

# Software Engineering Project

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Project Team Whamz  
Fall Semester  
CSC 4350

**September 1<sup>st</sup>, 2016**

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# CSC 4350 Software Engineering: Whamz Topic

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For the Fall 2016 Software Engineering course, our group has chosen to create a grade bookkeeping and analysis program. This program tackles a problem that millions of students deal with on a daily basis, at almost every education level.

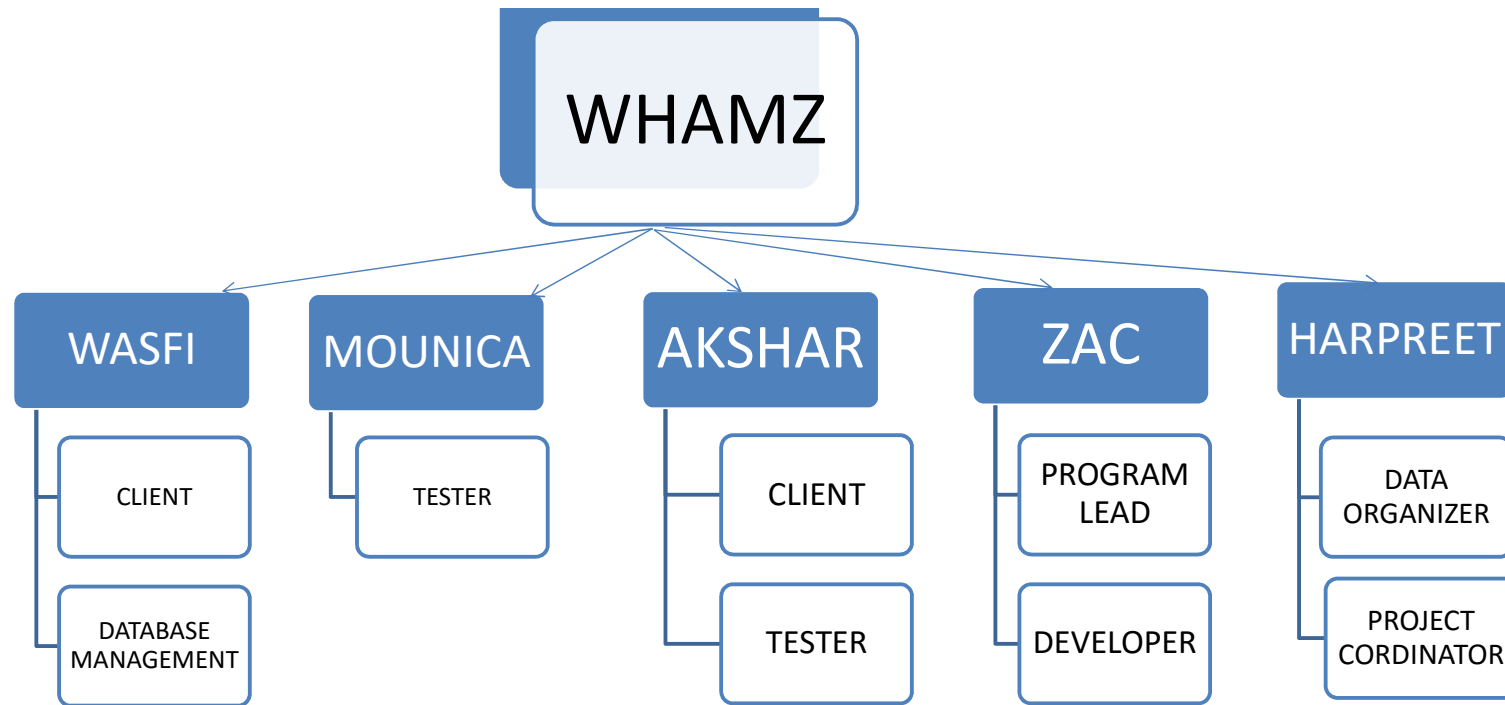
Most students take more than one class, and more often than not each class's grade structure differs greatly. Some classes put more weight on exams, while others favor assignments. Most schools utilize a program at their institution (such as Georgia State's Desire2Learn) that allows teachers to keep a grade book and allow students to see their grades as the semester progresses. However, these programs are flawed at many levels.

First and foremost, many teachers still keep a paper grade book and just don't utilize these programs. They then return the graded assignments to the student. This is not only a wasted expense on the universities end because they have paid for something that is not being used, but it also creates anxieties for the student as well as more work to calculate the grade on their own.

