Contents

# AddCariesROI

*(Tags: @UR, @UR008, @Analysis)*

As a dentist

I want to add caries regions of interest at a location I deem dubious

So that I can record for future use and share the results with a patient

## AddCariesROI

*(Tags: @UR008-1)*

**Given**  I submit an image

**When**  I choose a location at which to add a caries ROI to the image

**Then**  the new caries ROI is show on the image

**And**  the new caries ROI is labled as of unknown grade

# CommandLineInterface

*(Tags: @UR, @UR024, @Integration, @DesktopOnly)*

As a third-party developer

I want to be able to pass command line arguments to AssistDent

So that I can instruct it to analyze specific images

And display custom info

## SubmitImage

*(Tags: @UR024-1)*

**When**  I submit an image filename to AssistDent from a third-party

**Then**  AssistDent analyses the specified image

**And**  displays the correct patient name

# CustomerWorkflowEU

*(Tags: @UR, @UR029, @DesktopOnly, @Admin)*

As a company

We want to register EU users and accept payment for subscriptions to AssistDent

So we can make money

## CannotUseInEU

*(Tags: @UR029-1)*

**Given**  no licence is registered for the current machine

**When**  I start AssistDent

**And**  I enter details including an EU country name

**Then**  I cannot register

**And**  AssistDent does not start

## CannotUseInNI

*(Tags: @UR029-2)*

**Given**  no licence is registered for the current machine

**When**  I start AssistDent

**And**  I enter details including country "Northern Ireland"

**Then**  I cannot register

**And**  AssistDent does not start

# CustomerWorkflowUK

*(Tags: @UR, @UR028, @DesktopOnly, @Admin)*

As a company

We want to register UK users and accept payment for subscriptions to AssistDent

So we can make money

## CanUseInUKCACountries

*(Tags: @UR028-1)*

**Given**  no licence is registered for the current machine

**When**  I start AssistDent

**And**  I enter details including country name <country>

**Then**  Registration is successful

**And**  AssistDent starts

### Examples:

|  |
| --- |
| country |
| England |
| Wales |
| Scotland |

## PaymentOptionsUK

*(Tags: @UR028-2)*

**Given**  I have register a trial licence for a UK user

**When**  I access the purchase licence page

**And**  choose the default price

**Then**  the payment is in GBP

**And**  UK VAT is applied

## PurchaseLicence

*(Tags: @UR028-3)*

**Given**  I have registered a trial licence

**And**  I record the license expiry date

**And**  I access the purchase licence page

**And**  I choose a purchase option

**When**  I complete the payment in Stripe

**And**  I restart the app

**Then**  the license expiry date is extended as specified by the product

## SubscriptionDetails

*(Tags: @UR028-4)*

**Given**  I have paid for a subscription

**When**  I access my billing portal

**Then**  I can see my subscription details

## ViewInvoiceUK

*(Tags: @UR028-5)*

**Given**  I have paid for a subscription for a UK user

**When**  I access my billing portal

**Then**  I can view an invoice for each month

**And**  the invoice contains the price paid

**And**  the invoice contains the customer name and address

**And**  the invoice contains the VAT amount

**And**  the invoice contains the MIL VAT number

## CancelSubscription

*(Tags: @UR028-6)*

**Given**  I have paid for a subscription

**When**  I access my billing portal

**And**  Cancel my subsription

**And**  I restart the app

**Then**  the license expiry date remains unchanged

**And**  my billing page shows that I have no active subscriptions

**And**  the subscription is cancelled on Stripe

# DeleteCariesROI

*(Tags: @UR, @UR006, @Analysis)*

As a dentist

I want to delete caries regions of interest that I judge to be incorrect

So that I can share the results with a patient without showing false positives

## DeleteCariesROI

*(Tags: @UR006-1)*

**Given**  I submit an image

**And**  the image contains caries ROIs

**When**  I select one or more caries ROIs

**And**  delete them

**Then**  the caries ROIs are removed from the image

# DesktopLicensing

*(Tags: @UR, @UR025, @Admin, @DesktopOnly)*

As a company

We want to issue users with a licence key

So that we can restrict users to free trials and paying customers

## RevokeLicence

*(Tags: @UR025-1)*

**Given**  a licence is registered for the current machine

**And**  I note the licece number and user ID

**When**  I block licence on Cryptolens

**And**  I delete user on Cryptolens

**And**  I delete user on Stripe

**And**  I restart AssistDent

**Then**  AssistDent does not start

**And**  I am asked to register

## CannotUseIn

*(Tags: @UR025-2)*

