Employee Directory

Technical Overview

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1. Document Change History

Date	Version	Change Description
8/1/2020	1.0.0	Initial Release
8/16/2020	1.1.0	Update document layout according to the guideline

2. Contents

3. Glossary

Product

Employee Directory Web Part for SharePoint Online and Microsoft Teams.

Classic SharePoint UI

User interface (UI) that is available in SharePoint 2013/2016/2019/Online. Classic UI based on server-side rendering.

Managed Property

A Managed property in the SharePoint search schema defines what data from crawled properties are included in the search index. Managed properties have a large number of settings to determine how the contents are shown in search results. Managed Properties may be referred to in search queries to specify which information you need to return.

Modern SharePoint UI

Modern SharePoint UI is available in SharePoint 2019 and SharePoint Online. Modern SharePoint UI is not compatible with Classic SharePoint UI. Server-side web parts and other UI extensions such as Ribbon Elements, User Controls not supported by Modern UI.

Search Schema

SharePoint Search Schema controls which data is available for search, how search results presented on SharePoint Site. Search Schema contains Crawled and Managed Properties, Search Scopes, Content Sources, and other data to manage the search experience in your farm or tenant.

Web Part

A Web Part is a functionality that can be added one or more times to a page. Web parts built on SharePoint Framework can also be extended as tabs in Microsoft Teams.

4.Document Information

4.1 Objectives

The primary purpose of the document is to describe the Product as a SharePoint-based solution. The paper describes the artifacts that will be deployed to the tenant during the installation process or using the Product.

This document does not cover the architecture view of the Employee Directory.

4.2 Document Overview

The document is divided into subsections:

- **Document Information** provides information about the purpose and use of the document;
- **System Requirements** describes hardware, software and other requirements for the product;
- **Installation Package** describes the content of the product installation package;
- **Artifacts** present SharePoint-related artifacts produced or used by the product;
- **Model** describes the data model of the Product, entities, attributes, and relationships.
- **External APIs** describe services used by the Employee Directory.

5. System Requirements

Employee Directory is a solution that is built on SharePoint Framework (SPFx) and designed for SharePoint Online and Microsoft Teams.

Due to the Product deployed to Microsoft 365 Environment, there are no any specific system requirements.

> 🔔 **Important**
>
> Employee Directory does not support SharePoint on-premise environment.

6.Installation package

Employee Directory delivered as a SharePoint Framework package (.sppkg-file) that contains manifest of the solution and assets.

7.Artifacts

Employee Directory contains a single artifact to deploy in Microsoft 365 tenant – Client Web Part.

7.1 Client Web Part

The app contains the single web part – Employee Directory.

7.1.1 Supported Hosts

Supported Hosts of Employee Directory Web Part:

SharePoint Web Part

Employee Directory may be used as a normal web part and placed on SharePoint modern pages.
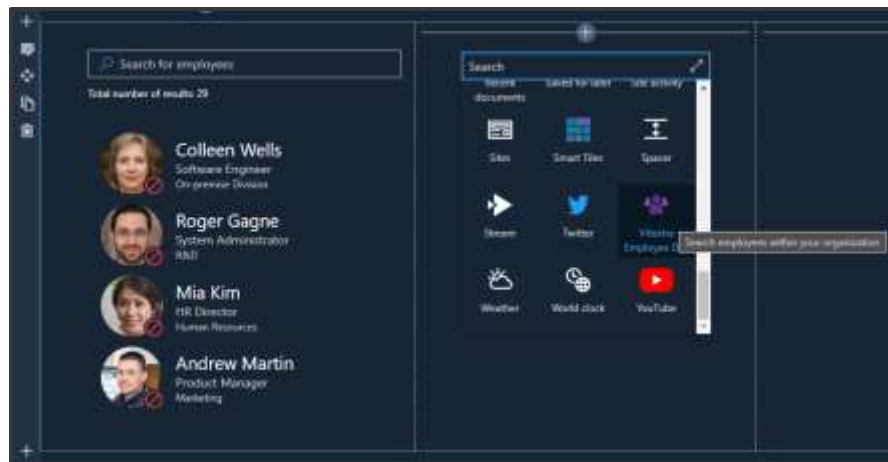
Figure 1. Employee Directory Web Part placed on SharePoint page

