

Use Cases (First Draft)

Name: New user trial

Identifier: UC-1

Description: User visits sports web site to download trial software

Preconditions: User registers on website with valid email address

Post-conditions: Web site analytics reports conversion data on unique visitors to trial to purchase

Typical Course of Action:

1. User visits website following Google keyword search and finds feature-advantage-benefit statement
2. User reads description of the overall application and the components
3. User watches several demonstration videos and testimonials, competitive comparisons
4. User registers on the website and becomes a prospect
5. System determines general location of users and prospects by geography for reporting
6. Prospect downloads the free Win10 editing application trial version from website
7. Prospect downloads Linux server trial version application (as an ISO file or equivalent)
8. User downloads the free iPad application from the app store (any way to link prospect to app store?)
9. User download the free iOS and Android applications from the app stores
10. User runs demo versions of software for a stated period of time at which time it becomes limited
11. Prospect may communicates with customer service or post comments on company website
12. Company adds prospect to contact database and initiates cohort marketing emails
13. Company tracks conversion rates from prospect to customer

Exceptions:

1. May try some A/B tests with different website content and promotional offers based on lead source

Name: Purchase licensed software

Identifier: UC-2

Description: Prospect purchases Linux server, and/or Win10 recording service

Preconditions: Prospect has evaluated software and intends to purchase

Post-conditions: Prospect acquires licensed key needed to enable continued operation

Typical Course of Action:

1. Prospect decides to purchase licensed software; select 1-year license
2. User adds software application to shopping cart, enters credit card payment data
3. Credit card information is processed by bank (and not stored on company website)
4. Payment is completed, system generates unique license key for Linux Server and sends by email
5. User makes payment, system generates unique license key for Win10 streaming capture service and sends by email

Exceptions:

1. Some organizations require purchase orders and an invoice rather than provide a credit card. They will pay by other means including check or bank transfer. In this case customer service agent will have to be involved.

Alternate Scenario:

1. Customers pay month-to-month rather than upfront for an entire year. In this case we would need ability to process payment monthly, and also extend the license period of the software on a month-to-month basis which may be hard to do considering the system may not be on the Internet on a full-time basis.
2. Some customers may also want to purchase the equipment needed for streaming video including Wi-Fi access points, batteries, encoder hardware or cameras. In this case we can have an "Agent" relationship with a company like B&H Photo to include links on our website to purchase standard configurations. B&H ships the equipment and takes care of billing and we would get a referral commission of a couple %.

Name: Install Linux server

Identifier: UC-3

Description: Admin install Linux O/S and applications on server, updates packages

Preconditions: Installation computer has Internet access to complete licensing verification

Administrator has some Linux experience before installing product

Post-conditions: Application is licensed to user computer based on purchased software options

Typical Course of Action:

1. Admin reads new user documentation
2. Admin installs the Linux O/S and Docker images; runs some type of verification to confirm installation
3. Admin uses package manager to update current software releases for all modules
4. Admin uses package manager to install new features
5. Admin enter license information for Linux server
6. Admin configures security and network including firewall rules and ports
7. Admin adds other Linux and Docker administrative users as required

Exceptions:

1. Some organizations may have limited Linux experience. In this case they may request a pre-configured installation be provided on new or purchased hardware. Another possibility is some type of remote access to the server by our staff that does installation and configuration.

Alternate Scenario:

1. A consultant with Linux experience may be hired to complete the installation.

Name:	Install Windows 10 editor
Identifier:	UC-4
Description:	User installs Windows 10 editing app on desktop or laptop computer
Preconditions:	The Windows 10 editing application is a free application and does not require a license This free application is used by a coach that downloads a shared Pip from Azure
Post-conditions:	Application is installed and fully usable to create or edit local Pips with or without the Linux Server application.

Typical Course of Action:

1. User evaluates the standalone editing application for video analysis
2. User reads new user documentation or watches a training video
3. User downloads the application and runs the standard Windows installer. Registration not required
4. User creates a new Pip and adds video clips and annotations to video
5. User saves Pip on local machine
6. No server upload features are available on system without Linux Server connection or Azure account

Alternate Scenario:

1. A licensed customer uploads a Pip to their Azure account and add contact information for a coach
2. The coach or a player receives an email notification of a Pip available on Azure to review
3. The email includes a link to download the Windows 10 editing app
4. The coach or player installs the editing app as described above
5. The coach is then able to download and open and edit the Pip from the Azure account
6. This is both a requirement for some sports conferences and a marketing opportunity

Name: Install Windows 10 service

Identifier: UC-5

Description: User installs Windows 10 service on desktop or laptop computer

Preconditions: The Windows 10 service requires a license to install (what about a trial? - TBD)

The Windows 10 editing app needs to be installed to confirm installation success

Post-conditions: Service is installed, firewall is configured and able to connect to video sources

Typical Course of Action:

1. User reads new user documentation or watches a training video explain the install process
2. User downloads the application from website and runs the standard Windows installer.
3. Installer assists user in making firewall changes on local computer to open ports
4. User configuration of network is completed
5. User connects mobile device as the video sources to service and begins recording
6. User starts Windows 10 editing application to display the results of the test

Exceptions:

1. Unable to configure firewall
2. Unable to configure network

This one needs more work!!!

