**Western Governors University**

**C768 Technical Communication Task 1**

**Main Scenario for All 3 Tasks:**

You have recently been hired to work in your current field of study. Your new manager has informed you that the organization values innovation and asks that new employees write a white paper on an emerging technology, practice, or process in the field they studied in college. She has told you that after you write the white paper and post it on the company’s internal SharePoint site, you will also be creating several additional reports for different audiences: an executive summary, a press release, a FAQ, and a multimedia presentation that you will deliver to colleagues in your department. You will also need to write an email inviting your colleagues to your multimedia presentation.

1. Describe your organization. Make sure you include the following information:
2. Products or services your organization produces.
3. The size of your organization and its number of locations.
4. The industry of which your organization is a part.
5. Identify the emerging technology, practice, or process that will be the subject of your white paper, and then review at least 3works that have been written about your subject in the past five years. You will use this research to inform your white paper.

*Note: These other works may include interviews, white papers, research studies, or other types of work by industry professionals.*

1. Write a summary for each of the 3 works that you reviewed. The summary should include the title of the work, a discussion of the main topics, and an explanation of why the information is important.

C. Create a white paper, as defined in the learning resource for this course, that discusses an emerging technology, practice, or philosophy that is related to your academic field of study. This white paper will be reviewed by your immediate supervisor, as well as several thought leaders in your organization. The white paper should be 2-3 pages long and must include the following:

1. A thorough explanation of your chosen emerging technology, practice, or process, based on your research.

2. A compelling argument discussing how the emerging technology, practice, or process could benefit your organization.

D. Explain how the diction in the white paper is appropriate for its audience.

E. Acknowledge sources, using in-text citations and references, for content that is quoted, paraphrased, or summarized.

F. Demonstrate professional communication in the content and presentation of your submission.

**Note:** you should not move on to Task 2, since Task 2 will not be evaluated until Task 1 passed.

**C768, Task 1**

**Robert J. Robinson**

**Western Governors University**

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## **Organization Description**

## A1. Products or Services Produced

DoubleGo is a service provider of pre-screening and document assistance to impoverished citizens, assisting them to gain access to local, state, and federal benefits that will help in egressing out of their state of poverty. We provide a screener tool that calculates their expected benefits and assists in navigating the bureaucracy and needed paperwork, so that the user knows what to expect, and eases in the application for said benefits.

## A2. Organization Size and Number of Locations

We are a small startup that is attached to a larger parent company. We have approximately 10 employees, 6 of which are senior developers with over 10 years of experience each. We have many locations that we provide our services to, and our team is also a distributed team across the United States. Our main screening application is accessible through mobile and desktop browsers and is configurable in over 20 languages.

## A3. Organization’s Industry

Local, State, and Federal benefits programs are spread out though various departments through multiple departments. As we are unique in this space, we determined that if we knew all of the perimeters of all of the programs, we would be able to automate calculation of likely benefits, and assist users with their application to ease that burden. This pre-screener would allow faster access to sorely needed programs, as it can normally take an extended amount of time to research all of the programs, and understand what ones a used and their families could qualify for.

# Emerging Tech, Practice, or Process Chosen

## B1. Summary and Importance

“Serverless Architectures with AWS Lambda” is a white paper authored by various members of the AWS Lambda team at Amazon Web Services. The report provides a broad overview of Lambdas features and recommendations on how to build with a serverless mindset. Our company desires to take a cloud-native approach to handle software and infrastructure requirements. AWS Lambda markets itself as a “Function as a Service” service, where code can be broken down into micro-services and are not dependent on the cloud application. The paper then discusses serverless best practices, how to develop in the cloud, and configuration practices.

“Lambda Architecture for Batch and Stream Processing” is another white paper coauthored by the AWS Lambda team members. This paper describes best practices and approaches on how to handle streaming data and batch processing. Data ingestion, transformation, and export are critical parts of our application requirements. This paper discusses the pros and cons of the service while also outlining methods used to achieve desired results. Double Go will be ingesting a lot of service providers and user data that will need to be calculated in near time, and streaming this data through AWS Lambda provides the required compute power at a low cost. Development time is also reduced as there is no infrastructure to maintain.

“Security Overview of AWS Lambda” is again written and updated by the team at AWS. This paper on security provides a deep dive into security best practices and is aimed toward new adaptors of the service. The article describes having no servers to manage, the shared responsibility model, a staple in the AWS ecosystem, and how lambda has many different AWS services that it can utilize in its use and function both up and downstream. When Double Go designs systems, we take our security posture very seriously as we handle users’ sensitive data, and need to ensure that best practiced and followed. Great security starts with security focused design.

<Add your content here. Do 2 things: (1) Write a summary for each of the 3 works that you reviewed. The summary should include the title of the work and a discussion of the main topics; (2) Present an explanation of why the information is important.

The research summary includes at least three that are relevant to the white paper, and each source summary includes its title, discussion of main topics, and an explanation of why the information is important.