SharePoint Full Page

Employee Directory may be used to create a single page app on SharePoint Online.
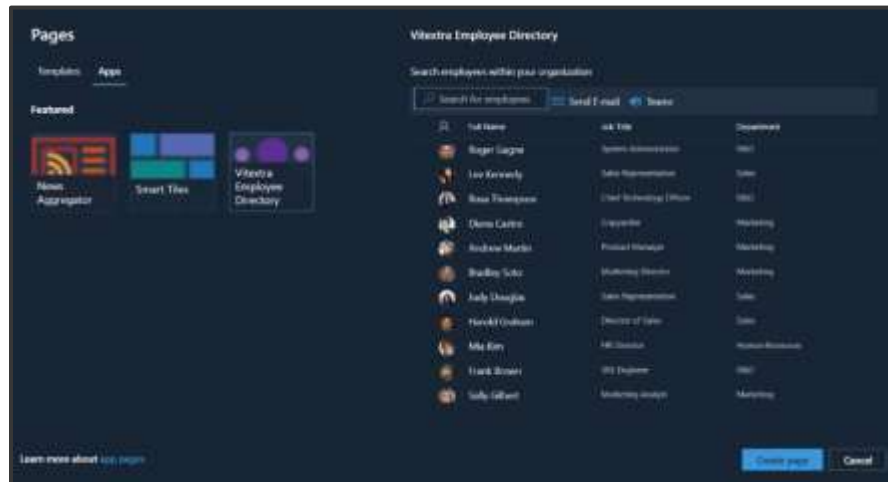
Figure 2. Creating new single page app

Teams Tab

Employee Directory Web Part may be used in Microsoft Teams Tab:
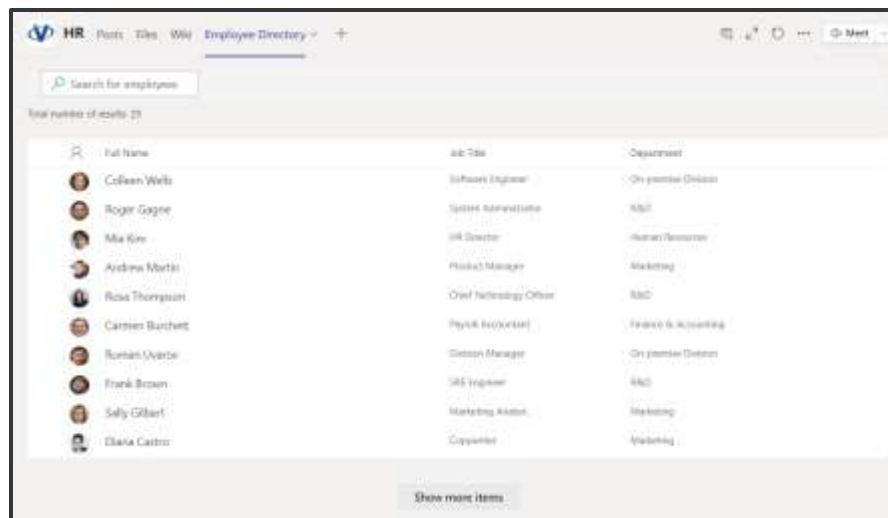
Figure 3. Employee Directory Web Part hosted on Microsoft Teams Tab7

Teams Personal App

Users can add Employee Directory as a personal app in Microsoft Teams.

Figure 4. Microsoft Teams personal app based on Employee Directory

> ⚡ **Important**
>
> Personal App does not support the configuration of the app. Therefore, you can use Employee Directory as a personal app in Microsoft Teams only with settings by default.

8. Localization

Employee Directory supports UI languages listed below.

