

MySTEMGrowth Survey Tool

DESIGN DOCUMENT

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1. Introduction

1.1. PROBLEM STATEMENT

The MySTEMGrowth Survey aims to improve undergraduate research at a number of universities across the Midwest. The tool accomplishes this goal by taking feedback from STEM students participating in undergraduate research programs. Specifically, the target group for this tool is underrepresented, minority, undergraduate STEM students.

Students answer a series of questions before and after participating in research programs. The first set of results gives students a baseline, which they can use to compare their results with after completing the programs. Survey educators/administrators will use the students' results to make improvements to the research programs. The MySTEMGrowth Survey aims to make gradual improvements/innovations to undergraduate research programs, to benefit the learning experience of future students.

This survey was inherited from a previous design team. Although the basic structure is present and functional, it lacks security, modularity, depth, and personality. The problem will be solved by improving the currently lacking aspects in the current state of the survey tool. Implemented solutions will not only benefit the students taking the survey, but also survey administrators. Students' information will be more secure, and their overall experience taking the survey will be more efficient and straightforward. Administrators will be able to view and act upon results more efficiently, as the survey will provide information in a more user-friendly manner.

1.2. INTENDED USERS

We intend to support 3 different user types for the MySTEMSurvey Growth tool: Administrators, staff, and participants. Each group will have certain roles, permissions, and level of access to information.

MySTEMGrowth Administrators (High access level):

Administrators will have the responsibility of setting up/distributing surveys to students, which requires them to have full access to the MySTEMGrowth Survey tool. Their roles include, but are not limited to:

- Creating/Modifying/Deleting survey groups
- Inviting/Removing participants from created groups
- Viewing results for all participants of a group
- Exporting/Sending result data
- Saving/Storing result data
- Giving access to others (certain staff) to view the created group's results

Administrators will play the 'coordinator' role. They are responsible for survey distribution, result management, and access delegation. The administrator interface will be organized, concise, and easy to navigate, as they will have a large amount of information to sift through.

MySTEMGrowth Staff (Medium access level):

Staff's responsibility is to make improvements to research programs by analyzing results from the MySTEMGrowth Survey tool. Staff-approved actions are as follows:

- Creating an account
- Gaining access to a group's data (created/given by administrators)
- Submit requests for survey modifications (adding/removing/editing current questions)
- View overall result data from multiple groups

In order to improve research programs going forward, any user with staff access will be responsible for analyzing survey results. Although their access will be more limited, their interface (like administrators) should be organized and easy to navigate through large amounts of data. They should be able to view results using different methods (text, graphs, charts), in order to better view a large volume of results.

MySTEMGrowth Participants (Low access level):

Participants (mainly anticipated to be students) provide the data that will be collected and used to help improve undergraduate research programs. Their permissions include:

- Creating an account
- Take assigned surveys
- View personal survey results

Participants will have little access, as their main role is to provide the data. Their interface should be straightforward, easy to follow, and chronological. They should have access to view all of their own personal data (account information, previous survey results, enrolled groups), but no one else's.