**Work Breakdown Structure (WBS)**

**Project Title:**Cyberbullying Detection Using Support Vector Machine (SVM) Algorithm

**Members:**

Ballesteros, Faith I. – Documentations Manager / Design Lead (UI)

Capuz, Paulo Miguel S. – Developer

Juarez, Jason E. – Documentations Manager / Analyst

Mallari, Samantha G. – Project Manager / Documentations Manager / Developer

Samillano, Eva R. – Analyst / Developer

1. **Initiation**
   1. **Determine project team members**
   2. **Recommend ideas**
   3. **Create project proposal**
   4. **Deliverable: Submit project proposal**
   5. **Milestone: Project proposal approved**
2. **Planning**
   1. **Determine client**
      1. Deliverable: Submit client request form
   2. **Determine project adviser**
      1. Deliverable: Submit project adviser request form
   3. **Determine project consultant**
      1. Deliverable: Submit project consultant request form
   4. **Hold a meeting**
   5. **Create project plan**
   6. **Deliverable: Submit project plan**
   7. **Milestone: Project plan approved**
   8. **Create progress report**
   9. **Deliverable: Submit progress report**
3. **Research**
   1. **Research Natural Language Processing (NLP)**
   2. **Research text classification concepts**
   3. **Research Machine Learning**
   4. **Research Support Vector Machine (SVM) algorithm**
   5. **Obtain cyberbullying statistics**
   6. **Obtain related researches**
4. **Experimentation**
   1. **Perform data collection**
   2. **Deliverable: dataset/corpus**
   3. **Perform text preprocessing**
      1. Clean dataset
      2. Perform tokenization
      3. Convert data to Bag-of-Words format
   4. **Perform text annotation**
   5. **Deliverable: file in .arff**
   6. **Implement SVM algorithm on the data using WEKA**
   7. **Deliverable: cyberbullying detection model**
   8. **Milestone: Working cyberbullying detection model created**
5. **Software Development**
   1. **Create Software Requirements Specification (SRS)**
   2. **Deliverable: Submit SRS**
   3. **Milestone: SRS approved**
   4. **Create system architecture diagram**
   5. **Deliverable: Submit system architecture diagram**
   6. **Create Context & Data Flow Diagram (DFD)**
   7. **Deliverable: Submit Context & DFD**
   8. **Create UML Diagrams**
   9. **Deliverable: Submit UML Diagrams**
   10. **Develop web application prototype**
       1. Frontend
          1. Create wireframes
          2. Deliverable: Submit Wireframes
          3. Develop Graphical User Interface (GUI)
       2. Backend
          1. Create use cases
          2. Deliverable: Submit use cases
          3. Create process event table
          4. Deliverable: Submit process event table
          5. Create Entity Relationship Diagram (ERD)
          6. Deliverable: Submit ERD
          7. Create database
          8. Connect database
          9. Program backend logic
       3. Deliverable: Submit web application prototype
   11. **Develop system**
       1. Automate statement acquisition
       2. Automate text preprocessing
          1. Automate cleaning of dataset
          2. Automate tokenization
          3. Automate dataset conversion to Bag-of-Words (BoW) format
       3. Implement cyberbullying detection model on the statement using WEKA
       4. Output on database (as String)
       5. Deliverable: Submit system
   12. **Test system’s accuracy**
       1. Create test plan
       2. Deliverable: Submit test plan
       3. Create test cases
       4. Deliverable: Submit test cases
       5. Simulate system on web application prototype
   13. **Milestone: Working cyberbullying detection and reporting system created**
6. **Closeout**
   1. **Create user manual**
   2. **Deliverable: Submit user manual**
   3. **Have users try the system**
   4. **Distribute user acceptance form**
   5. **Create research paper/thesis**
   6. **Deliverable: Submit research paper/thesis**