**Given**  no licence is registered for the current machine

**When**  I start AssistDent

**And**  I choose to register for a trial

**And**  I enter details including country name "United States"

**Then**  I cannot register

**And**  AssistDent does not start

## RegisterTrialLicence

*(Tags: @UR025-3)*

**Given**  no licence is registered for the current machine

**When**  I start AssistDent

**And**  I choose to register for a trial

**Then**  I am required to complete user registration

**And**  I complete the registration

**And**  the application starts

**And**  a customer is created on CryptoLens with the correct details

**And**  a customer is created on Stripe with the correct details

**And**  a %userlocaldata%\MIL\AssistDent\MIL.Caries.Desktop.UserSettings is created with corresponding values

## DisplayValidLicence

*(Tags: @UR025-4)*

**Given**  a licence is registered for the current machine

**And**  that licence has not expired

**When**  I start the desktop app

**Then**  the desktop app starts

**And**  the licence key can be seen in the application

**And**  the licence expiry date can be seen in the application

## LicenceExpired

*(Tags: @UR025-5)*

**Given**  a licence is registered for the current machine

**And**  I set the licensence expiry date to yesterday on Cryptolens

**When**  I start the desktop app

**Then**  I am directed to the store website to purchase a Licence

**And**  the app does not start

## LicenceExtended

*(Tags: @UR025-6)*

**Given**  a expired licence is registered for the current machine

**And**  I set the licensence expiry date to tomorrow on Cryptolens

**When**  I start the desktop app

**Then**  the app starts

**And**  tomorrow is set as the licence expiry date can be seen in the application

## EnterNewLicenceKey

*(Tags: @UR025-7)*

**Given**  a valid licence is registered for the current machine

**And**  I create a new license in cryptolens for the user

**And**  I set the expiry date and correct product ID

**And**  I record the new license key

**And**  I enter the new license key in the app

**When**  I restart the application

**Then**  the application starts

**And**  the application uses the new licence key

## ChangeTrialPeriod

*(Tags: @UR025-8)*

**Given**  a licence is not generated for the current machine

**When**  I configure the store app to generate a 1 day licence

**And**  I register for a trial licence

**Then**  the licence expiry date can be seen in the application

**And**  the expiry date is in 1 day

## CantRegisterInvalidLicenceKey

*(Tags: @UR025-9)*

**Given**  a licence is not registered for the current machine

**When**  I start AssistDent

**And**  choose to enter a licence key

**And**  I enter an invalid licence key

**Then**  the application does not start

## RegisterLicenceKey

*(Tags: @UR025-10)*

**Given**  a licence is not registered for the current machine

**When**  I start AssistDent

**And**  choose to enter a licence key

**And**  I enter a valid licence key

**Then**  the application starts

**And**  the application uses the new licence key

## ConfigureMaxNoOfMachines

*(Tags: @UR025-11)*

**Given**  a licence is not generated for the current machine

**When**  I configure the store app to generate a licence for 4 machines

**And**  I register a trial licence

**Then**  in Cryptolens the licence created is activated on 1 of 4 machines

# DesktopUsageMetrics

*(Tags: @UR, @UR032, @DesktopOnly, @Analysis)*

As a company

We want to record the number of times AssistDent is used and the date of last use

So that we can monitor take up of the product during evaluations

## RecordNumberOfUses

*(Tags: @UR032-01)*

**Given**  I have registered

**And**  used AssistDent n times

**When**  I view the information associated with my licence that incorporates my registered name

**Then**  that information shows AssistDent was used n times

## RecordNumberOfUses

*(Tags: @UR032-02)*

**Given**  I have registered

**And**  used AssistDent today

**When**  I view the information associated with my licence that incorporates my registered name

**Then**  that information shows AssistDent was last used today

# DisplayCariesDetection

*(Tags: @UR, @UR003, @Analysis)*

As a dentist

I want to view caries regions of interest on a bitewing image

So that I can see where caries is ocurring

## ROIIndicatorsAreDisplayed

*(Tags: @UR003-1)*

**When**  I submit an image

**Then**  the detected caries ROIs are indicated

## ROIIndicatorsAreEasilyVisible

*(Tags: @UR003-2)*

**When**  I submit an image

**Then**  the detected caries ROIs are indicated

**And**  the detected caries ROI indicators are easily visible

**And**  the detected caries ROI indicators for different grades are distinguishable

# DisplayImage

*(Tags: @UR, @UR001, @Analysis)*

As a dentist

I want to view one or more bitewing images

So that when caries detection is performed I can view the results in place over the analyzed images