Next, many teachers are uneducated about how to use these programs properly. This creates false information that is being relayed to the students, along with frustration on some professors because they are forced to adapt to something that goes against the systems they have put in place that work best for them.

The Whamz group has decided to solve this issue very simply, by putting the power in the hands of the student. The program has the ability to be interfaced with instructors if they so desire. Our program will give the ability for the user to create multiple course's while detailing the specific grade weight for each individual course. The user can insert a grade type such as homework, project, quiz, test, exam, etc. The user can add these as the course progresses or initially if the course is organized as such. The program will output a real time grade as this data is inserted. The program has two specific grade options as well. The user can ignore a grade, in the case of dropped the lowest certain grade. The user can also "audit" a grade input. This brings up a slider that allows a student to see what he or she would need to get on a grade input to achieve a certain final grade. As courses often have a disclaimer stating that the course can be altered at any time for any reason, our program allows the flexibility to adapt with these changes as well as apply curves for individual grade types and the entire course.

Our program's ease of use and accessibility will only help to strengthen the education system. Our goal is to detract concern from the logistics surrounding obtaining education in modern society, and focus on the learning itself so students obtain the best knowledge possible to succeed.



**AKSHAR A PATEL**  
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**EDUCATION**

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**GEORGIA STATE UNIVERSITY**

*August 2013 – May 2017*

- Candidate for Bachelor of Science in Computer Science
- GPA: 3.56 GPA
- Related Coursework: Data Structures & Algorithms (Fall 2014), Design and Analysis of Algorithms (Fall 2015), Systems-Level Programming (Spring 2016), Big Data (Spring 2016), Artificial Intelligence (Spring 2016)

**SKILLS**

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**Software:** Eclipse, Visual Studio, Xcode, and Sketch 3, Tableau, Adobe Suite  
**Programming:** Java, HTML, CSS, JavaScript, Swift, and Objective-C, Python, Unix, C/C++, MongoDB  
**Foreign Languages:** Fluent in Hindi and Gujarati, Basic Spanish  
**Communication:** Experience speaking in front of groups of over 50 people.

**PROFESSIONAL EXPERIENCE**

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**United States Department of Defense, Fort George Meade, MD**

*June 2016 – August 2016*

*Angular Developer Intern*

- **Cleared TOP SECRET / Sensitive Compartmented information and Special Intelligence**
- Had an Agency Special Background Investigation and Polygraph
- Worked at Lockheed Martin Facility with The Boeing Company
- Worked on a Business Integration Platform
- Relevant Technologies: Apache Karaf, Maven, Confluence, Nexus, JIRA, Angular JS, OSGi, Gitlab

**STATE FARM, Dunwoody, GA**

*June 2015 – December 2015*

*Systems iOS Mobile Developer intern/Co-op*

**Pocket Agent (application):**

- Redesigned agent search view, updated elements of UI to fit current standard practices
- Updated logic from Objective-C to Swift as well as optimized to work seamlessly with the rest of the app

**Internal State Farm Apps:**

- Working on the conversion of legacy State Farm applications from Objective-C to Swift
- Updating elements of UI to fit current standard practices
- Building UI elements for new State Farm applications
- Optimizing logic to clear up standing errors in new State Farm applications

**LEARNORA.COM, Atlanta, GA**

*August 2014 – October 2014*

*Front-end Design Assistant*

- Helped Design Home and Feature Pages of LEARNORA Website
- Fixed minor bugs (improve UI) for the pages
- Helped Test Entire Website that includes front-end and database validation

**LEADERSHIP EXPERIENCE**

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**BAPS ATLANTA TEMPLE, Lilburn, GA**

*May 2013 – Present*

*Kishore Satsang Training Sanchalak, Activities Coordinator*

- Handle monthly assemblies held at the temple for elite teens in order to train them to become the future leads and co-leads of the temple, manage logistics, planning, and all IT related aspects of program
- Work with Co-lead to manage and execute once yearly outing
- Manage outing Budget; Taking account for any extra unforeseen expenses
- Work With Co-lead to design reports on all KST Kishore (teen) standings and overall KST program standings and Overview of KST program planning

8/31/2016

## **Harpreet Singh**

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### **Objectives**

To work with intelligence, excellence and diligence and to build my skills and talent that all together will add experience to my work.

