Alpha Presentation
Project Plato
The Capstone Experience
Team GM

Colin Coppersmith
Simeon Goolsby
Alex Lepird
Matthew Eaton
Tao Tao

Department of Computer Science and Engineering
Michigan State University
Spring 2018
Project Overview

• Consolidate Common Developer Tasks Into Microsoft Teams
• Create and Manipulate Virtual Machines
• Discover and Run Test Cases
• Consists of Three Components:
  1. AI Chatbot
  2. Microsoft Teams Tab
  3. Microsoft Teams Connector
• Provide a Unified and Familiar Environment for Developers
System Architecture

- Microsoft Azure
- Microsoft Azure
- Visual Studio (Team Foundation Server)

Azure Bot Service

Microsoft Teams

Bot

Connector
VM Creation Through Bot

A chat conversation with a bot named T-Bot. T-Bot is helping a user named Plato to create a virtual machine. Plato needs a VM with 16GB of RAM, 8 cores, and a 500GB hard drive.

Plato: How do I add a bot?

T-Bot: I can help you create a virtual machine! Let's get started.

What would you like to name your virtual machine?

Plato: UbuntuVM

What kind of operating system would you like to install?

- Ubuntu
- Debian
- Arch Linux
- Windows 10

Plato: Ubuntu
VM Creation Through Bot

Would you like to create a Ubuntu VM with 16GB of RAM, 8 Cores, and 500GB of hard disk space?

OK! Here's your virtual machine! Click confirm to start it!

Confirm Your VM Creation: UbuntuVM
**OS:** Ubuntu **RAM:** 32 **Cores:** 8 **Disk Space:** 500

Confirm Cancel
VM Creation Through Bot

Plato 12:46 AM
I need a vm with 16gb of ram, 8 cores, and a 500gb hard drive.

Plato 12:46 AM
I can help you create a virtual machine! Let's get started.

What would you like to name your virtual machine?

Plato 12:46 AM
What kind of operating system would you like to install?

Ubuntu Debian Arch Linux Windows 10

UbuntuVM

Ubuntu

12:47 AM
Ubuntu
VM Creation Through Bot

Plato 12:47 AM
Would you like to create a Ubuntu VM with 16GB of RAM, 8 Cores, and 500GB of hard disk space?

Plato 12:47 AM
OK! Here's your virtual machine! Click confirm to start it!

Confirm Your VM Creation: UbuntuVM
**OS:** Ubuntu **RAM:** 32 **Cores:** 8 **Disk Space:** 500

[Confirm] [Cancel]
Virtual Machines Dashboard
Virtual Machines Dashboard

![Virtual Machines Dashboard Image]

### Virtual Machines

<table>
<thead>
<tr>
<th>Y</th>
<th>CORES</th>
<th>DATE_CREATED</th>
<th>DATE_EDITED</th>
<th>DATE_STOPPED</th>
<th>STATE</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>8</td>
<td>Feb 7 2018 8:55PM</td>
<td>Feb 19 2018 6:33PM</td>
<td>Feb 19 2018 6:33PM</td>
<td>Suspended</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>Feb 7 2018 8:57PM</td>
<td>Feb 19 2018 6:34PM</td>
<td>Feb 19 2018 6:34PM</td>
<td>Stopped</td>
<td></td>
</tr>
</tbody>
</table>
Information on Clicked VM
Information on Clicked VM

![Virtual Machines Chart]

<table>
<thead>
<tr>
<th>Y</th>
<th>CORES</th>
<th>DATE_CREATED</th>
<th>DATE_EDITED</th>
<th>DATE_STOPPED</th>
<th>STATE</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>Feb 7 2018 8:55PM</td>
<td>Feb 19 2018 6:33PM</td>
<td>Feb 19 2018 6:33PM</td>
<td>Suspended</td>
<td></td>
</tr>
</tbody>
</table>
Tests Dashboard
Tests Dashboard

<table>
<thead>
<tr>
<th>ID</th>
<th>NAME</th>
<th>LAST_RUN</th>
<th>RUNNING_USER</th>
<th>OUTCOME</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nice Test</td>
<td>Feb 19 2018 7:59PM</td>
<td><a href="mailto:coppers4@gmfuture.net">coppers4@gmfuture.net</a></td>
<td>Pass</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Evil Test</td>
<td>Feb 19 2018 7:56PM</td>
<td><a href="mailto:coppers4@gmfuture.net">coppers4@gmfuture.net</a></td>
<td>Pass</td>
<td></td>
</tr>
</tbody>
</table>
Information on Clicked Test
Information on Clicked Test

Tests

Pass

Fail

<table>
<thead>
<tr>
<th>ID</th>
<th>NAME</th>
<th>LAST_RUN</th>
<th>RUNNING_USER</th>
<th>OUTCOME</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nice Test</td>
<td>Feb 19 2018 7:59PM</td>
<td><a href="mailto:coppers4@gmfuture.net">coppers4@gmfuture.net</a></td>
<td>Pass</td>
<td></td>
</tr>
</tbody>
</table>
Connector for Test Case Runs
Connector for Test Case Runs

Test Case Ran
On Project

Test Case: Good Test
Time Ran: 2/19/2018 11:34:03 PM
Running User: coppers4@gmfuture.net
Outcome: Fail

Reply
What’s left to do?

• Elaborate on Connector
  ▪ Added Directly from Teams
  ▪ Need to Send Data From Backend to Connector
• Extend Bot Functionality
• Connect Tab to Bot Backend
• Create More Charts for Tab
  ▪ Want to Display Different Metrics
  ▪ Will Need More Data
  ▪ Embed Each Chart in a Partial View
• Implement User Sessions and Teams Functionality
Questions?