



State of Missouri

2020 Governor's Award for Quality and Productivity GUIDELINES

PURPOSE

The Governor's Award for Quality and Productivity (GAQP) recognizes teams that champion service excellence, efficiency, innovation, technology, process improvement, and employee development in Missouri state government. All projects must meet requirements of effectiveness, responsiveness, and efficiency of such magnitude that would make the project a model of excellence in state government nationally.

ELIGIBILITY

Any team of individuals employed by the State of Missouri who worked together to implement a project within their own agency, or who have worked with another section, division, department, agency, organization or business to implement a project which exemplifies the purpose of the GAQP, may submit a nomination. The combined number of individuals representing any team should consist of **2 to 20 team members (maximum)** – the majority of whom are state employees.

Teams must provide documentation which includes, but is not limited to, background information, measures, and other supporting material that demonstrates the impact of the project. Projects are encouraged to demonstrate the potential for replication in other jurisdictions or settings.

Once a nomination has been approved by the department/agency and submitted for consideration for the GAQP, additional team members may not be added.

All projects must have been in existence long enough to have a **measurable** impact.

EXECUTIVE SUMMARY

Describe (in 500 words or less) the initial challenge, research, problem-solving measure, documentation, results, etc. Executive summary page must be typed in 12 point, Times New Roman font, and left justified. **Attach the executive summary to the front of the nomination.** [A blank Executive Summary document is available at the end of this document.]

NOMINATION PROCESS

A team of managers, directors, and/or state executives reviews nominations and selects the winners of this award which recognizes successful teams in Missouri state government.

1. Secure nomination packet from your agency/department GAQP coordinator or on the GAQP web page at <http://www.training.oa.mo.gov/erp/index.htm>.
2. Complete the nomination form (providing ALL information requested)
3. Forward completed nomination form to the agency/department GAQP agency coordinator.
4. Agency/department GAQP coordinator reviews nomination form and ensures that all information and documentation is complete and accurate.
5. Agency/department coordinator secures agency/department director endorsement signature and forwards completed nomination packet to GAQP state program coordinator.
6. **Do not submit hard copies of information, documentation, videos, etc.**

CATEGORIES

Customer Service

The winning team(s) will identify and develop measures to improve customer service in Missouri state government. The winning project(s) will establish how its development and implementation provided the agency a means to more effectively satisfy customer, stakeholder, and public expectations. This will include, but is not limited to, communication, information, responsiveness, resolution of problem(s), and on-time, reliable, consistent customer service delivery.

Efficiency / Process Improvement

The winning team(s) will develop an effective and creative approach in using state resources to implement a new process or deliver a product or service. Implementation of the winning project must have improved the overall quality of products and services, significantly enhanced operational efficiency, simplified work processes, generated increased revenues, or reduced spending.

Innovation

The winning team(s) will develop and implement a new process/product/service or a better application to an existing process/product/service to create an "added value" to state government. The winning project will deliver benefits to the citizens of Missouri through advances in vital services such as healthcare, education, communications, transportation, etc.

Pinnacle Award

The winning team will be chosen from a nominated team if, in the opinion of the Selection Committee, the nomination clearly encompasses multiple award categories in a manner that exemplifies the spirit of the Governor's Award, or exceeds all other nominations. This award is not open for nomination and may only be used by the GAQP Selection Committee.

Examples of previous winning nominations for the above categories are available by visiting the following link: [previous winning nominations](#).

Agency/Department Coordinator Forwards Complete Packet to:

Governor's Award for Quality and Productivity
Office of Administration – Division of Personnel
Attn: John Beakley
Center for Management and Professional Development
Truman State Office Building, Room 430
301 East High Street
Jefferson City, MO 65101

John.Beakley@oa.mo.gov
573-526-4554

<http://www.training.oa.mo.gov/recognition.htm>



State of Missouri 2020 Governor's Award for Quality and Productivity Nomination Checklist

The Nomination Checklist is for your assistance to ensure that you have completed all parts of the nomination package. **Do not include this checklist with nomination packet.**

- Verify all team members have been included on the nomination form [maximum of 20 team members, the majority of whom are state employees]. **Once the nomination has been submitted additional team members may not be added.**
- Check to make sure all names are spelled correctly and listed alphabetically by **last name**. (Verify spelling of all team members names.)
- Include the job titles and agency/organization of all team members.
- Complete the **Executive Summary** and attach to the **front** of the nomination form. It should include why this project is exceptional, why the citizens of Missouri should be proud of this team, and why the accomplishments are beyond regular responsibilities.
- Forms can be downloaded on the GAQP web page at <http://www.training.oa.mo.gov/erp/index.htm>. Enter responses to all questions (reference each section and number clearly) on an original or copy of the nomination form.
- Confirm point of contact and telephone number.
- Review nomination to ensure:
 - acronyms and technical terms are clearly identified and understandable to the average reader;
 - supporting documentation is provided; and
 - measurement for the project has been included in the nomination.
- Forward completed nomination packet to agency coordinator for verification.

