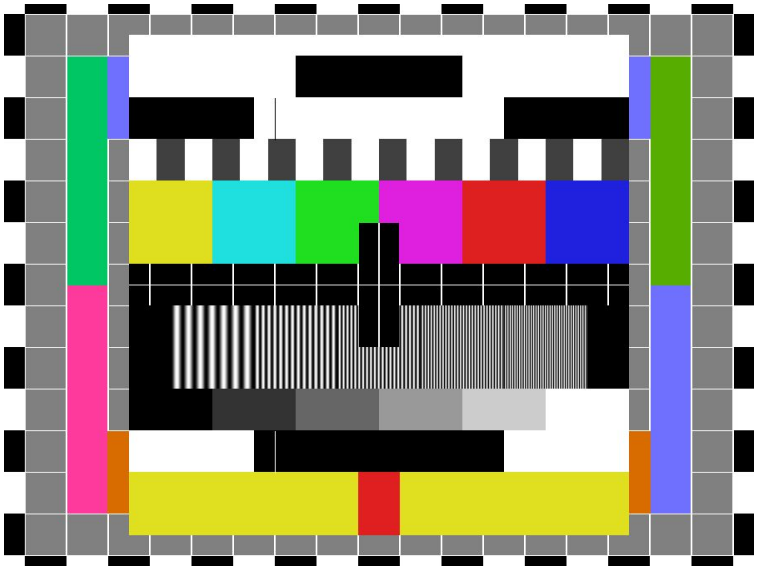
Department of Computer Science & Engineering
The University of Texas at Arlington

Project Charter
CSE 4316: Senior Design I
Fall 2017



Team Tassium
Intelligrip

Anthony Tatowicz
Jesse Daniel Mitchell
Todd Brewer
Linh Vu

Revision History

Revision	Date	Author(s)	Description
0.1	10.02.2017	LV	Creating document
0.1	10.02.2017	LV	New Entry example
0.2	10.02.2017	JM	Modifications

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List of Figures

1 Vision

Our vision for Intelligrip is to develop an application for our technology capable of eliminating human involvement in mundane and repetitive tasks, allowing companies to cut down on labor costs and focus more of their attention on complex issues.

One specific application of this technology that we have in mind is automating the preparation of hamburgers.

2 Mission

Our mission is to implement a commercial application of the UR5 and our multi-purpose (or specialized) Intelligrip technology.

With minimum wages climbing across the United States, companies are looking to automate labor; We are seeking to prepare for that change.

3 Success Criteria

Ideally, our success criteria will be a successful and robust application of our Intelligrip technology. However, due to time constraints and complex college schedules, we will be using the NASA (and Agile) approach to delivering this product successfully.

Each increment of the product will accomplish a different task and yield a demonstrable product, each one building upon the previous. Even if the end goal product is not delivered, there will still be numerous smaller successes along the way, each with inherent and obvious value.

By the end of the product will have produced multiple grips with applications. Whether the application of the product is great in magnitude will be left to the amount of available time to deliver.

4 Background

The University of Texas at Arlington has supplied Team Tassium with a state of the art UR5 robotic arm and funding to purchase and develop grips for the device.

Our team will be focused on fleshing out an application of these grips combined with the robotic arm.

5 Related Work

WIP

6 System Overview

WIP

7 Roles & Responsibilities

Technical Expert : Anthony Tatowicz
Product Owner : Jesse Daniel Mitchell
System Architect : Todd Brewer
Scrum Master : Linh Vu

There is currently discussion over the rotation of the roles across each Sprint. This decision has not been finalized.

8 Facilities & Equipment

UR5 Robot
ERB 208 lab

9 Cost Proposal

WIP

9.1 Preliminary Budget

WIP

9.2 Current & Pending Support

WIP

10 Documentation & Reporting

This section describes the various artifacts that will be generated during the project lifecycle.

10.1 Project Charter

This will be stored in a GitHub repository where all team members will have access. The charter will be updated upon unanimous agreement among the team.

10.2 Product Backlog

Any items that are necessary to complete the product. This will be updated when the team/product owner develops more knowledge throughout the implementation of the project. The Product Owner will be responsible for adding items to the Product Backlog.

The Product Owner will be able to approve a feature another team member presents. The Product Owner must have the approval of at least one other member to add a new feature to the product backlog. The Product Owner can be outvoted by the other three team members if they unanimously agree.

Removal of a feature requires the approval of two other team members (however, the current Scrum Master could alternatively just never assign it).

10.3 Sprint Planning

Sprint planning for the next Sprint will be in a group meeting within the last week of another sprint. Plans will be updated if there are any changes that require the team attention.

The Scrum Master will be in charge of approving which items are taken from the Product Backlog for each individual Sprint. He can only overrided if the other three team members unanimously agree.

10.3.1 Sprint Goal

The goal of each sprint is to successfully accomplish the main task of that sprint. This will be set and pushed by the Scrum Master, in accordance with the class's current goals.

10.3.2 Sprint Backlog

The Sprint backlog will hold the tasks for the current Sprint, which will be pulled from the Product Backlog.

The Scrum Master will pull items from the Product Backlog for each sprint. The Scrum Master is unable to add new items without approval from the Product Owner.

10.3.3 Task Breakdown

Tasks will be distributed to team members when they are clearly defined. They will be posted on a digital Scrum Board where the team members will be allowed to assign themselves to the tasks.

The Scrum Master is allowed to determine if a task requires more than one team member. The Scrum Master will also be allowed to remove a team member from a task if he is under performing.

If a task is currently unassigned, the Scrum Master is allowed to assign a team member accordingly.

10.4 Sprint Burndown Charts

WIP

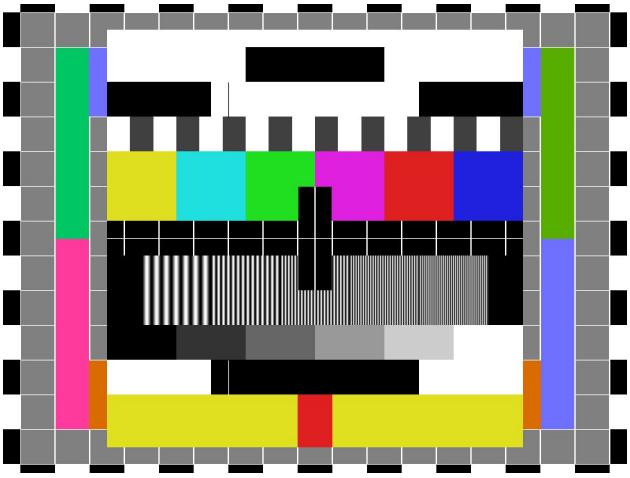

Figure 1: Example sprint burndown chart

10.5 Sprint Retrospectives

At the end of each sprint the team will be responsible for coming up with a retrospective for the Sprint to analyze what changes should be made for future sprints.

10.6 Individual Status Reports

WIP

10.7 Engineering Notebooks

Engineering Notebooks will be kept up to date and signed at the end of each week. If no additions are made to the Engineering notebooks, no signatures will be made.

10.8 Closeout Materials

WIP

10.8.1 System Prototype

WIP

10.8.2 Project Poster

WIP

10.8.3 Web Page

This will be developed by Jesse Mitchell, and will either be hosted on Omega or a cloud server.

10.8.4 Demo Video

WIP

10.8.5 Source Code

WIP

10.8.6 Source Code Documentation

WIP

10.8.7 Hardware Schematics

WIP

10.8.8 CAD files

WIP

10.8.9 Installation Scripts

WIP

10.8.10 User Manual

WIP

REFERENCES