## ImageIsDisplayed

*(Tags: @UR001-1)*

**When**  I submit an image

**Then**  the image is displayed on screen

# DisplayTeethDetection

*(Tags: @UR, @UR002, @Analysis)*

As a dentist

I want to see which teeth have been detected and analyzed for caries

So that I can check for caries manually on undetected teeth

## TeethIndicatorsAreDisplayed

*(Tags: @UR002-1)*

**When**  I submit an image

**Then**  the detected teeth are indicated on the image

**And**  idenfiers for the teeth are shown

## EditToothQuadrant

*(Tags: @UR002-2, @DesktopOnly)*

**Given**  teeth identifiers are show

**Then**  I can edit the tooth quadrant

## EditToothNumber

*(Tags: @UR002-3, @DesktopOnly)*

**Given**  teeth identifiers are show

**Then**  I can edit the tooth number

# DragAndDropExport

*(Tags: @UR, @UR036, @DesktopOnly, @Analysis)*

As a dentist

I want to drag an image, including annotation, from AssistDent into my dental imaging system

So that I can keep a record of the caries detection results

## ExportByDragAndDrop

*(Tags: @UR036-01)*

**Given**  I have analyzed an image in AssistDent

**When**  I drag the image out of AssistDent

**And**  drop the image into another application that supports the drop operation

**Then**  the image is loaded into the other application

# DragAndDropImport

*(Tags: @UR, @UR035, @DesktopOnly, @Analysis)*

As a dentist

I want to drag an image from my dental imaging system into AssistDent

So that I can perform caries detection on my patients images

## ImportByDragAndDrop

*(Tags: @UR035-01)*

**Given**  AssistDent is running

**When**  I drag an image from another application

**And**  drop the image into AssistDent

**Then**  AssistDent loads and analyzes the dropped image

# EnableDentine

*(Tags: @UR, @UR037, @DesktopOnly, @Analysis)*

As a dentist

I want to enable and disable the display and incorporation of dentine caries in my analysis

So that I can optionally concentrate on just enamel-only proximal caries

## EnableDentine

*(Tags: @UR037-01)*

**Given**  I have enabled dentine

**When**  I open an image which contains enamel and dentine caries

**Then**  both enamel and dentine caries are displayed

**And**  I can change the grade of a caries roi to D3 or D4

## DisableDentine

*(Tags: @UR037-02)*

**Given**  I have disabled dentine

**When**  I open an image which contains enamel and dentine caries

**Then**  only enamel caries are displayed

**And**  I am unable to change the grade to D3 or D4

# EnterFeedback

*(Tags: @UR, @UR021, @Admin)*

As a user

I want to enter feedback comments

So that I can tell Manchester Imaging what I think of assistdent.net

## UserCanAccessSupportPage

*(Tags: @UR021-2, @DesktopOnly)*

**Given**  I am using AssistDent

**When**  I chose the contact support option from the main dropdown menu

**Then**  I am directed to the support page

# FolderWatcher

*(Tags: @UR, @UR030, @DesktopOnly, @Admin)*

As a dentist

I want AssistDent to analyze any image added to a specified folder

So that caries detection is performed automically on new images

## AutomaticAnalysis

*(Tags: @UR030-01)*

**When**  an image is copied into the watched folder

**Then**  AssistDent automatically starts and analyzes the image

## StartupAutomatically

*(Tags: @UR030-02)*

**When**  logged into Windows

**Then**  the Folder Watcher is started

**When**  an image is copied into the watched folder

**Then**  AssistDent automatically starts and analyzes the image

## DisableFolderWatcher

*(Tags: @UR030-03)*

**Given**  the Folder Watcher is enabled

**When**  I disable the Folder Watcher

**And**  an image is copied into the watched folder

**Then**  AssistDent does not automatically start

## ConfigureFolderWatcher

*(Tags: @UR030-04)*

**Given**  the Folder Watcher is configured to one location

**And**  a second location exists

**When**  the watched folder is configured to the second location

**And**  an image is copied into the watched folder

**Then**  AssistDent automatically starts and analyzes the image

# ImageExport

*(Tags: @UR, @UR031, @DesktopOnly, @Analysis)*

As a dentist

I want AssistDent to export the image with annotated results

So that I can share the image with the patient and/or import it into my dental imaging software