### **Education**

Georgia State University

CURRENT/ENROLLED | Bachelor of Computer Science

- Member of ACM of Georgia State University.
- In top 5% high school graduates according to University of Georgia.

### **Java Educational Background**

CS 1301 – Introduction to Java I

CS 1302 – Introduction to Java II

CS 3410 – Data Structures

### **Work Experience**

- RGSA INC  
Job where had to set up new network station for a company's new location and also establishing a database server for that particular location.

### **Skills**

- Programming in JAVA, HTML, DHTML
- Familiar with JavaScript, Unix, Ubuntu.
- Networking: LAN & WAN.
- Troubleshooting.
- Good knowledge of Microsoft Office; MS word, Excel, PowerPoint and Access.

# Mounica Datla

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## Career Objective

Seeking for a job to pursue a highly rewarding career and healthy work environment where I can utilize my skills and knowledge efficiently for the organizational growth.

## Profile Summary

- An enthusiastic junior with highly motivated and leadership skills.
- Expert in implementation of each step of project.
- Eager to learn new technologies and methodologies.
- Always willing to innovate the new things, which can improve the existing technology.

## Personal Qualities

- Highly motivated and eager to learn new things.
- Strong motivational and leadership skills.
- Ability to produce best result in pressure situation.
- Excellent communication skills in written and verbal both.
- Ability to work as individual as well as in group.

## Education: Georgia State University, Jan 2014 – Present (Expected 2017)

Bachelor of Science in Computer Science (junior)

- Overall GPA 3.65

## Key Skills

- Proficiency with Microsoft Office, Microsoft Windows and Microsoft Server 2012.
- JAVA, HTML and DHTML, Oracle sql coding knowledge and skill.
- Knowledge of Linux (Debian and Ubuntu)
- Bilingual (Hindi)
- Strong analytical and problem solving skills
- Time management.

# Wasfi I. Momen

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## OBJECTIVE

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Participate in the creation of a grade auditing software through the Whamz group.

## EDUCATION

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- **Georgia State University**, Atlanta, GA Graduating May 2018
  - Elected to Honors Program at GSU
  - Received a Centennial Merit Scholarship
  - Currently working on B.S. in Computer Science; Seeking dual major in near future
- **Dacula High School**, Dacula, GA August 2010—May 2014
  - Graduated at Top 25% of Class
  - Unweighted GPA: 3.76/4.0; Weighted GP A: 3.8/4.0

## EXPERIENCE

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**Student Innovation Fellow**, Georgia State University, Atlanta, GA August 2014—present  
SIF for short, the Student Innovation Fellows work with students, professors, and staff from all disciplines throughout the University to come and work together on projects that will benefit classrooms, University, and the Atlanta community.

### *Projects:*

- **3D Atlanta:** Created a 3D environment of Atlanta circa 1930 to the present using historic resources from GSU and Emory. Used Blender for creating 3D models of buildings, ArcGIS to organize data on historic map information and spatial awareness, and Unity with C# for final product interaction and deployment through Oculus Rift and Google Cardboard virtual reality headsets.
- **Atlanta Mass Transit:** Used Geographic Information Services provided by ESRI to create an interactive story map of the Metropolitan Atlanta Rapid Transit Authority (MARTA) lines throughout the years of Atlanta's rail transportation. Utilized Node.js, HTML, CSS, and JavaScript to assist in the project.
- **Tools Wiki:** Created a website of tool resources for GSU staff and students to use in the classroom and promote various services offered by organizations like SIF. Used a Wordpress deployment through Azure Web Application and through GSU's native Wordpress Edublog; Used Javascript, HTML, and CSS.

**SCAMP Hackfest**, Microsoft Headquarters, Redmond, Washington May 2015  
The Simple Cloud Manager Project, or SCAMP for short, utilized Azure and other beta technologies to create a cost-focused cloud management solution to various companies and organizations that was simple to use to non-technical users. <https://github.com/SimpleCloudManagerProject>

- Designed and coded the front-end end interface for the SCAMP platform. Used Balsamiq for mockups, Learned Angular.js to bind data to interface view; Also learned lots about cloud infrastructure, software design, and IoT.

