

**MICHIGAN STATE**  

---

**UNIVERSITY**

## Project Plan

# AppDynamics Platform Configuration Tool

## The Capstone Experience

### Team Evolution

Kp Inuaeyen

Jon Dressel

Ian Guswiler

Cameron Rasico

Ben Haase

Department of Computer Science and Engineering  
Michigan State University

Spring 2019



*From Students...  
...to Professionals*

# Functional Specifications

---

- Empower Evolutio's Consultants and Clients to Utilize Cisco AppDynamics
- Easily Configure, Deploy and Manage Applications
- Retrieve and Report Basic Application Metrics Via Amazon's Alexa

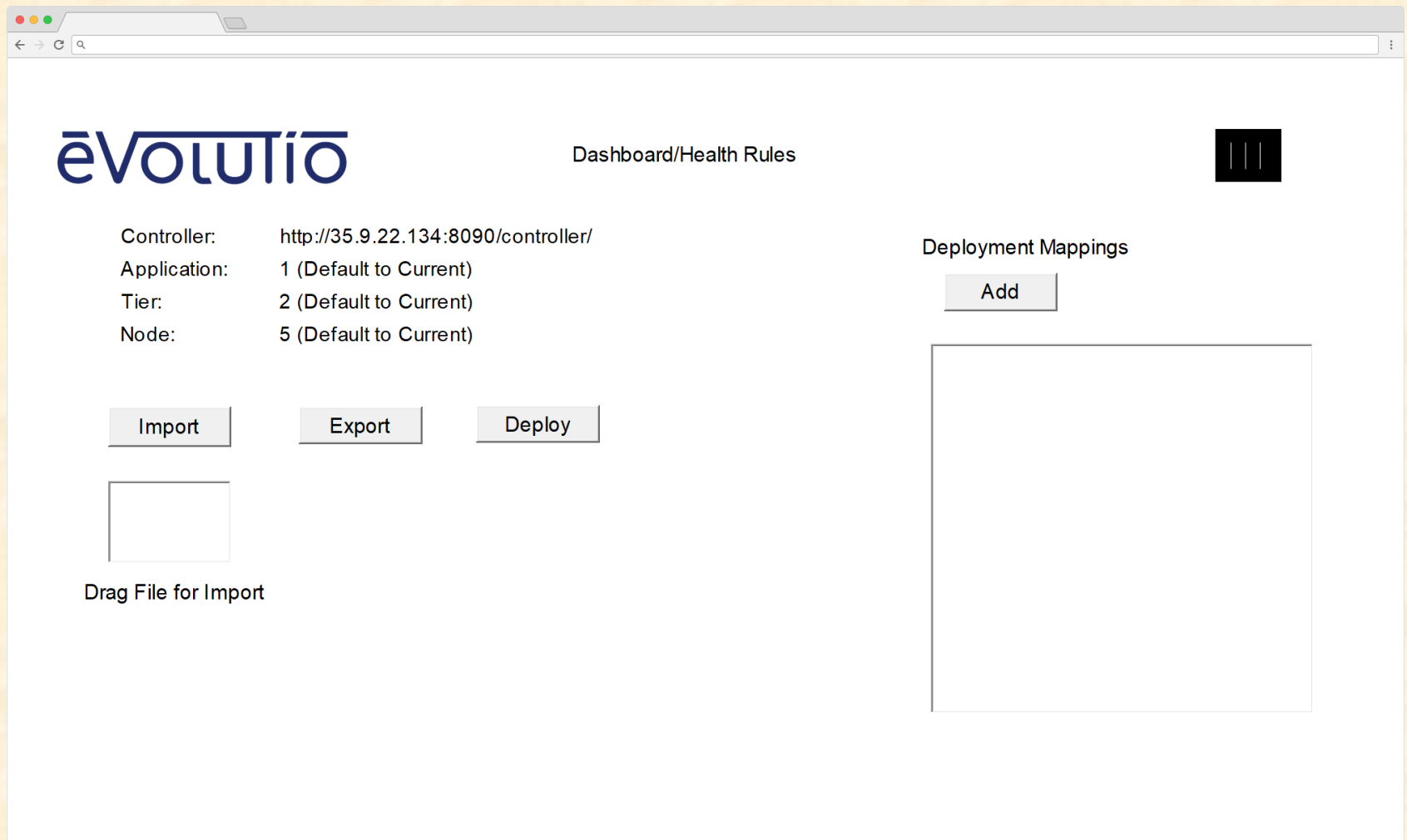
# Design Specifications

---

- Web Application
  - Allow Easy Transfer of Dashboards and Health Rules between Applications
- Notification System
  - Notifies user when there are changes to source environment with sub environments grouped to it
- Amazon Alexa
  - Let Evolutio Clients easily access analytics from AppDynamics