## ExportOnDemand

*(Tags: @UR031-01)*

**Given**  I have performed caries detection

**When**  I export an image

**Then**  an image file is created

**And**  that image contains the source X-Ray and annoted caries ROIs

## ExportAutomatically

*(Tags: @UR031-02)*

**Given**  I have performed caries detection

**And**  I have enabled automatic export

**When**  I close AssistDent

**Then**  an image file is created

**And**  that image contains the source X-Ray and annoted caries ROIs

## SnapshotImage

*(Tags: @UR031-03)*

**Given**  I have performed caries detection

**When**  I snapshot an image

**Then**  the clipboard contains an image

**And**  that image contains the source X-Ray and annoted caries ROIs

## RunCommandAfterExport

*(Tags: @UR031-04)*

**Given**  I have performed caries detection

**And**  I have configured AssistDent to run a command after export

**When**  I export an image

**Then**  the export is created

**And**  the post-export command is executed

# LegalLabelling

*(Tags: @UR, @UR015, @Labelling)*

As a regulator

I want to view the legal and safety information regarding AssistDent

So that AssistDent can be used legally and safely on patients

## DisplayLegalInformation

*(Tags: @UR015-1)*

**When**  I request the clinical use information

**Then**  the information includes the UDI Device Identifier

**And**  the information includes the CE mark

**And**  the information includes the manufacturer details

**And**  the information includes the CE representative details

**And**  the information includes the date of manufacture

**And**  the information includes the intended of use

**And**  the information includes the indications for use

**And**  the information includes the contraindications

**And**  the information includes the warnings and precautions

**And**  the information includes information on how to access instructions for use

## DisplayInstructionsForUse

*(Tags: @UR015-2, @DesktopOnly)*

**When**  I request the instructions for use

**Then**  the instructions for use is provided in a readable format

**And**  the information includes the legal information

**And**  the information includes the version of the software the instructions relate to

**And**  the information includes the date of issue for the instructions

# MagnifyImage

*(Tags: @UR, @UR004, @Analysis)*

As a dentist

I want to zoom in on a selected area of the image

So that I can see potentially affected areas in more detail

## MagnifierOnImage

*(Tags: @UR004-1)*

**Given**  I submit an image

**And**  the image is displayed on screen

**When**  I hold the left mouse button down

**Then**  a portion of the image is displayed at a higher magnification

## HideAnnotationOnMagnify

*(Tags: @UR004-2)*

**Given**  I submit an image

**And**  I activate the magnifier

**When**  I move the mouse cursor over a caries ROI indicator

**Then**  the indicator is hidden in the magnified view

**When**  I move the mouse cursor over a tooth indicator

**Then**  the indicator is hidden in the magnified view

# OpenImage

*(Tags: @UR, @UR034, @DesktopOnly, @Admin)*

As a dentist

I want to open image files from within AssistDent

So that I have a familiar, app-first, way of using AssistDent with my images

## StartFromDesktop

*(Tags: @UR034-01)*

**Given**  I have installed AssistDent

**When**  I double click the AssistDent desktop shortcut

**Then**  AssistDent starts and prompts me to open an image

## StartFromStartMenu

*(Tags: @UR034-02)*

**Given**  I have installed AssistDent

**When**  I click the AssistDent start menu shortcut

**Then**  AssistDent starts and prompts me to open an image

## OpenImage

*(Tags: @UR034-03)*

**Given**  I have started AssistDent

**When**  I click the Open Image button

**And**  browse for an image file

**Then**  the image is opened and analysis performed

# RepositionCariesROI

*(Tags: @UR, @UR009, @Analysis)*

As a dentist

I want to be able to reposition and change arrow indicator directions

so that I can indicate alternative regions that I believe to be carious

## MoveCariesROI

*(Tags: @UR009-1)*

**Given**  I have submitted an image

**And**  the image contains at least one ROI

**When**  I click-and-drag with the mouse button on an ROI

**Then**  the ROI is moved to the the new location

**And**  the caries grade label is moved to the new location

## FlipCariesROI

*(Tags: @UR009-3)*

