MEMORANDUM

To: B.Arch. B.Sc. Darlene Kilian

From: Falk-Jonatan Strube and Dimitrij Becher

Date: April 20, 2016

Subject: Object oriented programming and modelling

This is in response to the proposal assignment due on June 21st of this month. As I had mentioned in the topic planner and proposal bulletin board recently, I intend to provide an informational view of contemporary microchip fabrication and the way in which the photolithography section of the wafer fab affects the manufacture of microchips. The following proposal describes the problem that this project addresses, outlines the information I intend to present, and discusses the time and resources required to complete the study.

Background

Class Situation

Students in the Semiconductor Manufacturing Technology (SMT) program at Austin Community College often hear that the photolithography section of the wafer fabrication facility is the most important part of the fab. However, this aspect of the process in manufacturing semiconductors receives little or no in-depth coverage in any of the SMT courses I am aware of. Students graduating from the SMT program may be at some disadvantage when they seek jobs in industry if they have no understanding of the photolithography process.

Proposal

In the report, I'll present how and why the photolithography section of the wafer fab is so important to the manufacturing of semiconductors (microchips.) This section will also cover the basics of manufacturing microchips in a specific manufacturing process flow. I will not be presenting any information that may be trade secrets to particular companies, such as data about the copper chips that IBM currently has in development, or the steps that IBM is taking to build a 1 GHz chip.

Benefits

The primary benefit I see from writing this report will be the educational value—or SMT students and others interested in the semiconductor manufacturing process. To my knowledge, this direction in learning about how the different sections of the wafer fab has never been taken before. Another benefit is that this report will be written in a student's point of view, so that may help others understand the process more effectively. One other benefit is that this project ought to show my interest in the field and the professionalism of my work. I intend to list this project on my resume and have a copy of the report in my portfolio when I interview for jobs in this field.

Results

The end product will consist of at least four single-spaced pages for a written version, and at least four files for the HTML version. It will consist of the microchip fabrication process flow and the explanations of how and why photolithography is important to fab operations. Graphics illustrating the universal process flow and effects of photolithography on the microchip fabrication process will be included to emphasize points presented in the report. To clarify the technical language used in the report, I will append a glossary.

Projected Schedule

The following is a tentative schedule for the report:

June 21 Proposal uploaded; begin research. July 7 Complete compiling research from library, Internet, and textbooks. July 19 Complete interviews and visits to wafer fabs. August 6 Final copy of report uploaded. This schedule is subject to change as required, but I do not foresee any problems in maintaining this timeline.

Our Qualifications

Here are my qualifications to do this project:

I am currently an ACC student pursuing a major in Semiconductor Manufacturing Technology, and I will receive my certification by early August of this year. My current grade point average in the program is 4.0 out of 4.0. My studies have included the basics of manufacturing industry operations, the microchip manufacturing process flow, the theories behind the processes in the manufacture of microchips, and basic electronics. I am familiar with both PC and Macintosh computers, and can use MS-DOS 6.22, Windows 3.11, Windows 95, and MacOS 8.1. My software knowledge includes Ami Pro 3.1, Microsoft Works 4.0 for Windows 95, and Netscape 4.05. I have written personal web pages since 1994, and can utilize HTML 3.2. I have also made some graphics for my web pages, using Microsoft Paint and Jasc's Paint Shop Pro (3.11 to 5.0.) With the experience I had mentioned, I can easily write a report for both Works and HTML formats.

Tentative Outline

I. bla

A.

Tentative Bibliography