

# 1.0 INTRODUCTION

## 1.1 What is Artificial Intelligence ?

In computer science, **artificial intelligence (AI)**, sometimes called **machine intelligence**, is intelligence demonstrated by machines, in contrast to the **natural intelligence** displayed by humans and animals. Leading AI textbooks define the field as the study of "intelligent agents": any device that perceives its environment and takes actions that maximize its chance of successfully achieving its goals. Colloquially, the term "artificial intelligence" is often used to describe machines (or computers) that mimic "cognitive" functions that humans associate with the human mind, such as "learning" and "problem solving".

## 1.2 What is IBM cloud ?

**IBM Cloud** is a set of cloud computing services for business offered by the information technology company IBM. It combines platform as a service (PaaS) with infrastructure as a service (IaaS). The platform scales and supports both small development teams and organizations, and large enterprise businesses. It is globally deployed across data centers around the world. IBM's main competitors in the cloud computing market include Amazon Web Services, Microsoft Azure and Google Cloud Platform.

## 1.3 What is IBM Watson ?

Infuse Watson into your apps and workflows to tap into organizational data and put AI to work across multiple departments – from finance, to customer care, to supply chain. With Watson, you can create better, more personalized experiences for customers, scale the expertise of your best people across the organization, and make smarter decisions based on deep insights from data.

# 2.0 PURPOSE

The purpose of this project is to develop a AI base chat bot that can interact with the customer of a service provider. This project not only does the stuffs like responding to the user with basic information but also enables people to solve their basic problems in their devices that are in the manual of a product which saves time of both customer and the service provider.

# 3.0 LITERATURE SURVEY

## 3.1 Existing problem

The problem with the present day chat bot is that it is limited to a small number of predefined

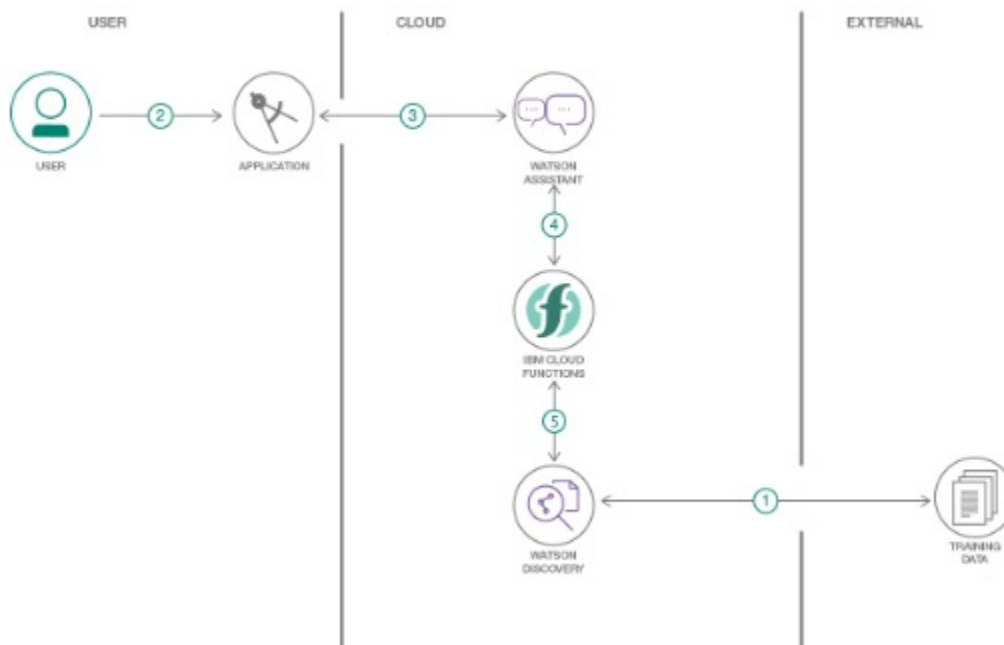
questions and can only be used for a queries not as a helping bot.

### 3.2 Proposed Solution

The solution to this problem to make sure that the chat bot can answer some questions without the use of customer service and give a quick solution the user problem.

## 4.0 Theoretical Analysis

### 4.1 Block Diagram



### 4.2 Software Analysis

The design of this software starts with creating an account in the IBM cloud and in catalog if we go to Watson Assistant and create an assistant which will interact with the user and add the required intent, entities and dialog.

Start with going to Watson Discovery services and launch the service and add your own data document. Discovery will learn it and you are good to add it to the assistant.

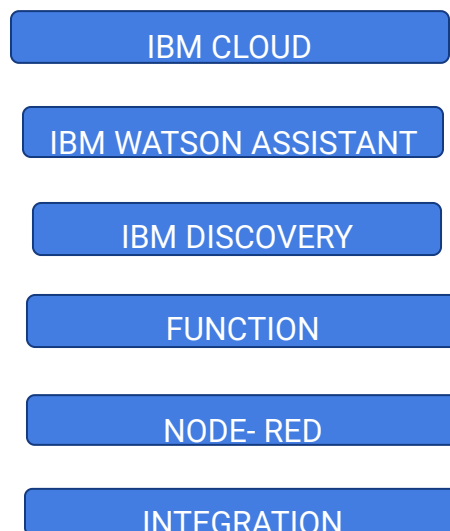
Discovery Function enables the developer to make the RESTful API to give the service to the outside world and any user can interact with the Watson Discovery and Assistant.

