digital media to communicate false, embarrassing, or hostile information about another person.
- It is the most common online risk for adolescents and well over half of young people do not tell their parents when it occurs.
- There have been many studies about the nature and prevalence of cyberbullying.
- Relatively less work in the area of automated identification of cyberbullying.
- The focus of our work is to develop an automated model to identify and measure the degree of cyberbullying in social networking sites.
- We present the design of a model for identifying cyberbullying that builds on previous research findings in the areas of traditional bullying and cyberbullying in adolescents.
- We also identify challenges and opportunities to integrate the latest results from psychology and social network data analysis to address a problem of great social impact.

Publications