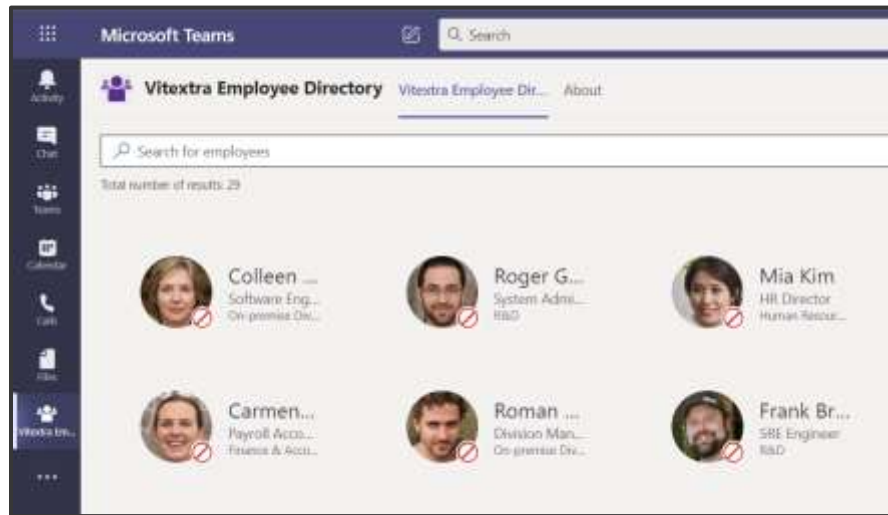| English Name	Native Name	Code
Arabic (Saudi Arabia)	العربية)المملكة العربية السعودية(	ar-sa
Chinese (Simplified, China)	中文(中国)	zh-cn
Czech (Czechia)	čeština (Česko)	cs-cz
Danish (Denmark)	dansk (Danmark)	da-dk
Dutch (Netherlands)	Nederlands (Nederland)	nl-nl
English (United States)	English (United States)	en-us
Finnish (Finland)	suomi (Suomi)	fi-fi
French (France)	français (France)	fr-fr
German (Germany)	Deutsch (Deutschland)	de-de
Greek (Greece)	Ελληνικά (Ελλάδα)	el-gr
Italian (Italy)	italiano (Italia)	it-it
Japanese (Japan)	日本語 (日本)	ja-jp
Kazakh (Kazakhstan)	қазақ тілі (Қазақстан)	kk-kz
Korean (Korea)	한국어(대한민국)	ko-kr
Latvian (Latvia)	latviešu (Latvija)	lv-lv
Polish (Poland)	polski (Polska)	pl-pl
Russian (Russia)	русский (Россия)	ru-ru
Spanish (Spain, International Sort)	español (España, alfabetización internacional)	es-es
Swedish (Sweden)	svenska (Sverige)	sv-se
Thai (Thailand)	ไทย (ไทย)	th-th
Turkish (Turkey)	Türkçe (Türkiye)	tr-tr
Ukrainian (Ukraine)	українська (Україна)	uk-ua

The default language is English (United States).

> 📝 **Note**
>
> If you need a special localization that is not presented in the Employee Directory –
>
> send your localization request to info@vitextra.com.

9. Model

9.1 User Profile attributes

List of managed properties of SharePoint search schema used for employee attributes:

Attribute	Type	Searchable	Note
Title	String	Yes	Display name of the user
FirstName	String	Yes	
LastName	String	Yes	
PictureUrl	String	Yes	URL of the user picture
JobTitle	String	Yes	
Department	String	Yes	
Location	String	Yes	
BaseOfficeLocation	String	Yes	
OfficeNumber	String	Yes	
WorkEmail	String	Yes	
WorkPhone	String	Yes	
HomePhone	String	Yes	
MobilePhone	String	Yes	
SipAddress	String	Yes	
UserName	String	Yes	
AccountName	String	Yes	
AADObjectID	String	Yes	Unique identifier of the user in Azure AD
Interests	String	Yes	Semicolon separated values
Responsibilities	String	Yes	Semicolon separated values
Description	String	Yes	Freeform text for the users to describe themselves
Schools	String	Yes	Semicolon separated values

Skills	String	Yes	Semicolon separated values

9.2 Azure AD attributes

List of managed properties of SharePoint search schema used for employee attributes:

