3rd June 2020

UK Azure Fundamentals Championship Brief / Instruction Document

Welcome to the first UK Azure Fundamentals Championship. This inaugural competition will include entry from students participating in the Azure Fundamentals pilot from Universities around the UK who will each be completing a challenge involving application of skills learnt by certifying in Microsoft's AZ900 Azure Fundamentals.

This document will outline entry requirements, details of the challenge, specific points to be considered, guidelines, rules, a schedule, and the deadline for entry. Oh, and there are prizes for the winners!

Challenge Description

For this competition, you should consider yourself an Azure Architect or team of Architects. A Cloud Architect is responsible for converting the technical requirements of a project into the architecture and design that will guide the final product. Often, Cloud Architects are also responsible for bridging the gaps between complex business problems and solutions in the cloud.

In this challenge you will need to prove skills obtained as a result of completing the Azure Fundamentals certification. The challenge will involve designing an innovative solution to a current global challenge.

The challenge outcome will be judged by a panel of industry experts who will crown the UK Champion or Champions. Entries can be submitted individually or as a team (up to 3 per team). As well as taking home the title, the winning individual or team will receive a prize(s).

Scenario Description

Given the current global pandemic of the COVID-19 virus the global challenge for the UK Azure Student Championship this year is **HEALTHCARE.** You have the option of which global challenge within healthcare you are creating a solution for, whether it be the COVID-19 virus or providing nutrition and water to those without.

Design Guidelines

Your submission must demonstrate creativity and **does not need** to be implemented on the Azure platform. It does however need to demonstrate the use of Azure resources and the use of current or technology under current development. The solution is not required to be 100% Azure – be innovative and consider how other tools and technologies may be able to interact with the Azure platform to solve the global challenge.

In your submission you must include:

- Clear description of the challenge your solution is designed to solve
    - Inclusion of any relevant data or facts to reinforce the requirements for a solution will be beneficial
- Clear architecture diagram of the Azure resources and how they interact with each other and any external tools or technologies
- Detailed description of how your solution solves the challenge

    - Any estimated data for the solution will be beneficial
- Use of at least 3 Azure resources such as –
    - **Virtual Machines**
    - **App Service**
    - **Azure IoT Hub**
    - **Azure Bot Service**

Example of Challenge Outcome

Below is a very high-level example of a solution – *your submission will require more detail*.

The challenge being addressed in this submission is that of efficiently triaging COVID-19 diagnosis in remote areas of developing countries. There may be little or no medical support in these areas.

To enable first line remote diagnosis and triaging of possible COVID-19 patients a solution with a simple end-user interaction mechanism is required as most people do not have access to internet services, but a lot do have access to a telephone. To this end the end user interaction with the service will be either via telephone using voice interaction or a simple web site. For voice interaction, the Speech-to-Text, Text-to-Speech and Language Understanding services within Azure Cognitive Services will be utilised to provide a verbal interface. A phone number will be used to ask the user diagnosis questions, interpret their verbal input, interact with the platform to perform diagnosis, and respond in their language. For those with internet access a web-based interface will also be implemented using Azure App Services.