For more information visit the website listed below or contact:

GAQP State Program Coordinator
John Beakley
573-526-4554
John.Beakley@oa.mo.gov

<http://www.training.oa.mo.gov/recognition.htm>



State of Missouri
2020 Governor's Award for Quality and Productivity
Executive Summary

Project or Team Name: ChatBot-DORA

Nominator: Cindy Doss

Nominating Department: (Nominations must include names of all agencies/departments/organizations/businesses, etc.)

Department of Revenue

Category: Innovation

Executive Summary: (Executive Summary page must be 500 words or less, 12 point, Times New Roman font, and left justified. Attach the Executive Summary to the front of the nomination.)

Video Summary: A brief - no longer than three minutes - video summary may also be submitted via a link. Submission of a video summary is optional.

DORA Chatbot Project

Department of Revenue (DOR) receives an average of more than 1.55 million call center contacts each year. Not all contacts are answered—some are deflected due to large call queues or by customers choosing to disconnect the call. To address this issue, the Department needed to find new ways to interact with our customers.

As both technology and customer needs change, the Department must adapt or fall behind. Many customers want quick answers without making a phone call during normal business hours. The Department investigated available Advanced Technology options for a 24/7 self-service virtual assistant that would streamline the customer experience by responding to common FAQ style questions received by the Taxation, Driver License and Motor Vehicle call centers. Reducing the common calls by providing alternative, electronic options would allow call center staff to concentrate on the more challenging questions that require employee assistance.

To meet customers' electronic communication expectations, the Department researched the available options. We found that Chatbot machine learning could provide our customers with self-service options by using smart assistance technology to inform, support, and grow across multiple channels. The Department issued an RFP and awarded the implementation contract.. We used call center data analytics and website Google Analytics to identify customers' top questions. We mapped the common questions and appropriate answers into our Chatbot's knowledge base. On November 2, 2019, our Chatbot, DORA (which stands for Department of Revenue Answers), was introduced to the public. DORA currently provides answers 24/7 to common questions from Taxation, Driver License, and Motor Vehicle Bureaus. Each week, the DOR team reviews questions from customers, which allows us add more questions and answers to DORA's knowledge base, so that DORA can respond to an larger array of questions on a regular basis.

DORA is also a team player. Following the COVID-19 outbreak, DORA was quickly adapted to assist the State of Missouri and Department of Health and Senior Services with over 2,000 questions about COVID-19. DORA was also adapted to answer Department of Labor and Industrial Relations questions about unemployment benefits. DORA knowledge base can be quickly updated to assist our customers in the greatest time of need and we are very proud of the accomplishment of this project.

In the first five months of operation, DORA has received 380,004 messages in 115,214 chat sessions and we have seen single day totals in excess of 12,000 virtual assistant inquiries. This is especially important during the COVID-19 time frame. More important than ever to ensure we are serving our customers. At the time of this writing, DORA provides answers to 77% of all inquiries, each week (up from 59% when DORA was first introduced to the public). Since implementation, the team has added 104 new questions/answers and 2,744 alternate training questions to DORA knowledge base. The data also reflects that 27.5% of DORA sessions occurred during non-business hours (outside of 8am-5pm on weekdays). This means we are offering our customers the opportunity to communicate with us 24/7.



State of Missouri – 2020 Governor’s Award for Quality and Productivity

NOMINATION FORM

I. GENERAL INFORMATION

Department: Department of Revenue

1. Project or team name: ChatBot-DORA

2. List the name of all team members, job titles, state agency department, and/or other organizations including public, private sector or business: *(Please list alphabetically by last name – 2 to 20 team members maximum.)*

1. Deanne Aholt, Management Analysis Specialist I, Department of Revenue
2. Rachelle Bushko, Revenue Manager, Department of Revenue
3. Ashley Campbell, Administrative Analyst II, Department of Revenue
4. Patti Distler, Revenue Processing Technician III, Department of Revenue
5. Cindy Doss, Administrator, Department of Revenue
6. Mark Godfrey, Division Director, Department of Revenue
7. Krystal Haines, Revenue Manager, Department of Revenue
8. Kayla Kueckelhan, Administrator, Department of Revenue
9. Hannah Orick, Revenue Manager, Department of Revenue
10. Mindy Piper, Administrative Office Support Assistant, Department of Revenue
11. Amanda Shewmaker, Executive Assistant, Department of Revenue
12. Tracy Suthoff, Special Assistant Office & Clerical
13. Brooklyn Wasser Deputy Division Director, Department of Revenue
14. Susan White, Revenue Manager, Department of Revenue
15. Ken Zellers, Department Director, Department of Revenue