## COMPUTER SKILLS

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- Basic knowledge of Java language
- Create websites using HTML, CSS, and JavaScript
- Familiar with the Node.js and Bootstrap frameworks
- Proficient in several Adobe Products for use in web design
  - Includes: Illustrator, Indesign, and Photoshop
- Strong oral and written communication skills for use in groups as well as with customer service
- Consistently blog about projects and any other interests:
- Consultant for using technological solutions in projects

## LEADERSHIP POSITIONS

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**Student Innovation Fellow**, GSU, Atlanta, GA August 2014—present

- Lead certain projects in SIF
- Technical consultant for projects
- Acted as a technical interviewer for SIF interviewees

## ACHIEVEMENTS

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- **Dean's List** from the GSU Honors College
- **Graduated with Honors**, received with Cum Laude Medal for over 3.5 GPA
- **Academic Decathlon**, Scholar Gold level achievements in Economy, Science, and History categories

# Zachary Scott Till

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**OBJECTIVE:** Initiate and complete a working computer program in the Software Engineering course as required by Georgia State University for the Computer Science Undergraduate Degree .

## ***EDUCATION***

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### **Georgia State University**

Current Student

*Atlanta, Georgia*

Bachelors of Science in Computer Science

~14 Credits Scheduled for Fall 2016 Semester

### **Oakland University**

September 2013-April 2015

*Rochester Hills, Michigan*

Bachelors of Science in Computer Science

~34 Credits Completed

### **University of Toledo**

August 2012-May 2013

*Toledo, Ohio*

Bachelors of Social Work

~31 Credits Completed

### **Lahser High School**

September 2010-June 2012

*Bloomfield Hills, Michigan*

~Received High School Diploma

## ***WORK EXPERIENCE***

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### **Apple Inc.**

September 2015-Present

*Atlanta, Georgia*

iOS Advisor

### **Breckers ABC Tool Co.**

August 2014-April 2015

*Roseville, Michigan*

Warehouse Maintenance

## ***ADDITIONAL INFORMATION***

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### **Technical/Computer Skills**

- Computer Hardware Selection/ Assembly, System Formatting
- Software Installation/ Configuration, Troubleshooting
- Operating Systems: Mac, Windows, Linux
- Coding Languages: Java, HTML, CSS
- Software: Microsoft Office Suite, Adobe Creative Suite



SW Engineering Course Project Contract

Overview

You are organizing into groups for the purpose of developing a software product. Each group is required to follow the schedule and commitments below in designing and implementing the system of its choice. Each group must adhere to the following constraints:

1. The project must not be trivial, but not so large as to not be completed on time. 7K-8K is required.
2. The project must be coded in JAVA. No special hardware or exotic software support should be required; i.e., the finished system should run on a stand-alone IBM compatible PC.
3. The system must be easy to test; thus, interactive systems are required.

Deliverables

There are seven (7) documents that are due at different times during the semester. Contents of these documents can be determined from the text or lecture material. All pages must be numbered. All text must be produced on a word processor. All pages must be burst. All pages must be fastened together with a staple or other fastener.

**1. Team Description & Project Management** (Project Structure, Team Structure, Personnel Qualifications and Team Assignments). A Team Coordinator must be designated. The Team Coordinator interfaces with the lecturer and performs turnovers of deliverables. The signature of Team Coordinator agreeing to this contract for the Team is required on a copy of this contract which is turned in with the Team Description.

**2. Requirements elicitation [including Function Point cost driver evaluations]**

- (a) Follow the template of page 126.
  - (i) Problem statement in terms of “shall” statements describing the system to be developed.
  - (ii) Extracting use cases, etc. as will be discussed in class.
- (b) Include a rationale to requirements elicitation.

**3. System design**

- (a) The template on page 222.
- (b) Include a rationale to System design.

**4. Object Design**

- (a) The template on page 277.
- (b) Include a rationale to Object Design.

**5. Rationale Management & User's Guide (manual – which must include passwords, etc.)**

- (a) The template on page 318.

**6. Implementation (including coding and testing, and COCOMO personnel cost driver evaluations)**

- (a) Include an analysis between FP and COCOMO, stating which you think is better and why.
- (b) Include documentation of all tests and bugs (including what was done to remove bugs), etc.

**7. Project Final Report** (One complete copy which will be kept by the lecturer.)

- (a) Includes the revision of all the previous documents – excluding the part on rationale of each individual document.
- (b) Take these rationale from the individual documents and put them together as “**Rationale for Project**”.