Attribute	Type	Searchable	Note
displayName	String	No	Display name of the user
givenName	String	Yes	
Surname	String	Yes	
jobTitle	String	Yes	
department	String	Yes	
employeeId	String	Yes	Employee identifier assigned by the organization
mobilePhone	String	No	
businessPhones	String collection	No	
imAddresses	String collection	No	
userPrincipalName	String	No	
Mail	String	Yes	SMTP-address of the user
Id	String	No	Unique identifier of the user in Azure AD
otherMails	String	No	
State	String	Yes	State or province in the user' address
postalCode	String	No	
streetAddress	String	No	
City	String	Yes	
Country	String	Yes	

officeLocation	String	No	Location of the user' place of business

9.3 Employee Directory User attributes and mapping

List of employee attributes and mapping between Employee, Azure AD object, and User Profile:

Attribute	Azure AD	User Profile
Full Name	displayName	Title
First Name	givenName	FirstName
Last Name	surname	LastName
Picture URL	N/A	PictureUrl
Job Title	jobTitle	JobTitle
Department	department	Department
Location	N/A	Location
Office Location	officeLocation	BaseOfficeLocation
Office Number	N/A	OfficeNumber
Email	mail	WorkEmail
Business Phone	businessPhones	WorkPhone
Home Phone	N/A	HomePhone
Phone	mobilePhone	MobilePhone
SIP Address	imAddresses	SipAddress
User Name	userPrincipalName	UserName
ID	employeeId	N/A
City	city	N/A
State/Province	state	N/A
Address	streetAddress	N/A
ZIP/Postal Code	postalCode	N/A
Country/Region	country	N/A
Past Projects	pastProjects	PastProjects

Interests	interests	Interests
Responsibilities	responsibilities	Responsibilities
About Me	aboutMe	About
Schools	schools	Schools
Skills	skills	Skills

10. External APIs

Employee Directory uses Microsoft Graph API to retrieve data from Microsoft 365 tenant.

10.1 Microsoft Graph Permissions

The following permissions must be approved for Employee Directory web part to ensure the full functioning of the app:

- Calendars.Read
- User.Read.All
- Directory.Read.All
- Presence.Read.All

10.2 Microsoft Graph Endpoints

10.2.1 List of users

Getting a list of users in the case of Azure AD used as a data source for the web part.

HTTP Request:

GET /v1.0/users

More Details:

https://docs.microsoft.com/en-us/graph/api/user-list

10.2.2 User Details

Getting information about a user in the case of Azure AD used as a data source for the web part.

HTTP Request:

GET /v1.0/users/{userId}

More Details:

https://docs.microsoft.com/en-us/graph/api/user-get

10.2.3 Presence status of the user

Getting the presence status of users to show up this information in search results.

HTTP Request:

```
GET /beta/users/{userId}/presence
```

More Details:

https://docs.microsoft.com/en-us/graph/api/presence-get

> 📝 **Note**
>
> For getting user presence status used the beta version of Microsoft Graph API

10.2.4 Manager of the user

Getting the manager of the user for personal details pane.

HTTP Request:

```
/v1.0/users/{userId}/manager
```

More Details:

https://docs.microsoft.com/en-us/graph/api/user-list-manager

10.2.5 Getting free/busy information

Getting information about meetings and appointments of the user for personal details pane.

HTTP Request:

```
POST /v1.0/me/calendar/getSchedule
```

More Details:

https://docs.microsoft.com/en-us/graph/api/calendar-getschedule

> 📝 **Note**
>
> For getting following information about users always uses Microsoft Graph API no matter what type of data source is used (Azure AD or User Profiles):
>
> - User presence status
> - Manager of the user
> - Free/Busy status of the user

10.3 Vitextra Endpoints

10.3.1 License Status

Getting the license status of the web part.

HTTP Request:

POST https://vitextra.com/product/status

10.4 Application Insights

Employee Directory uses Microsoft Application Insights to collect telemetry and events.

10.4.1 Track the web part is loaded

When the web part is loaded the following information sent to telemetry collection service:

1. Event Name
2. URL of the site where the web part is hosted
3. Language Code Identifier (LCID)
4. The version of the web part

Sample event data in JSON-format:

```
{
   "name": "Web Part Loaded",
```

```
"properties": {

  "siteUrl": "https://vitextra.sharepoint.com"

  "lcid": "1033",

  "version": "2.4.5"

}

}
```

11. Unremovable Artifacts

Employee Directory solution does not contain non-removable artifacts.