INTRODUCTION TO QEVAL

Redaction Overview

Many organizations are required to keep audio and text-based communication data, but personal information is at risk due to poor transcription, lack of redaction capabilities or manual pause-and-resume recording failures. QEval ensures you can meet security and compliance standards by automatically removing sensitive customer data from both call transcripts and audio files.

How It Works

QEval Redaction uses Named Entity Recognition (NER) to recognize sensitive words and phrases from contextual conversations based on a trained machine learning model. NER uses purpose-built machine learning models trained on millions of conversations to enable the identification and categorization of key sensitive information, called entities, within text transcripts. QEval groups these entities into 3 categories:

1. **PCI** - Payment Card Industry data, defined by the PCI Security Standards Council as a combination of the cardholder name, PAN, expiration date, and security code.

2. **PHI** - Protected Health Information, defined in the HIPAA Privacy Rule as "individually identifiable health information" held or transmitted by a covered entity or its business associate, in any form or media, whether electronic, paper, or oral.

3. **PII** - Personally Identifiable Information - defined by the US Department of Labor as any representation of information that permits the identity of an individual to whom the information applies to be reasonably inferred by either direct or indirect means.

Factors Impacting Redaction Accuracy

It is important to note that automated redaction accuracy in any speech-to-text recognition engine, is dependent on the platform's ability to accurately recognize and transcribe a number or keyword captured in the audio file. Automated redaction can never be considered 100% accurate. There are a number of scenarios that influence speech recognition accuracy including audio recording quality, compression ratios, difficult accent, rapid speech, unrecognized slang or words, background noise and static. QEval offers a suite of products and services designed to optimize the quality of transcription and subsequently redaction.

Compliance

QEval's hosted environment is certified by a third party as level 1 PCI DSS 3.2.1 compliant. In a large-scale test with an auditing body, no exploitable information was retained after the redaction process.
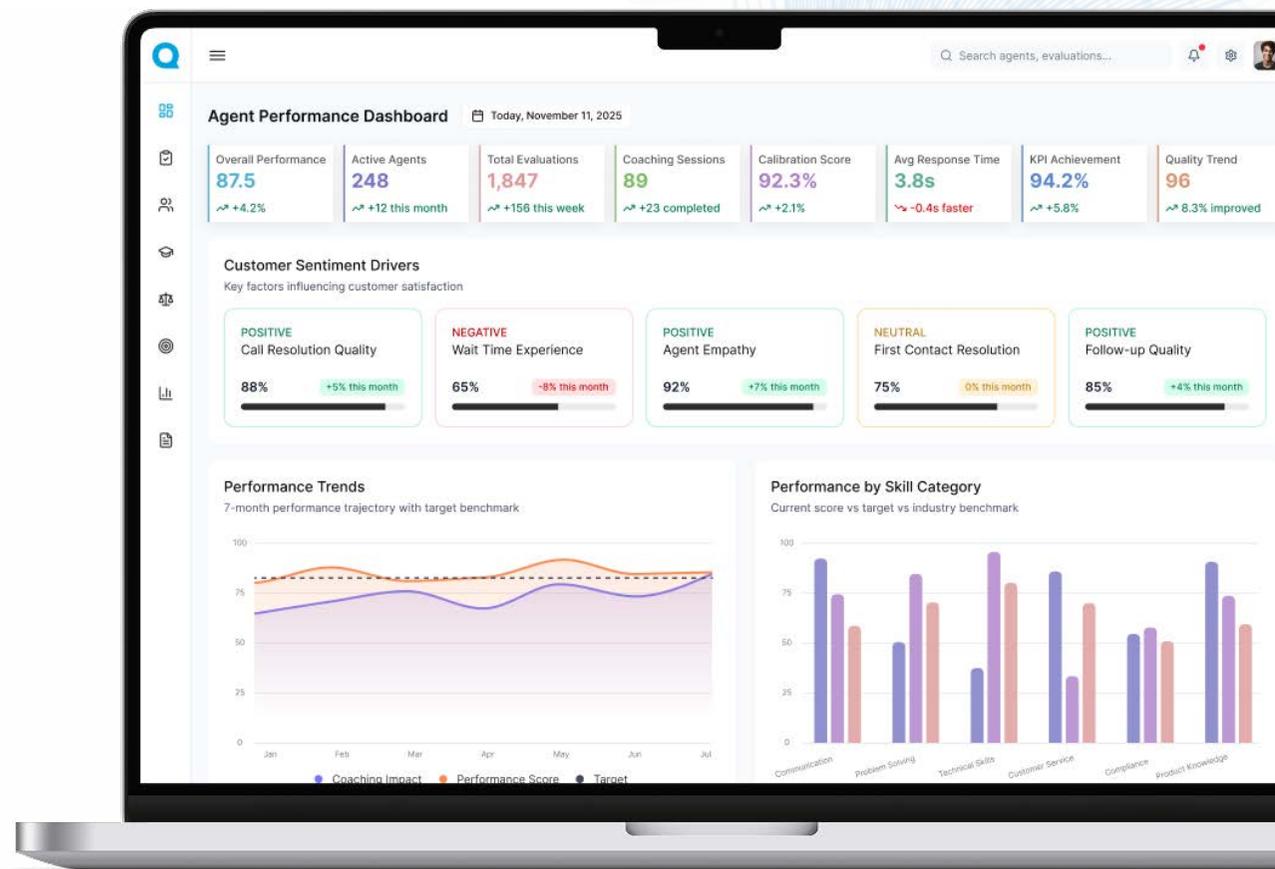
Select Redaction Entities

