UC Berkeley, EECS Department   Prof. B. E. Boser

EE 49   **PROJECT: Plan & Milestones**

List the name of the participants (one or two).

Note: You may partner with anyone in EE49, not necessarily your lab partner.

Name	SID

1   Objective

The project combines what you have learned in the class in exciting IoT application you choose, build, and demonstrate.

Perhaps you know just exactly what you are going to build (that will revolutionize the world and eclipse smart phones in pervasiveness). If you would like some ideas to start from, you may want to have a look at these links; you can find many more on the web: various electronics projects, robots or more (many of these ideas can be implemented with the parts from the lab), some cool ideas here, tons of ideas, not all electronics. Post resources to share on Piazza.

Parts beyond those included in the lab kit are available from major (online) distributors. Specialized sources include (many more, just search the web):

- Adafruit: breakout boards, etc., including the Huzzah32

- Sparkfun: more breakout boards, e.g. the MPU9250 in the lab kit.

- Pololu: motors, robotics.

- Digikey or Mouser: huge inventories, cater to professionals.

2   Organization

The most important ingredient to a successful project is to stay organized. This document helps you with that.

As in prior labs, there will be weekly checkoffs. Each checkoff is marked with one of the following labels, indicating when it will happen. You are welcome to work in the lab whenever space is available, but to avoid crowding (and delays, as checkoff will often require in-depth discussions and take more time than in other labs), go to your scheduled lab session for checkoffs. Instructors will also be available during scheduled lab hours to answer questions and help troubleshooting.

Checkoff label	When	Goal
Plan	$4/2 \ldots 4/6$	Discuss and get feedback on project idea, feasibility, possible additions. Settle on milestones and the final outcome.
Milestone 1	$4/9 \ldots 4/13$	Demonstrate milestone achievements, discuss work for next week and plan changes, if any.
Milestone 2	$4/16 \ldots 4/20$	Demonstrate near complete project, discuss final touches, and final demo and presentation.
Demo	$4/26$ 5-9 PM	Give a short presentation of the motivation and results of your project, followed by a life demonstration.

3 Project Title

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4 Abstract and Features

Choose a short and description of your project, including the motivation and goal, major elements, and capabilities. You may type your responses on separate sheets and staple them to this document. But do not loose the document, you will submit it at semester's and for final scoring!

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Be prepared to explain your project in detail to the instructor, and answer questions about the execution.

This course is about IoT and Electronics, so naturally your project should leverage these! Below is a list of major IoT building blocks. For each, describe how your project is incorporating this concept. Not all projects require everything.

Scoring is primarily based on the thoroughness and practicality of the plan, not the the scope. You may be asked to revise your plan, expanding or reducing the scope and provide additional information about execution.

Sensing–acquire information from the "real world" such as environmental parameters, motion, location, etc). Describe how your project leverages sensing.

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Actuation–acting on the environment with motors, switches, light, sound, ...

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Computing–the program orchestrates the show, using data gathered from sensors to control the actuators and send and get data from the cloud. Explain the main programming tasks, proposed implementation and challenges you foresee.

$$\boxed{}$$

Plan ☐ (1 pt)

Communication–communicate (wirelessly).

$$\boxed{}$$

Plan ☐ (1 pt)

5 Parts List

List the parts used by your project. For each part, specify if you have it already (it is in your lab kit), and, if not, where you will get it. Verify that the list is complete and ascertain that you can get all parts in time to assemble and test your project! Be ready to explain how the parts you have chosen work, and how you will incorporate them in the project.

Part	In Lab Kit?	If not, source

Add extra pages as needed.

Plan ☐ (2 pt)

6 Milestone 1

Describe the objectives for the first milestone. E.g. parts ordered/received, hardware assembled, software written and tested.

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Plan ☐ (3 pt)

Describe and demonstrate the accomplishments for milestone 1.

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Milestone 1 ☐ (10 pt)

Describe discrepancies between the original plan and the accomplishments, if any. Also list elements added to the project.

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Milestone 1 ☐ (5 pt)

Describe changes to the plan, if any. If anything turns out to be not feasible (e.g. since a part could not be obtained or does not function as expected), how are you going to modify the project to still achieve your goals?

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Milestone 1 ☐ (5 pt)

7 Milestone 2

Describe the objectives for the second milestone. List major functionality and your testing plan.

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Plan ☐ (3 pt)

Describe and demonstrate the accomplishments for milestone 2.

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Milestone 2 ☐ (10 pt)

Describe discrepancies between the original plan and the accomplishments, if any. Also list elements added to the project.

(empty box)

<div align="right">**Milestone 2** ☐ (5 pt)</div>

Describe changes to the plan, if any. If anything turns out to be not feasible, how are you going to modify the project to still achieve your goals? Hopefully there is nothing to report here, as we are close to the final deadline.

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<div align="right">**Milestone 2** ☐ (5 pt)</div>

8   Final Project Presentation and Demo

Describe what you planning to present and demonstrate.

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<div align="right">**Plan** ☐ (3 pt)</div>

Final Presentation: <div align="right">**Demo** ☐ (20 pt)</div>

Final Demo: <div align="right">**Demo** ☐ (20 pt)</div>