3. Nomination Category: *(Check only one.)*

☒ INNOVATION

☐ CUSTOMER SERVICE

☐ EFFICIENCY / PROCESS IMPROVEMENT

4. Explain why you selected this category:

Chatbot DORA (DORA) uses advanced technology to provide our customers a new and effective electronic channel to contact the Department of Revenue. DORA provides an innovative way to go beyond customer expectations by allowing citizens to ask common questions and receive answers at any time of the day, night or weekend. The Department's use of machine learning allows new team member, DORA, to learn and grow with our customers questions and expand across multiple channels.

II. BACKGROUND

1. When did the team begin its work?

October 1, 2018

2. What date did the team initiate the implementation phase of the project?

November 2, 2019

3. Is the project:

☐ Time Limited

☐ Completed

☒ Ongoing

III. PROJECT DESCRIPTION

1. Why was the project necessary?

Department of Revenue (DOR) receives on average more than 1.55 million call center contacts each year. Not all contacts are answered due to call volumes or customers disconnecting the call. The Department needed to find new ways to interact with our customers to assist them meet their obligations. As both technology and customer needs change, the Department must adapt or fall behind. Many customers want quick answers without making a phone call during normal business hours. The Department investigated available Advanced Technology options to streamline contacts 24/7 between customers and the Department, while enhancing the customer experience.

2. What were the primary goals of the project? *(150 words or less.)*

The primary goal was to provide customers with a 24/7 self-service virtual assistant that was programmed to streamline the customer experience by responding to common FAQ style questions received by the Taxation, Driver License and Motor Vehicle call centers. Reducing the common calls by providing alternative electronic options would allow call center staff to concentrate on the more challenging questions that require employee assistance.

3. Describe the project: *(200 words or less.)*

To meet customers' electronic communication expectations, the Department researched the available channels. We found that Chatbot machine learning could provide customer self-service options using smart assistance technology to inform, support, and grow across multiple channels. The Department issued an RFP and awarded the implementation contract. Research was provided on the best Cloud Vendors; DOR chose Amazon Cloud Services with Amazon Lex capabilities. We used call center data analytics and website Google Analytics to identify customers' top questions. We mapped the common questions and appropriate answers into our Chatbot's knowledge base. The vendor development team built DORA, our Chatbot. DOR team tested DORA's responses to questions. ITSD validated that DORA met 508 Accessibility Compliance and approved implementation on the DOR website: dor.mo.gov. On November 2, 2019, our Chatbot, DORA—which stands for Department of Revenue Answers--was introduced to the public. DORA currently provides answers 24/7 to the top common questions from Taxation, Driver License, and Motor Vehicle Bureaus. The DOR team receives weekly feedback on questions from customers that allow us to teach DORA to respond to an increasing array of questions on a regular basis.

4. What technology, if any, was used in the development, implementation, maintenance or measurement of the project? *(150 words or less.)*

During development and ongoing updates we used Microsoft Excel to assemble the use case questions and answers that we would load into the ChatBot engine. During implementation, we used a combination of Amazon Cloud Services, and Amazon Lex as the Natural Language Processor (NLP) to ingest queries for processing. We utilize four environments (1. DEV, 2. TEST, 3. UAT, and 4. PROD) utilizing Kubernetes and MongoDB for implementation and maintaining DORA. We utilized ITSD assistance to verify DORA is 508 Compliant for accessibility. For measurement and reporting, we are Kibana dashboard.

5. Explain how the accomplishment of the team exceeds its regular duties and responsibilities. *(150 words or less.)*

DORA is unlike anything the Department of Revenue and State of Missouri has ever accomplished. DORA is a new virtual team member who is continually learning to enhance our customers' experiences. The DOR team members worked diligently to implement DORA in record time, considering no other such technology exists Missouri state government. DORA has also exceeded performance expectations, in terms of how many messages it's already handled since implementation. In the first five months of operation, DORA has handled 380,004 messages in 115,214 unique sessions. The success of DORA is a testament to the DOR team members and our vendor who worked so hard to implement the project and continue to work to refine our product.