Below is the list of entities that can be identified and removed from transcripts and audio files. Descriptions of each entity can be found on the subsequent pages.

Please select the entities that you wish to have redacted and return this form to your QEval Implementation Project Manager. The entities checked on this form will be redacted from all ingested contacts (audio, text, email, chat, etc.).

Required PCI Entities

(QEval requires the following entities be redacted. No edits can be made to this section)

BANK ACCOUNT	CVV
CREDIT CARD	BANK ROUTING NUMBER
CREDIT CARD EXPIRATION	

Recommended PII Entities

(QEval redacts the following entities by default. Uncheck those you wish to retain.)

DOB	PASSWORD
DRIVERS LICENSE	SSN

Optional PII Entities

(QEval does not redact the following entities by default. Please check those you wish to redact.)

ACCOUNT NUMBER	LANGUAGE	NAME	POLITICAL AFFILIATION
AGE	LOCATION	NAME FAMILY	PRODUCT
DATE	LOCATION ADDRESS	NAME GIVEN	RELIGION
DATE INTERVAL	LOCATION CITY	NUMERICAL PII	TIME
DURATION	LOCATION COORDINATE	ORGANIZATION	URL
EMAIL ADDRESS	LOCATION COUNTRY	OCCUPATION	USERNAME
EVENT	LOCATION STATE	ORIGIN	VEHICLE_ID
FILENAME	LOCATION ZIP	PASSPORT NUMBER	ZODIAC_SIGN
GENDER	MARITAL STATUS	PHONE NUMBER	
SEXUALITY	MONEY	PHYSICAL ATTRIBUTE	

Optional PHI Entities

(QEval does not redact the following entities by default. Please check those you wish to redact.)

BLOOD_TYPE	DOSE	INJURY	STATISTICS
CONDITION	DRUG	MEDICAL_PROCESS	

Submitted By: **Date:**

Entity Descriptions

The remaining pages describe each of the entities offered for redaction.

Required PCI Entities

QEval requires that the following entities be redacted from all ingested contacts

ENTITY	DESCRIPTION
BANK_ACCOUNT (Redaction required)	Bank account numbers and international equivalents, such as IBAN Acct. No.: 012345-67
CREDIT_CARD (Redaction required)	Credit card numbers 0123 0123 0123 0123 **** **** ****9854 Includes debit, ATM, Direct Debit, PrePay, Charge Cards, and support for cards that do not have 16 digits such as American Express or China UnionPay cards. Flags mentions of complete numbers as well as the last four digits only.
CREDIT_CARD_EXPIRATION (Redaction required)	Expiration date of a credit card Expires: Feb 2029; Exp: 02/29
CVV (Redaction required)	3- or 4-digit card verification codes and equivalents CVV: 146 Includes institution-specific variants: American Express: CID (card ID), CVD (card verification data) BCD / 3ASC (card security code) China UnionPay: CVN (card validation number) CIBC Mastercard: SPC (signature panel code) Discover: CID (card ID), CVD (card verification data) ELO (Brazil): CVE (Elo verification code) JCB (Japan Credit Bureau): CAV (card authentication value) Mastercard: CVC (card validation code) VISA: CVV (card verification value)
ROUTING_NUMBER (Redaction required)	Routing number associated with a bank or financial institution 12345678 Includes international equivalents: Canadian & British sort codes, Australian BSB numbers, Indian Financial System Codes, Branch/transit numbers, Institution numbers, and Swift codes