After creating all the required services we will start building and giving the user Interface to the project in a NODE-RED platform which is built for integration of the project.

## 5.0 EXPERIMENTAL ANALYSIS

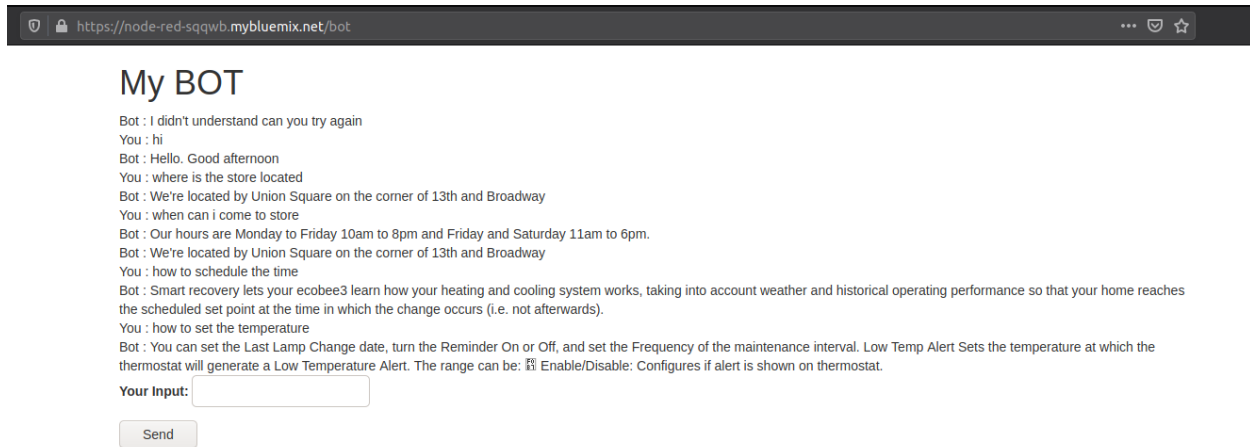
The project is more efficient and can be applicable to the real world usage with some integration and modification and the project should be able to give a proper output with a good accuracy which is essential to the market in these days.

## 6.0 FLOW CHART



## 7. RESULT

Intelligent Customer Help Desk with Smart Document Understanding is working project which was successfully showing the desired output.



## 8.0 ADVANTAGES AND DISADVANTAGES

### 8.1 Advantages:

1. The user can interact with the bot prior to the customer care for clarification.
2. It saves time for both user and the customer service.
3. It is fast and advanced.
4. It can be used and can be improved better.
5. It gives the right output to the user.

### 8.2 Disadvantages

1. It is still in the progress stage and still need to be better.
2. It may give results which may not satisfy the user doubt.

## 9.0 APPLICATIONS

This project can be applied in various field of Business like,

1. E- commerce customer service.
2. Government help desks.
3. Small business.
4. Institutional queries and etc.

## 10.0 CONCLUSION

Intelligent Customer Help Desk with Smart Document Understanding will be future of assistant and will shape the customer experience in a better way then ever.

## 11.0 FUTURE SCOPE

This project can be developed futher more to give more accurate output and be able to make a big differene in the sector of business and will be cost effective and can be made by improvising the present existing technology.

## 12.0 BIBLIOGRAPHY

The project is undertaken based on many different methods:

1. Hands-on workshop to learn how to use IBM Watson Assistant to plan, build, test, and integrate a custom chatbot to deliver a personalized and engaging experience for your customers. This presentation was given at BACon 2018, our business analytics conference.

2.In this demo learn how to add a webhook to your Watson Assistant chatbot! GitHub repository: <https://github.com/modlanglais/assistant-webhook-demo> Watson Assistant documentation:<https://cloud.ibm.com/docs/services/assistant?topic=assistant-getting-starte> #getting-started Cloud Functions documentation: <https://cloud.ibm.com/docs/openwhisk?topic=cloud-functions-getting-started>

3.Ayush Maan recaps the architecture of serverless computing and then gives you a follow along demo to teach you how to set up a simple serverless app on your own account. Learn more at: <https://cloud.ibm.com/openwhisk> Visit the playlist: <https://www.youtube.com/playlist?list=PLzpeuWUENMK2LYXoFEybmVgVy7A9fzhX8J> <http://ibm.biz/ibmdev-newsletter> Get the Developer Webcast Calendar newsletter to learn about new videos and upcoming webcasts from IBM Developer. IBM Owner: Ayush Maan