# Screen Mockup: Dashboard/Health Rules



# Screen Mockup: Deployment

The screenshot shows a web browser window with the 'ēVOLUTIO' logo on the left and the word 'Deployment' in the center. Below the logo, the text 'Current Controller: http://35.9.22.134:8090/controller/' is displayed. A dropdown menu is open, showing a list of deployment options. Each option is preceded by a radio button. The options are: 'Application 1' (selected), 'Tier: 2', 'Node: 1', 'Node: 2', 'Tier: 3', 'Node: 3', 'Node: 4', 'Tier: 4', 'Node: 5', and 'Node: 6'. At the bottom of the form is a 'Save Changes' button.

ēVOLUTIO

Deployment

Current Controller: <http://35.9.22.134:8090/controller/>

Application 1

- Tier: 2
  - Node: 1
  - Node: 2
- Tier: 3
  - Node: 3
  - Node: 4
- Tier: 4
  - Node: 5
  - Node: 6

Save Changes

# Screen Mockup: Grouping

ēVolutiō

Grouping

New

Group 1

Group 2

Group 3

Name:

Source Application

Target Application(s)

Save Cancel Delete



# Screen Mockup: Settings

evolutio Settings

Set Controller:

Set User:

Set Account:

Set AppID:

Set Password:

Save Settings

Controllers

Add

http://35.9.22.134:8090/controller/	Edit	Delete
-------------------------------------	------	--------

