CS 411W LAB I - PRODUCT DESCRIPTION DOCUMENT

1. Introduction
   - Societal problem
     ○ # of Undergraduates transitioning to Graduate program
     ○ Outdated delivery methods
     ○ Lost/forgotten emails
     ○ Miscommunication and misunderstanding
     ○ Lack of notifications/reminders
     ○ Missed opportunities
   - Describe customer
     ○ ODU
       - ODU CS Department (main initial focus)
     ○ Other universities/community colleges
     ○ Funding agencies
   - Needed solution characteristics
     ○ Distribute opportunities appropriately
     ○ Reminders
     ○ Direct communication
     ○ Trending
   - Introduce “ResearchLink” as solution
     ○ Provide hub for opportunities
     ○ Removes middleman
     ○ Intuitive reminders

2. Product Description
   - Summary
     ○ Integrate into ODU
     ○ Link research companies to grad students
     ○ Promote research/co-op positions.
   - Goals
     ○ Intuitive organization or process
     ○ Promotion of communication
     ○ Enhance opportunity exposure
   - Objectives
     ○ Increase research program affinity
     ○ Attract more Graduate students to ODU
     ○ Increase ODU Undergraduate transition to Graduate program

2.1. Key Product Features and Capabilities
   - Key Features
     ○ Account creation
     ○ Opportunity creation
     ○ Filtered searchable opportunities
2.2. Major Components (Hardware/Software)

- **Hardware**
  - SQL Database Server
  - Web Server

- **Software (LAMP Structure)**
  - Linux
  - Apache
  - MySQL
  - PHP

3. Identification of Case Study

- **Description of Issue**
  - Effects on Undergraduate research
  - Current solutions
    - Pivot
    - University developed databases
      - Harvard, Penn State, etc...
  - Description of current research problems
    - Undergraduate Participation
      - Unprepared Graduate students
      - Undiscovered interest in research
      - Loss of potential graduate students

- **Problem Evidence**
  - Cited Problems
    - Degraded communication
      - Sub-optimal amount of candidates
    - Limited knowledge of opportunities
      - Poor advertisement
    - Objective evidence
  - Statistical Evidence
    - Undergraduate research participation
    - Undergraduate research / graduate education correlation

- **Prospective Users**
  - Universities
    - Old Dominion University
      - Computer Science Department
  - Research organizations

4. Product Prototype Description
4.1. Prototype Host Architecture (Hardware/Software)
   - Hardware
     - Intel Chipset
     - Intel Xeon CPU
     - 10,000 RPM HD
     - 32 GB RAM
   - Software
     - Windows Server 2012
     - Microsoft Hyper-V

4.2. Prototype Features and Capabilities [Dinah]
   - Features
     - Centralized communication
     - Customizable alerts
     - Research opportunity creation
     - Member group formation
   - Capabilities
     - Zone specific key word search
     - Finance tracking
     - Interest predictor

4.3. Prototype Development Challenges [Kevin]
   - Integration with existing systems
     - Banner
     - My ODU
   - Web design/development skill set deficiencies
     - Knowledge of HTML, CSS, JavaScript, PHP, Laravel Framework
     - Web application security
     - Testing
     - Deployment