

CMPSC 591
Principles of Mobile Applications
Fall 2013

Homework Assignment Four: Implementing and Evaluating Automation Tasks

Introduction

In the last three homework assignments you have learned more about the Android operating system and the Tasker automation environment. Since we will continue to use Tasker in this laboratory assignment, you may want to continue to learn more about it by visiting <http://tasker.dinglich.net/>. Now, for this homework assignment, you will work in teams of four or five students to describe, design, implement, test, and evaluate one or more Tasker automation tasks. Over the next two weeks, you will be responsible for organizing a team and then working with your team members to complete task(s) that usefully automate the interaction with the Android operating system.

Automation Tasks for Android

After brainstorming ideas with your team members, you should identify your top three candidates for automation tasks. Next, you should prepare a document that explains your motivation for implementing one or more of these tasks. After completing this first part of the document, you should clearly specify the input(s), output(s), and behavior of your tasks. Now, fairly divide up the implementation and testing effort associated with finishing your tasks.

Once you have completed the implementation of the automation tasks, you should invite between three and five Allegheny College students who are not members of this class to participate in a user study to evaluate your system. After an individual agrees to participate in your study, invite them to Alden Hall between 8:00 am and 4:00 pm so that they can try out your tasks on one of the Nexus 7 tablets. When your friends are using your tasks, you should observe their interactions and take notes. Once they are finished interacting with the tablet, you should ask them a series of questions to learn more about what they liked and disliked about your automation tasks.

Finally, you should prepare slides for a short presentation and demonstration that you will give in class on the date that this assignment is due. The presentation should give an overview of the content that is in your written document, briefly summarizing your motivation for implementing the tasks, explaining how the tasks were implemented, stating the inputs, outputs, and behavior of the tasks, and highlighting the most important points from the feedback given by the users.

To complete the assignment, you should turn in one copy of the following signed printouts:

1. Description of at least three automation tasks that your team could implement
2. Complete documentation that describes the following aspects of your chosen automation tasks
 - (a) Motivation for implementing the chosen tasks
 - (b) Inputs, outputs, and behavior of the tasks
 - (c) Implementation and testing choices for the tasks
3. Report on the results from the user study that you performed with your automation tasks
4. Presentation slides for the in-class talk and demonstration that you will give in two weeks