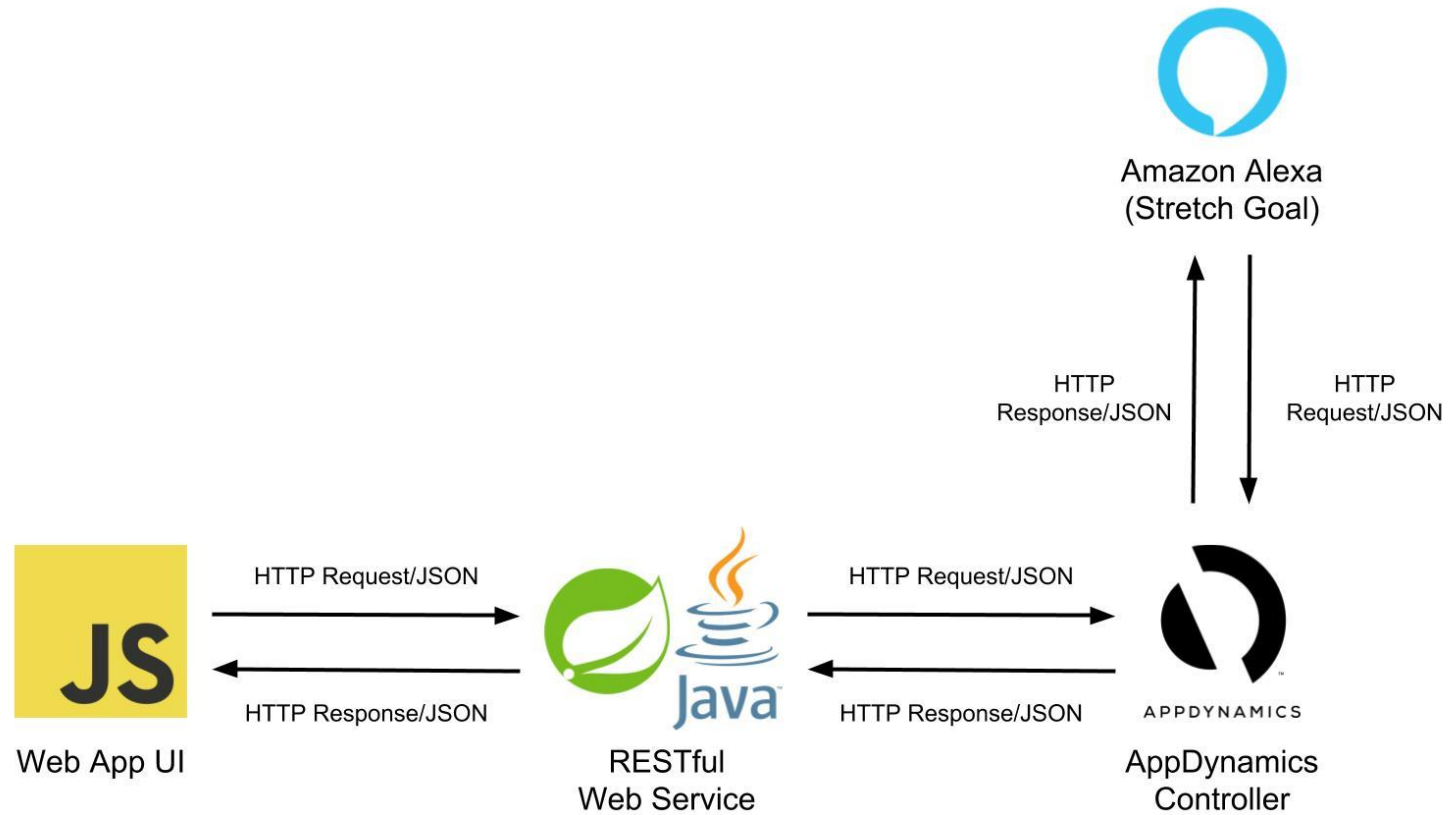
# Technical Specifications

- Web App UI
  - Built on React Framework and Bootstrap CSS
- RESTful Web Service
  - Built using Spring Boot Java
  - Uses Java HTTP Clients to communicate with AppDynamics API
- AppDynamics Controller
  - Access point for AppDynamics API
  - Receive HTTP Request from RESTful web service
  - Send HTTP response containing JSON data
- Amazon Alexa
  - Custom Skill to Communicate with AppDynamics API via HTTP requests





# System Architecture



# System Components

- Hardware Platforms
  - Linux VM for AppDynamics
  - Amazon Echo Dot Device
- Software Platforms / Technologies
  - Node.js
  - React
  - Bootstrap CSS
  - Java
  - Spring Boot
  - RESTful API
  - AppDynamics Controller API



# Risks

- Java Application into REST Service
  - **Description:** Unsure of feasibility of exposing Java app to REST service
  - **Mitigation:** Researching and testing with Java RESTful frameworks
- Alerting the Front-End when a Controller Connection Fails
  - **Description:** Loss of connection results in losing rule configuration work without the front-end knowing
  - **Mitigation:** Research and design an HTTP response JSON structure that includes errors
- Developing Portable, Locally-Executable Web App
  - **Description:** Unsure as to how we can develop a web app that can be run locally
  - **Mitigation:** Investigating frameworks that allow for locally executable web apps
- Detecting Changes to an Application Environment
  - **Description:** Unsure how to detect changes to an AppDynamics application environment
  - **Mitigation:** Research AppDynamics' Alert and Respond function
- Configuring Alexa with API Request
  - **Description:** Our Alexa Skill will need to be able to initialize HTTP request from AppDynamics Metric API in order to receive metrics while passing sensitive credentials.
  - **Mitigation:** Investigate how credentials are stored within Alexa Skills. Research how to initiate and retrieve data through http request within an Alexa Skill



# Questions?

---

?

?

?

?

?

?

?

?

?

