MM Interview Format

Leading the Micromouse Project next year is a significant responsibility, and it is natural to feel uncertain about taking on the role. Concerns about workload, time management, or qualifications are common. Those who have led the project before have faced similar doubts and understand these challenges. If you are interested in being a Micromouse Project Lead and these concerns resonate, please spare 5 minutes of your time and read the notes below.

The Application

In order to apply, you'll be asked to fill out a short application form. In this form, you'll put in some general information about yourself and indicate which positions on board you're interested in running for. Additionally, you'll be asked to describe why you're interested in the position.

This application is due **Thursday, April 17th at 11:59 pm**. Don't stress too much about this form – your response will not be the sole basis for elimination from candidacy

After the application phase, you'll be given an interview. In the rare case that we have an uncharacteristically large number of candidates apply to be Micromouse lead, we will send out a supplemental application whose responses we may use to narrow down the candidates. You will be notified about this within **24 hours** of the application deadline and you will be provided **48 hours** to complete this form.

The Interview (60 min)

The interview will consist of **three main sections** and will be conducted by the **two current Micromouse Project Leads** as well as **one to four other IEEE officers**. The former is to ensure a well-rounded candidate, and the latter is to mitigate the bias the two current Micromouse leads may have. We will be enforcing the time limits indicated below to ensure that we get through everything.

Mock Lecture (20 min)

In this section, we will be flipping the script. Instead of us giving you a lecture, **you'll be lecturing us**. The topic for this year is:

Motors & Encoders

Note: You will not be able to cover everything that we did. Instead, focus on the things that you can explain best, and what you think is most important when teaching students who have never seen this topic before.

We want you to deliver a focused lecture for 20 minutes *in your own teaching style*. If you like using slides, make your own (you may use ours for reference); if you prefer to draw on a whiteboard, feel free to do that as well. You should present to us as if we are next year's Micromouse students, and your primary goal should be to ensure that we can understand and engage with the material you're presenting.

Here are some tips for when you're practicing your presentation:

- In addition to preparing your lecture material, **put some thought into the presentation and flow**. A big part of some of these lectures is developing your content gradually and transitioning smoothly. Of course, sometimes large "jumps" in your content are inevitable, and in those cases we recommend taking these sections slowly to avoid barraging the audience with information they can't keep up with.
- Pay attention to the **body language** of your audience. We're humans, after all, and if you're paying attention to us, it'll be evident to you if we're bored or confused. If your explanation for a topic isn't working, try another way! The main goal here is to teach, and sometimes that requires going off-script or re-explaining things.
- Don't forget to stop for questions when appropriate! We'll occasionally raise our hands if we have questions, but sometimes we'll just stay silent to see if you'll pause and check in on us.

Technical Questions (12 min)

The other major section in the interview is the actual questioning portion. Here, we'll be asking you a variety of technical questions about Micromouse concepts to assess your ability as a project lead.

Schematic & PCB Review (10 min)

The next portion of your interview will consist of a PCB and schematic design review. We will give you a schematic and a PCB that has some problems. Your goal is to find as many of them as possible, walking us through the changes we need to make to resolve the issues.

The point of this section is not necessarily just to see who can find the most number of changes in the shortest period of time, but also who can best explain why certain parts of the PCB or schematic are wrong. This section of the interview will help us determine whether you have the technical skills for schematic and PCB design.

Debug Task (8 min)

In this section, you'll be asked to describe how you'd approach a common debug task. For example, we might ask you what you would do if a student came to you with problems with their IR sensors. The point of this section is to see your thought process while debugging and to see if you're taking logical steps to help your students fix their mouse.

Behavioral Questions (10 min)

Similar to the technical questions, the behavioral questions will test you on how you would deal with the day-to-day problems that leads face. For example, we might ask you about your approach to handling things like teammates not getting along.

We'll also be asking you about any changes you want to propose to the program, along with a rough timeline for the year. Don't be afraid to tell us why you didn't like certain parts of the program and how to fix/change them. Some of the best parts of the program were proposed as changes at some point in time. However, do note that we'll definitely be critical about these changes: we don't want you to propose something just for the sake of proposing something.

Signing Off

Micromouse is a tough project to progress through, so your persistence alone makes you a strong candidate. Try not to worry yourself with the interview process

and ignore any deceitful feelings of inadequacy. Many previous leads felt the same way when they applied.

Good luck!