**In-Class Presentations**

Each group must be prepared to make Intermediate Progress Reports (IPRs) during the semester and to deliver a formal presentation during the last “two weeks” of classes before Thanksgiving break. The IPRs are to be kept to 4 minutes. For the formal class presentation, the following minimum format is expected:

1. Synopses of the system specification and the requirements specification
2. A summary of the software system design
3. A brief analysis of the design and design process
4. At the very end (last 10 minutes) a demonstration of the system\*

Formal presentations should be well-organized because each group will have a maximum of about 30 minutes. Visual aids must be used, including the overhead projector or power point. The presentation must include a demonstration of their system on a computer\*. (Schedules for these presentations will be made later.)

**Presentation Ground Rules**

Presentations (IPRs and formal) are NOT “gripe sessions.” Presenters must conduct themselves in a professional manner. When presenting, consider yourself representing your project, and all the work done by the team members, to SW development peers, and possibly to management, in a SW development “department” at a department meeting. You are expected to communicate the status of the project, noteworthy accomplishments of the team, and issues (yet-to-be-resolved points) that the team is working on.

Remember, you are a student of all aspects of SW development, which includes the communication of technical material simply, efficiently, and effectively. If you lapse and say things as “Wow, we are really behind! We’re having a hard time working together!”, then you are failing to emulate an environment in which you can observe the results of your efforts to summarize tersely and to communicate effectively the highlights and important aspects of an important project (yours!), and, moreover, you are denying your fellow students the chance to study correctly made presentations and to pose questions objectively. The audience must also conduct themselves in a professional manner; sensible, helpful questions from the audience are expected. Failure to follow these ground rules will result in points deducted from the presentation portion of the project grade.

**Contents of the Final Report**

**NOTE: ALL text must be produced on a word processor. ALL pages must be placed in a binder. ALL pages must be numbered. ALL sections must be separated by labeled tabs.**

The Final Report will include: a documented, tested, and carefully debugged set of software, and updated versions of the six documents. The report should **also** include:

1. Test Documentation, including:
  - a. Final Test Plan and Test Schedule
  - b. A list of all bugs found during each phase of testing. Each bug must be accompanied by:
    - (1) description of the bug,
    - (2) what test found the bug and the date and time it was found,
    - (3) what fixed the bug.
2. **A Project Legacy**
  - a. A discussion of how well the project agrees with its original goal
  - b. What went well and what went wrong
  - c. An analysis of the design in retrospect:
    - Any changes that would improve the design?
    - Would you use the same design if you were doing the project again?
  - d. An analysis of the suitability of the language environment for such a system, including a discussion of how the language helped or hindered the project
3. Complete listings of all source code, and disks containing all source code files, data files (if any), and an executable file.

### Grading Criteria

Each team member will be required to submit a confidential evaluation on all other members of the project team on the day the final report is due. (Failure to turn in an evaluation can result in a loss of up to **10** points from your own individual project grade.) This evaluation will be accomplished only by the submitter and will assign the level of effort that every other team member contributed to each deliverable. These evaluations will be used to determine the number of points (out of 40) each team member receives.

The following will contribute to project grading:

1. **Timeliness (and quality) of first six documents.** Failure to submit a deliverable on time will result in heavy point penalty. This is done to help you keep a pace that will result in a successful project. 11 points will be deducted for each calendar day a deliverable is late. For example, if a deliverable is due on 11/19, 1:10p and if the Team Coordinator turns it in 11/20 at 8:00a, the deliverable loses 11 points, if it is turned in 11/21 at 8:00p, the deliverable loses 22 points, etc.
2. Quality, completeness, and organization of the Final Report
3. Agreement of project with System Description
4. Project scope – Is it complex enough to provide good experience but simple enough to be completed within time and provide the 7-8K of code?
5. Quality and completeness of the Software System Design
- 6 Thoroughness, completeness, and organization of testing

7. Software System operation

(Lack of errors, system crashes, ease of use, readability of user manual, correctness and completeness of user manual, etc.)

8. Quality of presentation

(Organization, pertinence, clarity and understandability of oral presentation, preparation and use of visual aids, effectiveness of demonstration\*, etc.)

9. Implementation faithfulness to design; programming style

(See the Peer Review handout for an example of how these points may be graded.)

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Signed by Team Coordinator on Behalf of the  
Project Team \_\_\_\_\_  
acronym

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\* Presentations are planned for a multimedia room with a stand alone PC; may have to use a portable with a projection system; may not have any computer for demonstrations. Be prepared!