## 13.1 source code

```
{{"id":"fe8197df.f300c8","type":"tab","label":"Flow"}
1,{"disabled":false,"info":"","id":"b18040ae.cf90f","type":"tab","label":"Flow"}
3,{"disabled":false,"info":"","id":"f3f4e55f.38c72","type":"http"}
in","z":"fe8197df.f300c8","name":"SMART BOT",url":"/bot","method":"get","upload":false,"swaggerDoc":"","x":160,"y":240,"wires":[["55104e45.936498"]],{"id":"55104e45.936498","type":"template","z":"fe8197df.f300c8","name":"BOT TEMPLATE","field":"payload","fieldType":"msg","format":"handlebars","syntax":"mustache","template":"<html>\n <head>\n  <meta charset='utf-8'>\n  <meta http-equiv='X-UA-Compatible' content='IE=edge'>\n  <meta name='viewport' content='width=device-width, initial-scale=1'>\n  <title>\n\t My BOT\n\t</title>\n\t<link rel='stylesheet'\n type='text/css'\n href='https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css' />\n</head>\n <body>\n\n  <div class='container'>\n    <div id='no-script'class='bg-info'>\n      This application needs JavaScript enabled in your browser!\n    </div>\n    <div id='id_contextdump'></div>\n\n    <h1>My BOT</h1>\n    <div id=id_botchathistory>\n\n    </div>\n\n    <div>\n      <form onsubmit='return false;'>\n        <label for='id_chattext'>Your Input: </label>\n        <input type='text' name='chattext'\n id='id_chattext'>\n      </form>\n      <button id='chatbutton'\n onclick='javascript:onChatClick()'>Send</button>\n    </div>\n    <script type='text/javascript' src='https://code.jquery.com/jquery-2.1.4.min.js'></script>\n    <script src='https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js'></script>\n\n    <script type='text/javascript'>\n      $(document).ready(function() {\n        javascriptCheck();\n        invokeAjax('init')\n      });\n\n      $('#id_chattext').keyup(function(event){\n        event.preventDefault();\n        if(event.keyCode == 13){\n          $('#chatbutton').click();\n        }\n      });\n      // if javascript is enabled on the browser then can\n      // remove the warning message\n      function javascriptCheck() {\n        $('#no-script').remove();\n      }\n\n      function createNewDiv(who, message) {\n        var txt = who + ': ' + message;\n        return $('<div></div>').html(txt);\n      }\n\n      function chat(person, txt) {\n        $('#id_botchathistory').append(createNewDiv(person, txt));\n      }\n\n      function processOK(response) {\n        for (var r in response.output.text) {\n          chat('Bot', response.output.text[r]);\n        }\n        $('#id_contextdump').data('convContext', response.context);\n      }\n\n      function processNotOK() {\n        chat('Error', 'Error whilst attempting to talk to Bot');\n      }\n\n      function invokeAjax(message) {\n        console.log($('#id_contextdump').data('convContext'))\n        $.ajax({\n          type: 'POST',\n          url: 'botchat',\n          data: { message, context: $('#id_contextdump').data('convContext') },\n          success: processOK,\n          error: processNotOK\n        });\n      }\n\n      // User has entered some text.\n      function onChatClick() {\n        var txt = $('#id_chattext').val();\n
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$('#id_chattext').val("");\n    chat('You', txt);\n    invokeAjax(txt);\n    }\n\n</script>\n\n</body>\n</html>","output":"str","x":310,"y":380,"wires":[["5c78939d.1cb56c"]]},{"id":"5c78939d.1cb56c","type":"http\nresponse","z":"fe8197df.f300c8","name":"","statusCode":"","headers":{},"x":540,"y":400,"wires":[]},{"id\n":"309d3505.0a9f0a","type":"http\nin","z":"b18040ae.cf90f","name":"","url":"/botchat","method":"post","upload":false,"swaggerDoc":"","x\n":150,"y":120,"wires":[["eb1ab04c.a8f3c8"]]},{"id":"eb1ab04c.a8f3c8","type":"function","z":"b18040ae.\ncf90f","name":"pre processing","func":"msg.params = msg.params || {};\nmsg.params.context =\nmsg.payload.context;\nmsg.payload = msg.payload.message;\nreturn\nmsg;","outputs":1,"noerr":0,"x":380,"y":140,"wires":[["f8b1287c.a5e76"]]},{"id":"f8b1287c.a5e76","typ\ne":"watson-conversation-v1","z":"b18040ae.cf90f","name":"","workspaceid":"059ed3f0-8e66-47f7-8\nbf4-8cd31701f190","multiuser":false,"context":true,"empty-payload":false,"service-endpoint":"https\n://api.eu-gb.assistant.watson.cloud.ibm.com/instances/1983479a-829c-40d0-ad13-83126cec2\n884","timeout":"","optout-learning":false,"x":580,"y":140,"wires":[["fc4e5492.0be","b209c0c0.2a2228\n"]]},{"id":"b209c0c0.2a2228","type":"http\nresponse","z":"b18040ae.cf90f","name":"","statusCode":"","headers":{},"x":950,"y":180,"wires":[]},{"id\n":"fc4e5492.0be","type":"debug","z":"b18040ae.cf90f","name":"","active":true,"tosidebar":true,"console\n":false,"tostatus":false,"complete":false,"x":920,"y":560,"wires":[]}]

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