Recommended PII Entities

QEval recommends that the following entities be redacted from all ingested contacts:

ENTITY	DESCRIPTION
DOB (Redaction recommended)	Dates of birth Born: May 17, 1978 See also: DATE, DATE_INTERVAL
DRIVER_LICENSE (Redaction recommended)	Driver's permit numbers DL# 134711-320 See also: VEHICLE_ID
PASSWORD (Redaction recommended)	Account passwords, PINs, access keys, or verification answers 20%alfalfa; temp5678 My mother's maiden name is Sara
SSN (Redaction recommended)	Social Security Numbers or international equivalent government identification numbers 056-78-9123; ***-**-4567 Includes, for example, Australian TFN, Belgian NISS, British NIN, Canadian SIN, Dutch BSN, German Sozialversicherungsnummer (also used as a healthcare number, see: HEALTHCARE_NUMBER), French INSEE, Indian Aadhaar, Italian TIN, Philippine SSS, Spanish NUSS, Ukrainian TIN, and Mexican NSS formats. Flags mentions of complete numbers as well as the last four digits only.

Optional PII Entities

QEval offers optional redaction of the following PII entities:

ENTITY	DESCRIPTION
ACCOUNT_NUMBER	Account numbers not necessarily associated with a bank account, such as utility bill account numbers. Customer account or membership identification number *Policy No. 14562982;* *Member ID: TZ-5205-061*
AGE	Numbers associated with an individual's age *27 years old; 18 months old* When given in years, only the number is flagged, but both number and time unit are flagged when given in other units like months or weeks Also includes age ranges: 20-37 years old; 18+; A woman in her forties
DATE	Specific calendar dates, which can include days of the week, dates, months, or years *Friday, Dec. 20, 2003; Dated: 07/04/97* See also: DATE_INTERVAL, DOB If no calendar date is specified, days of the week are not flagged: Your appointment is on Monday Indexical terms are not flagged: yesterday; tomorrow
DATE_INTERVAL	Broader time periods, including date ranges, months, seasons, years, and decades 1920-2021; 3-9 March; June 2003 See also: DATE, DOB

ENTITY	DESCRIPTION
DURATION	Periods of time, specified as a number and a unit of time (e.g., seconds, minutes, hours, days, weeks, months, years, decades) 4 months; 8 years Note: Full support for English; multilingual support in progress. Do not use this label for ranges where the start and end of an event are mentioned *(the meeting will last from 11am to noon; last week of December) as those would fall under DATE_INTERVAL*
EMAIL_ADDRESS	Email addresses CX@qevalpro.com
EVENT	Names of events or holidays Olympics; Yom Kippur
FILENAME	Names of computer files, including the extension or filepath *Taxes/2012/brad-tax-returns.pdf*
GENDER_SEXUALITY	Terms indicating gender identity or sexual orientation, including slang terms: female, bisexual, trans.
HEALTHCARE_NUMBER	Healthcare numbers and health plan beneficiary numbers *Policy No.: 3241-756-879-AS* Includes medical record numbers, health insurance policy/account numbers, and member IDs, for example, German Sozialversicherungsnummer (also used as SSN), Philippine PhilHealth ID number, Ukrainian VHI number
IP_ADDRESS	Internet IP address, including IPv4 and IPv6 formats 192.168.6.1 *2001:db8:0:0:0:8a2e::8223*

ENTITY	DESCRIPTION
LANGUAGE	Names of natural languages *Spanish; Portuguese*
LOCATION	Metaclass for any named location reference; See subclasses below . *Nacogdoches; San Antonio* May co-occur with ORGANIZATION when the context refers explicitly to the organization's location The patient was transferred to Northwest General Hospital
LOCATION_ADDRESS	Full or partial physical mailing addresses, which can include: building name or number, street, city, county, state, country, zip code *1903 Berry Drive, Nacogdoches.* *1560 Cable Ranch Rd, San Antonio, TX 78245, United States* *Mail to: Pimento Way Cazoumar, Montego Bay, Jamaica*
LOCATION_CITY	Municipality names, including villages, towns, and cities *Lufkin; Dallas; Rusk*
LOCATION_COORDINATE	Geographic positions referred to using latitude, longitude, and/or elevation coordinates *We're at 60.548440 and -93.784559*
LOCATION_COUNTRY	Country names *Canada; United States*
LOCATION_STATE	State, province, territory, or prefecture names *Texas; Nevada; Houston in TX*