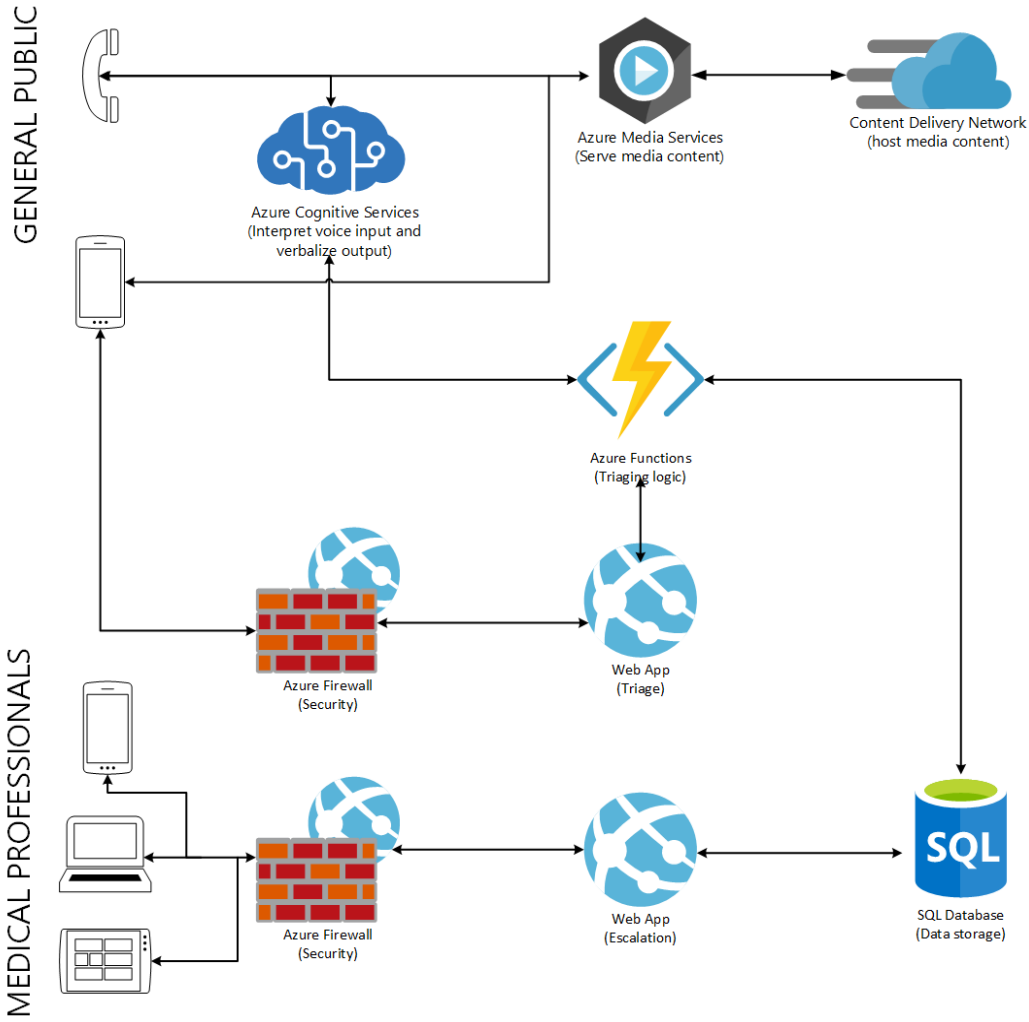
Due to the possible volume of users accessing the service it will not be possible to perform live triaging with a medical professional, therefore the power of Azure will triage the end users who will be categorised into one of 3 categories:

- **Presumptive COVID-19 positive**
    - This will result in a follow up by a medical professional
- **Presumptive COVID-19 negative**
- **Undetermined**
    - This will result in a follow up by a medical professional

For all categories the user will be provided with recommendations on health & hygiene to prevent the spread of the virus and, if positive or undetermined, expedite their recovery. These recommendations will be in the form or verbal (for those interacting via telephone) and video/verbal/textual/pictorial (for those interacting via a web interface) and utilise a Content Delivery Network along with Azure Media Services to deliver content.

Medical professionals will interact with the system via a web app from any device. They will be able to review the submissions (verbal or textual) for any cases triaged to them before taking further action on the case, such as contacting the patient.

A high-level architecture diagram is on the following page:



Schedule and Deadline

Championship entry will be announced and opened during the www.certmatters.com webinar on Embedding Cloud Computing Skills in Academia on 3rd June 2020. This webinar will feature guest speakers, **Anthony Salcito**, **VP Worldwide Education, Microsoft** and **Clare Riley, FE and HE Engagement Manager in the UK, Microsoft** who will discuss the employability opportunities of Cloud skills.

Individual or Team entries are to be submitted to your course lecturer no later than Midday on Tuesday 23rd June 2020. Entries should be in the form of a presentation or document outlining your outcome as per the descriptions and guidelines above. Entries should be no more than four A4 single sided pages and/or 12 slides. Use of images/diagrams to showcase problem/solution is highly recommended.

All entries will be reviewed with the best 5 being submitted to a judging panel containing industry experts. Students will be invited to present their solution to the judging panel in a 20 minute presentation on Friday 26th June 2020. All entrants will be invited to attend the live announcement of the winning student or team at 3pm on 26th June. Did we mention that prizes are available for the winners?