Chat-Bot development and testing

By

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Internship report Submitted in partial fulfilment of the requirements for the degree of

BACHELOR OF ENGINEERING

in

INFORMATION TECHNOLOGY

OF GOA UNIVERSITY

Under the guidance of

Prof. Diana Miranda

October 2022



INFORMATION TECHNOLOGY DEPARTMENT

GOA COLLEGE OF ENGINEERING

(Government of Goa)

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**DECLARATION**

I hereby declare that the internship work entitled “Chatbot development and testing” is an authentic record of my own work carried out at Persistent Systems Ltd. as a requirement for the award of a degree of B.E. Information Technology, of Goa College of Engineering - Goa University, under the guidance of Maryushka Fernandes and Diana Miranda, during 22 August to 14 October 2022.

(Signature of student)

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Date: 12/10/2022

Certified that the above statement made by the student is correct to the best of our knowledge and belief.

Prof. Diana Miranda, Assistant Professor Maryushka Fernandes,

Senior Engineering Lead - Quality

(Faculty Coordinator) (Industry Coordinator)

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1. **Acknowledgments**

I would like to express my most sincere thanks to Persistent Systems Ltd. for giving me the opportunity to intern at their esteemed company for the period of 8 weeks. I am indebted to their hospitality, work environment, work culture, and most of all their employees who have been so helpful and kind, and generous throughout the internship.

I would like to mention my industry mentor and guide Maryushka Fernandes who has been instrumental throughout my internship and has guided me and my team greatly, continuously motivating us and encouraging us to do better, and helping us along the way. Special thanks to Rakesh Raul, Mandar Gokhale, and Praful Dhone, Senior Project leads in the company who have helped us immensely and guided us with roadblocks and with errors along the way.

I would also like to thank my faculty coordinator, Prof. Diana Miranda, and our TPO Prof. Mario Pinto for their continued support throughout the internship and my department and HOD Dr. Nilesh Faldesai for his support and encouragement.

Last but not the least, I would like to thank my team, Dhan Kumari KC, Vasudev Sawant, and Amin Ul Haq for their support and help throughout the internship.

**2. Content**

**A. Brief Overview**

Noticing that the college website of our college would sometimes go down and students would have a hard time interacting with it because of the complicated UI, we decided to try and implement a chatbot that could help us with this and make life easier for the students and faculty. We decided to name it ‘Dhara’.

**B. Introduction**

‘Dhara’ is a basic Chatbot built using Azure’s LUIS (Language Understanding), NodeJS, and Microsoft Bot Emulator. Our chat bot plans on being an assistant to the college to help with essential student-oriented tasks which would otherwise require the student to go through a lengthy process via the website or even physically visiting the college campus to get simple tasks done. With this bot we not only plan on bridging that gap but also provide essential features on the fingertips allowing both, the students as well as the college to interact with one another via a single user-friendly interface.

Features (tentative)

* Certificate Application, verification, and disbursement online
* Results announcements and marksheet disbursement
* Holiday announcements
* College Notifications
* Syllabus enquiry
* Previous Year Question papers download
* Textbook and other resources download
* Infotainment (Events, Popular locations etc.)
* Attendance Metrics
* Raise complaint/feedback

Implementation

We plan to use the Azure AI Bot framework APIs with Node.js as the major backend language to implement this project in the coming weeks.

Software used

VS Code, NodeJS, Azure Portal, LUIS, Microsoft Bot Framework

**C. Industry Overview**

Persistent Systems Ltd. Is a trusted Digital Engineering and Enterprise Modernization partner, combining deep technical expertise and industry experience to help their clients anticipate what’s next and answer questions before they’re asked. Their offerings and proven solutions create unique competitive advantage for their clients by giving them the power to see beyond and rise above.

**Industry Expertise and Solutions:**

* [Banking & Financial Services](https://www.persistent.com/industries/banking-and-financial-services/)
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**Service Lines**

* Digital Strategy & Design
* Software Product Engineering
* CX Transformation
* Cloud & Infrastructure
* Intelligent Automation
* Enterprise IT Security
* Data & Analytics
* Enterprise Applications & Integration

**Corporate Values**

* **Ingenious**

We always want to be first to transform new ideas into tangible business results while optimizing our use of resources. We are versatile in action and agile in thought because we believe it’s important to do more with less. For us, ingenious solutions are the ultimate goal.

* **Responsible**

With our clients’ and colleagues’ best interest at heart, we act responsibly and communicate with clarity. Our global practice demands respect and openness towards each other, the communities around us and global society at large. We take seriously the trust placed in us and work hard to earn it every day. We never make a promise that we cannot keep.

* **Persistent**

In the face of complexity and rapid change, we are determined to help our customers and our people around the world succeed. The road to joint success may be long but we’re persistent where our competitors falter. Our optimism is infectious and helps customers trust in our abilities. Together we build momentum towards our shared goals.

* **Confident**

We meet every challenge with respect and confidence. We trust in our abilities and the difference we can make. We also understand the complexities of modern technology well enough to always keep learning. Every accomplishment and customer success adds to our ability and growth. They deserve to be talked about.

**D. Review of work done**

We Started off with a sprint like work system with 4 sprints of 2 weeks each followed by this divided amongst the team members