**Given**  I submit an image

**And**  the image contains caries ROIs

**When**  I select one or more caries ROIs

**And**  flip its direction

**Then**  the caries ROIs direction is flipped horizontally

**And**  the caries grade label is in the correct location

# SeeWhatsNew

*(Tags: @UR, @UR027, @DesktopOnly, @Labelling)*

As a user

I want to be made aware of new features

So that I know what's changed

## SeeNewFeaturesOnStartup

*(Tags: @UR027-1)*

**Given**  I have not dismissed the news for the version installed

**When**  I start AssistDent

**Then**  the new features are displayed

## StopSeeingNewFeatures

*(Tags: @UR027-2)*

**Given**  I have not dismissed the news for the version installed

**And**  I start AssistDent

**And**  the new features are displayed

**When**  I dismiss the new features dispay

**And**  I restart AssistDent

**Then**  AssistDent restarts

**And**  the new features are not dismissed

## SeeNewFeaturesAfterStartup

*(Tags: @UR027-3)*

**Given**  I have started AssistDent

**When**  I access the see all whats new features

**Then**  all the features are displayed

# ShellIntegration

*(Tags: @UR, @UR033, @DesktopOnly, @Admin)*

As a dentist

I want to open image files with AssistDent

So that I can use AssistDent with using a dental imaging app

## OpenWith

*(Tags: @UR033-01)*

**Given**  I have an image file

**When**  in Explorer I right click choose open with and find AssistDent.exe

**Then**  the image opens in AssistDent

## OpenWithMenuOption

*(Tags: @UR033-02)*

**Given**  I have an image file

**When**  in Explorer I right click choose Open With AssistDent menu option

**Then**  the image opens in AssistDent

# ShowProgress

*(Tags: @UR, @UR026, @Analysis)*

As a user

I want confirmation that AssistDent is performing caries detection

So that I can wait for the analysis to complete

## ShowAnalysisProgress

*(Tags: @UR026-1)*

**When**  I perform caries detection

**Then**  the analysis status is reported at relevant stages

# ToggleAnnotationVisibility

*(Tags: @UR, @UR007, @Analysis)*

As a dentist

I want to hide all annotation

So that I can review the image grade and look for other conditions

## HideImageAnnotation

*(Tags: @UR007-1)*

**Given**  I submit an image

**And**  the image contains caries ROIs

**When**  I hide the annotation

**Then**  the tooth and caries ROI indicators are hidden from view

## RestoreImageAnnotation

*(Tags: @UR007-2)*

**Given**  I submit an image

**And**  the image contains caries ROIs

**And**  I have hidden the annotation

**When**  I restore the annotation

**Then**  the tooth and caries ROI indicators are displayed

# UpgradeClient

*(Tags: @UR, @UR024, @Admin, @DesktopOnly)*

As a user

I want to know when updates are available to the desktop client

So that I can keep the software up to date

And use the best performing algorithms

## CheckForUpdatesNoneAvailable

*(Tags: @UR024-1)*

**Given**  updates are not available

**When**  I start the desktop app

**Then**  the app starts normally

## CheckForUpdatesWhenAvailable

*(Tags: @UR024-2)*

**Given**  updates are available

**When**  I start the desktop app

**Then**  I am informed of the availability of an update

## DownloadUpdate

*(Tags: @UR024-3)*

**Given**  updates are available

**When**  I start the desktop app

**And**  I am informed of the availability of an update

**And**  I click to download

**Then**  the user is directed to the updated installer

## IgnoreCurrentRelease

*(Tags: @UR-24-4)*

**Given**  updates are available

**When**  I start the desktop app

**And**  I am informed of the availability of an update

**Then**  I can request no further notifications for the current released version

## HideNotificationsForIgnoredRelease

*(Tags: @UR024-5)*

**Given**  updates are available

**And**  I have requested no further notifications for the current released version

**Then**  the app starts normally

## ShowNotificationsAfterIgnoringPreviousRelease

*(Tags: @UR024-6)*

**Given**  updates are available

**And**  I have requested no further notifications for a priot released version

**Then**  I am informed of the availability of an update