6. Which of the following describes the intended benefits of the project? (Check all that apply and provide an explanation. - 150 words or less)

- | | | |
|--|--|---|
| <input type="checkbox"/> Cost Reduction | <input type="checkbox"/> Time Savings | <input checked="" type="checkbox"/> Increased Effectiveness |
| <input checked="" type="checkbox"/> Improved Process | <input type="checkbox"/> Other: Describe | |

Explain the intended benefits: The Department of Revenue implemented DORA as a way to provide electronic communication options for common Taxation, Driver License and Motor Vehicle questions. The Department wanted to offer our customers the opportunity to communicate with us 24/7 and receive immediate answers to their most common questions at any time day, night or weekend. By providing this opportunity for our customers, we are giving the citizens of Missouri a first class customer service experience when interacting with the Department of Revenue. The Department intends to continue to grow DORA to additional channels e.g. Facebook, use of Google Map, text to speech, speech to text and text messaging.

IV. RESULTS / MEASUREMENT

1. Explain how the success of the project was measured and what outcomes were achieved. (Explanation should not exceed 300-500 words.)

The success of the project is measured by the number of customers who ask DORA questions receive appropriate and correct responses. Kibana dashboard measures how many messages and how many unique sessions received each week and notes whether DORA correctly answers the questions. Kibana measures the usage during business hours, after business hours and weekends. The DOR team use the weekly statistics from Kibana to look for customer trends, DORA training opportunities and the new questions and answers our customers are seeking. The team will evaluate the tens of thousand questions weekly; if DORA did not answer appropriately, the DOR team will train DORA with the appropriate answer. If the question is not part of DORA training, the DOR team will create a new question and answer to be added to DORA knowledge base. The team has weekly team meetings and weekly results meetings to frequently measure the successes and challenges of the project, measure and evaluate the statistics, as well as develop future enhancements for DORA.

There have been several outcomes and milestones that have been achieved since the implementation of DORA on November 2, 2019. In the first five months of operation, DORA has received 380,004 messages in 115,214 sessions. At the time of this writing, DORA provides answers to 77% of all inquiries, each week. In December 2019 we saw an average of 12,000 messages a week; currently, DORA is receiving approximately 36,000 messages and 9,000 sessions per week, as well as an average of 2,420 messages per day and 733 sessions per day. During the month of March 2020, interactions increased 46% from the previous month. In the last week of March 2020, 30.5% of sessions occurred during non-business hours. The first week of April 2020, DORA saw over 45,173 messages--a 35% increase from the previous week. We have seen single day totals in excess of 12,000 virtual assistant inquiries. This is especially important during the COVID-19 time frame. More important than ever to ensure we are serving our custom. Since the implementation, the team has added 104 new questions/answers and 2,744 alternate training items to DORA knowledge base. Following the COVID-19 outbreak, DORA was quickly adapted to assist the State of Missouri and Department of Health and Senior Services with over 2,000 questions about COVID-19. DORA was also adapted to answer Department of Revenue COVID-19 Taxation, Driver License and Motor Vehicle extension questions and Department of Labor and Industrial Relations questions about unemployment benefits. DORA knowledge base can be quickly updated to assist our customers in the greatest time of need and we are very proud of the accomplishment of this project.

2. Are the benefits derived from this project: (Check only one.)

☒ Recurring

☐ One-time

3. If recurring, how will the benefits be sustained? (Explain in 150 words or less.)

The benefits will be sustained by continuing to train DORA's knowledge base and adding new questions and answers for Taxation, Driver License and Motor Vehicle, weekly. The Department will enhance DORA by integrating new channels e.g. Facebook, use of Google Map, text to speech, speech to text and text messaging to reach even more customers.

V. RECOGNITION / AWARDS

1. Has this project previously been nominated for the Governor's Award for Quality and Productivity? If yes, when?

No

2. If yes, for which category was it nominated?

3. Has this project received any other awards or recognition? If yes, describe.

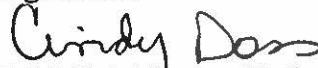
Yes, Chatbot DORA has been nominated for the 2020 StateScoop 50 Awards for State IT Innovation of the Year <https://statescoop.com/statescoop50/vote/>. Chatbot DORA has been recognized in Town Hall Meetings, press releases and numerous news articles (News Tribune, Bloomberg Tax, Buffaloreflex.com, the Missouri Times and more.

VI. NOMINATOR'S INFORMATION

Nominating Department: Department of Revenue

Name: Cindy Doss

Signature:



Telephone Number: 573-526-2386

E-Mail Address: Cindy.Doss@dor.mo.gov

VII. DEPARTMENT COORDINATOR'S INFORMATION

Name: Cathie Hershey

Signature:



Telephone Number: 573-751-3122

E-Mail Address: Cathie.Hershey@dor.mo.gov

VIII. DEPARTMENT DIRECTOR APPROVAL

Department Director's Name:
Ken Zellers

Signature:



Nomination must be signed **ONLY** by the Department Director to be eligible for consideration. Nominations not signed by the Department Director will be returned to the agency coordinator.