See Lesson 4.4 for more on Research Skills>

# White Paper

Serverless, a cloud native approach to building APIs

Modern cloud-first solutions have become what technology companies today see as their primary resource to get to market faster, scale more effortless, and offload expensive procurement of vital infrastructure. The largest company that offers these products is Amazon Web Services (AWS). One such product, AWS Lambda, allows for what AWS calls infinitely scalable compute processes and should prove to give any company the ability to offload processing to these services at a fraction of the cost. Introduced in 2014, Lambda is an event-driven serverless computing platform that ties into many other service offerings by AWS. AWS also defines this as the Serverless Application Model, a micro service event driven application that is distributed across the AWS footprint. One such application of this technology is the ability to build a public REST API and not be concerned with what programming language to use, a lengthy deployment time, and limiting the over or under capacity planning.

AWS Lambda is a serverless compute platform. Developers “can focus on [their] core product and business logic instead of responsibilities like operating system (OS) access control, OS patching, provisioning, right-sizing, scaling, and availability."\*\*\*{quote this -- https://d1.awsstatic.com/whitepapers/serverless-architectures-with-aws-lambda.pdf }. In short, serverless means developers can write and execute code without managing or configuring the underlying servers. A developer's primary focus is only writing code. AWS handles all compute and infrastructure in the background, and while you may lose some flexibility in some respects, applications only get billed when your code is executed. If you only use 1 ½ seconds of computer time, that is all you are billed for. A best practice for a piece of lambda code is to follow the SOLID principle of single responsibility. Building each Lambda as a single function that only handles one type of request or event trigger. A lambda functions lifecycle starts at some event trigger, the lambda function then accepts a JSON payload and will either respond to the requestor or pass along the payload to another service, and then the function completes. Most operations run in milliseconds, but there is the ability to extended process time to a maximum of five minutes. Another amazing feature of this service is that this function is spread across many locations allowing for concurrent requests to be handled without having to worry about a traditional server overload. Other AWS services initiate these triggers. One such trigger is API Gateway, a routing service that will allow a lambda to process and respond to HTTP requests. AWS also offers a command-line tool called SAM, which is the Serverless Application Model. The SAM tool allows the developer to create a cloud-formation template that provisions and deploys any AWS service and its corresponding event triggers.

An issue that we have discussed is how do we build our new API with less dependency on infrastructure and achieve on-demand scalability that saves the company money. Our standard Rest API, a massive monolith, is slow to change, hard to scale, and lacks testing. As we rebuild our public API, the focus for our company should be the ability to build quickly while also not having to worry about how this could impact stakeholders down the road. With the combination of API Gateway and Lambda, we will create small sections of the API at a time, focusing on quality.

<Add your content here, or upload separately and state the filename.

Expected length is 2-3 pages covering C1 and C2 below. Separate subsections are not needed because the white paper itself must cover these items:

C1. A thorough explanation of your chosen emerging technology, practice, or process, based on your research.

C2. A compelling argument discussing how the emerging technology, practice, or process could benefit your organization.

See **Lesson 1** and **Lesson 4: Constructing White Papers**. The White Paper should include all of the parts discussed in the text: **Cover page**, **Executive Summary**, **Introduction**, **Body**, **Conclusion/summary**, and **Page numbers** and **Copyright** in the footer.

Your point of view, or context, is up to you. For example, you could consider yourself a new employee introducing a new idea/technology/product/process to the company.>

# Explanation of Diction

<Add your content here. Discuss things like word choice/jargon, tone, register (level of writing formality) and purpose.

See **Lesson 1.1: The Writing Process** and **Lesson 4.3: Technical Writing Components**.>

# Sources

<Add your content here. All sources and their in-text citations should appear in APA format.>

Tip: Great APA site: <https://owl.english.purdue.edu/owl/resource/560/01/>

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**F. Professional Communication**

**What to do:** Your submission must be created with proper professional clarity, organization, and mechanics. This isn’t just grammar but the overall quality of what you’re presenting. Are paragraphs well-formed and contain industry-based information? Does the material flow in a logical pattern and are the headings easy to locate?

Note: Use a grammar checking software (Like the free version of Grammarly) to locate errors you might have in your submission.

Note: Your submission must be your original work. No more than a combined total of 30% of the submission and no more than a 10% match to any one individual source can be directly quoted or closely paraphrased from sources, even if cited correctly. Use the Turnitin Originality Report available in Taskstream as a guide for this measure of originality.

[Grammarly](https://www.grammarly.com/?q=brand&utm_source=google&utm_medium=cpc&utm_campaign=brand_f1&utm_content=76996511046&utm_term=grammarly&matchtype=e&placement=&network=g&gclid=Cj0KCQjw9JzoBRDjARIsAGcdIDVIuFe9c33tSvQwsR0qYHNXVp_gHBNu1rNNdSIiQZyvZyTJRkyrwKkaAgMBEALw_wcB) is recommended for checking articulation.

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