**Summary**

Tater is a qualitative research tool that enables users to annotate text with project-specific codes. The web-based application gives project administrators the ability to create user groups and control permissions to better manage collaborative text annotation projects. Users can view annotated texts and filter by one or multiple keyword annotations in any number of documents. Tater’s filtered annotations and code summary statistics make it easy for users to perform cross-text annotation analyses and identify new themes within their data.

**Background**

Qualitative data is an integral part of scientific and social research, particularly in identifying previously unknown human behavioral themes that can help identify health risk factors. Interviews, observational/field notes and other qualitative texts complement quantitative science in profound ways. For example, qualitative analysis can be a powerful tool in understanding disease emergence and transmission mechanisms, as demonstrated by the identification of traditional burial practices as a transmission route during the 2014 West African Ebola Virus Epidemic. Thorough content analysis of qualitative data in academic, scientific, and political contexts enables professionals to identify new themes, compare multiple texts for inconsistencies, and ultimately inform policy. While the addition of qualitative data as a complement to quantitative data means more comprehensive research, data management, and storage, the time consuming nature of keyword coding methods is a barrier to the implementation of qualitative analysis.

**Problem**

Qualitative studies often involve large quantities of informational interviews, observations, and field notes, making data analysis a complicated and arduous process. Current cross-referencing methods are often done by hand, making simple comparisons between multiple texts time-consuming. To overcome these challenges, qualitative researchers use content analysis techniques based on coding keywords devised to represent study themes and interests. Typically, teams of scientists and students code each document with keywords to organize qualitative data, but cross-text analysis remains an inefficient and difficult process. Without a simple way to compare annotations across multiple texts, research may run out of time, funding or interest before a thorough analysis can be done.

**Solution**

Tater is an easy to use annotation app that enables users to code, analyze, and export text data. Tater’s intuitive design and cross-text capabilities make qualitative data easy to use in both qualitative and quantitative studies in a wide variety of scientific fields. Users customize a set of hierarchical coding keywords specific to their project or organization and collaboratively upload and annotate text data. Quick, customized annotation data from multiple documents alleviate the previously arduous process of cross-text analysis and facilitate the discovery of previously unidentified trends, factors or themes within the study, propelling scientists to more in-depth analyses.

**Intended Audience**

TATER is intended to serve as a tool for scientific and social researchers in their primary and secondary analyses of textual qualitative data. TATER will serve users through a secure project-specific or organization-specific web interface hosted on the TATER domain (organization.tater.io). Data is secured and only accessible to users of an organization on its specific instance.

**Components & Features**

*Account Management*

There are two types of Tater users on organization-specific site: admin users and group-specific users. Admin users have the capability to create and manage multiple Tater projects and are typically Principal Investigators or Project/Program Coordinators. Admin users can control data access permissions by creating group-specific users. Group-specific users are only able view, annotate, and analyze documents in the group they are assigned.

*Coding Keywords*

Admin users can customize a hierarchical set of study-specific coding keywords for content analysis. Headers, sub-headers, and keywords are defined and assigned a specific color for annotation. As researchers discover new themes and topics, users can add new keywords to their Tater code set.

*Annotation Interface*

All users can upload qualitative text as documents in project groups and annotate with the organization’s coding keywords in the Tater annotation interface. The annotation interface displays three separate columns: code keywords, the body of the document text, and annotations within the document. All code keywords are listed in a three-layer hierarchical manner with keywords nested under headers and sub-headers. To annotate a section of text, users select the text and then click on the keyword with which they would like to annotate. In Tater, multiple users can collaboratively annotate the same text and flag specific annotations for questioning or importance. Each annotation shows the coded keyword and the user account that added that annotation. All activity in the annotation interface is automatically saved to the document, and accessible by the Admin and group users.

*Analyzing Annotations*

Tater makes analysis of multiple texts extremely quick and simple. The annotations interface is customizable according to user’s interests or research goals. Users can view annotated text across any number of documents and have the ability to filter annotations by selecting specific coding categories, keywords, or flags. Annotations can be exported from the app in a CSV spreadsheet for data sharing, publication or further analysis. Tater provides users with summary statistics on coding activity in their group. Code-use statistics are calculated for use in monitoring dominant themes in their project.

**Value**

Tater is a practical tool for all scientific and social professionals conducting qualitative research. Tater saves researchers time and money by making content analysis simple through easy-to-use project management, annotation, and customized cross-text data analysis tools. Filtering and analyzing project annotations in unstructured, qualitative text promotes the identification of new topics and themes to inform secondary analysis. Annotation exportation allows collaborators to share data and prepare data for publication. The Tater application can address qualitative research needs for a variety of topics including medicine (particularly professional-patient interactions), history, literature, and policy text analysis. Tater’s manual annotation technology can also be used as a tool in machine learning research and development. For instance, Tater could be used to gather crowd-sourced annotations via Internet marketplaces (ie, Amazon Mechanical Turk) for any annotation task.