**TEAM: LabRats**

**Overview:** The main purpose of the “Technical Demos” is to very clearly communicate the extent to which the team has identified key challenges in the project, and has proven solutions to those challenges. Grading is based on how complete/accurate the list of challenges is, , and how convincingly and completely the given demos cover the given challenges.

This template is fleshed out by the team, approved by CS mentor, and brought to demo as a grading sheet.

### Risky technical challenges

Based on our requirements acquisition work and current understanding of the problem and envisioned solution, the following are the key technical challenges that we will need to overcome in implementing our solution:

**C1: Ensuring the request form properly handles input and stores it.** We will need to make sure the system can handle lab request data from an input form, store it, and allow it to be properly displayed to the user when needed. This can be challenging with the suite of Microsoft tools we are currently using. Essentially, we’ll need to have functions for handling and validating each set of data, and storing it where it needs to go.

**C2: Correctly integrating ITS-sponsored tools to open up options for legacy support.** As we do not have prior experience in .NET Core, SQL Server, and the like before starting the first prototype demo, it will be a challenge to ensure that what we build is solid from a programming perspective, and that we don’t run into any future issues. As a result, we held two meetings with ITS employees to get both extensive training on the aforementioned tools, as well as consulting them on early issues we ran into with our prototype.

**C3: Integration with existing tools and databases.** We will need to make sure that the system integrates as well with pre-existing tools ACID and BioRaft, the respective chemical inventory and safety preparation modules. Since this can inherently cause compatibility issues, it is imperative that we configure this integration correctly from the start to properly meet specifications from the client. To that end, we plan to study each of these modules in depth and come up with a game plan to mitigate any of these potential compatibility problems.

### Challenges covered by demos:

In this section, we outline the demonstrations we have prepared, and exactly which of the challenge(s) each one of them proves a solution to.

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**Demonstration 1: Working Request Form and Validation**

Challenges addressed: C1, C2

Flight Plan: The prototype, as it currently stands, contains / will do the following:

1. A form for submitting a lab use request
   1. Subsequent validation
   2. Storage of data in a valuable format
2. Informational pages for faculty and people of interest within the department
3. Other placeholder pages for inventories, etc., that we will fill in as next semester goes on

Evaluation:

* Convincingly demo’d each of listed challenges?
* Other evaluative comments:

### Other challenges recognized by not addressed by demo:

Due to the complexity of challenge C3, we did not implement this in our first iteration of the demo, but as we begin next semester, solving this is going to be one of the early, crucial aspects to ensuring our project meets specifications fully.