ENTITY	DESCRIPTION
LOCATION_ZIP	Zip codes (including Zip+4), postcodes, or postal codes
	75964; JMCJS12
	Optimized for various English-speaking locales (Australia, Canada, United Kingdom, United States), as well as international equivalents
MARITAL_STATUS	*Terms indicating marital status*
	single; common-law; ex-wife; married
MONEY	Names and/or amounts of currency
	60 pesos; $52.60
NAME	Names of individuals, not including personal titles such as '*Mrs.*' *or* '*Mr.*' *Christopher Robinson; Mr. Johson*
	Ingmar Bergman; Kurosawa Akira
NAME_FAMILY	Names indicating a person's family or community; often a last name in Western cultures and first name in Eastern cultures
	Jean-Luc Godard; Mizoguchi Kenji
NAME_GIVEN	Names given to an individual, usually at birth; often first / middle names in Western cultures and middle / last names in Eastern cultures
	Federico Fellini; Naruse Mikio
NUMERICAL_PII	Numerical PII that doesn't fall under other categories. (e.g., medical device serial numbers, computer numbers like MAC addresses and cookie IDs)
	Includes organization numbers *(e.g., Dutch Ondernemingsnummer, Identificatienummer)* and VAT numbers *(e.g., Dutch BTW Identificatienummer, BTW Nummer).*
	NOTE: NUMERICAL_PII serves as a catch-all for numeric entities. Use cautiously, perhaps where extensive redaction is desired, but also with keyword tagging.

ENTITY	DESCRIPTION
ORGANIZATION	Names of organizations or departments within an organization *BHP; McDonald's; LAPD* May co-occur with LOCATION when the context refers explicitly to the organization's location Donations can be brought to Royal Canadian Legion Branch 43
OCCUPATION	Job titles or professions *professor; actors; engineer; CPA*
ORIGIN	Terms indicating nationality, ethnicity, or provenance *Irish; Australian*
PASSPORT_NUMBER	Passport numbers, issued by any country *MK7621498; TY9F2J37D05*
PHONE_NUMBER	Telephone or fax numbers *8.5234E+12*
PHYSICAL_ATTRIBUTE	Distinctive bodily attributes, including terms indicating race *I'm 193 cm tall; He belongs to the Black students' association*
POLITICAL_AFFILIATION	Terms referring to a political party, movement, or ideology *Democrat; Republican*
PRODUCT	Names or model numbers of items made by an organization; includes intangible products like software and games, as well as other services *iPhone; Toyota Camry*

ENTITY	DESCRIPTION
RELIGION	Terms indicating religious affiliation *Hindu; Presbyterian*
TIME	Expressions indicating clock times *19:37:28; 10pm EST*
URL	Internet addresses https://qevalpro.com/
USERNAME	Usernames, login names, or handles *qevaluser; @_QEval*
VEHICLE_ID	Vehicle identification numbers (VINs), vehicle serial numbers, and license plate numbers *1HGCM82633A004521; DKR9183* See also: DRIVER_LICENSE
ZODIAC_SIGN	Names of Zodiac signs *Gemini; Cancer*
BLOOD_TYPE	Blood types *He's type A positive*
CONDITION	Names of medical conditions, diseases, syndromes, deficits, disorders *chronic fatigue syndrome; arrhythmia; depression*

ENTITY	DESCRIPTION
DOSE	Medically prescribed quantity of a medication limit intake to 700 mg/day
DRUG	Medications, vitamins, and supplements *advil; Acetaminophen; Panadol*
INJURY	Bodily injuries, including mutations, miscarriages, and dislocations *I broke my arm; I have a sprained wrist*
MEDICAL_PROCESS	Medical processes, including treatments, procedures, and tests *heart surgery; CT scan*
STATISTICS	Medical statistics *15% of patients*