Name: Install iPad application

Identifier: UC-6

Description: User installs the iPad coach's application on tablet

The iPad application is designed to be used for coach's reviews during live events

The iPad can be used to add an unscheduled event

The app includes standalone features for video capture and review during coaching

Preconditions: The iPad application is a free utility downloaded from the App Store

Post-conditions: Application is installed and able to connect to the servers; receives Pips and send video clips to the server during a scheduled event

Typical Course of Action:

1. User reads new user documentation or watches a training video explain the iPad functionality
2. User visits app store and selects and installs iPad application
3. Application scans for Linux server or Windows 10 service and establishes a session
4. When connected, the Linux server authenticates the user and send list of events to iPad
5. The user selects a scheduled event and subscribes to updates from the server
6. The server publishes tagging data and video from the cameras which is displayed live on the iPad
7. The coach can filter the clips using tagging data; we may add the feature to allow the coach to receive videos based on the individual coaches interests (i.e. offense only or defense only)
8. The coach can review the videos and add annotations or notes
9. The iPad can also be used to record video and send that to the server to be included in the Pip
10. When the event is complete the Pip on the iPad includes the metadata, tagging data and video segments

Alternate Scenario:

1. If this is an unscheduled event, the coach can add a new event from the iPad which sends the request to the Linux server or the Windows 10 service to create an event using default settings to begin the session
2. Some useful data, such as roster may not be available on a Windows 10 service if the event is unscheduled

Rules:

1. An iPad is not able to create an unscheduled event if a scheduled event has already been entered for that date and time on the server or service.

Name:	Install iPhone and Android application
Identifier:	UC-7
Description:	<p>User installs the coach's application on mobile phone</p> <p>The phone application can be used to add an unscheduled event</p> <p>The phone app is not intended to be used for coach's reviews during live events due to the small screen size, but there is no technical reason we should not support this</p> <p>The app includes standalone features for video capture and review during coaching</p>
Preconditions:	The phone application is a free utility downloaded from the App Store
Post-conditions:	Application is installed and able to connect to the servers; and send video clips to the server during a scheduled event

Typical Course of Action:

1. User reads new user documentation or watches a training video explain the mobile phone functionality
2. User visits app store or Google play store and selects and installs coaching application
3. Coach uses mobile app to record and review video footage of player
4. Footage can be send to Windows 10 editing app for analysis (this may require Windows 10 service)

Alternate Scenario:

This scenario covers the use of the mobile phone for coaches during a live event (this is not confirmed)

1. Application scans for Linux server or Windows 10 service and establishes a session
2. When connected, the Linux server authenticates the user and send list of events to mobile phone
3. The user selects a scheduled event and subscribes to updates from the server
4. The server publishes tagging data and video from the cameras which is displayed live on the phone
5. The coach can filter the clips using tagging data; we may add the feature to allow the coach to receive videos based on the individual coaches interests (i.e. offense only or defense only)
6. The coach can review the videos and add annotations or notes
7. The phone can also be used to record video and send that to the server to be included in the Pip
8. When the event is complete the Pip on the iPad includes the metadata, tagging data and video segments

Rules:

1. The mobile app is not able to create an unscheduled event if a scheduled event has already been entered for that date and time on the server or service.

Name:	Setup Strapi roles and permissions
Identifier:	UC-8
Description:	<p>Administrator adds the authorized users to the Strapi database</p> <p>The authorized coaches add the players and rosters to the Strapi database</p> <p>Either the administrator or the coaches add the setup rules and properties to the Strapi database which are used to set the default conditions and generate pipeline scripts</p>
Preconditions:	<p>The Strapi database is installed and the admin user has access to the screens</p> <p>The Strapi database is only installed on the Linux server, not the Windows 10 service</p>
Post-conditions:	The database is populated with registered users, setup rules and permissions are configured

Typical Course of Action:

1. Administrative user selects industry specific category from list; in this case "Sports" (category labels will vary depending on category)
2. Add coaches and players (when the sports option is accepted);
3. Import CSV file for bulk entry of coaches and players names if available
4. Send email invite to coaches and players to register and update password
5. Add coaches and players to groups; define permissions for groups
6. Permissions include: schedule events; create unscheduled events; create Pip; edit Pip; view Pip; share Pip; archive Pip; tagging Pip
7. Setup home page for site: add descriptive information, links, photographs, text
8. Go to "Setup" page
9. User add physical resources and assets (like cameras and gym)
10. Add workflow rules and processes from available lists
11. Add triggers, schedules and conditions as instructed by wizard or help files
12. Test implementation

Alternate Scenario:

1. If Education category is selected add principals, teachers and students;
2. If Business category is selected add managers and team members;

Name:	Add scheduled event to Strapi database for “home” or “away” site
Identifier:	UC-9
Description:	The coach adds scheduled event to Strapi database and adds metadata
Preconditions:	<p>The Strapi database is installed and the coaches has permission to add events</p> <p>Players with authorization permissions can add scheduled events</p> <p>The Strapi database is only installed on the Linux server, not the Windows 10 service</p>
Post-conditions:	<p>Events are add to schedules, metadata is complete, new Pip is created and populated</p> <p>A Pip is created when scheduled, although it will not have videos or tagging data</p>

Typical Course of Action:

This scenario covers the situation when the Linux server hosts the Pip during the event. If this is an “away” event; the alternate scenario applies.

1. Coach opens the Strapi schedule page; press button to add new event
2. New event form opens and the coach adds metadata such as event type, category, name, location, opponent, resources, notifications, expiration date
3. Coach saves event
4. The system creates a Pip and populates the metadata entered and any defaults for that event type
5. When the date and time arrive, the event becomes active and accepts session connections from devices such as cameras, mobile device, and other sources
6. When the event end time is reached, the event closes and is available on Strapi for additional download and editing

Alternate Scenario:

The alternate scenario occurs when a scheduled event is located at an “away” site. This means the Windows 10 service running on a laptop or portable computer will be used to capture video and publish the Pip to coaches.

1. Coach opens the Strapi schedule page; press button to add new event
2. New event form opens and the coach adds metadata such as event type, category, name, location, opponent, resources, notifications, expiration date
3. Coach saves event
4. The system creates a Pip and populates the metadata entered and any defaults for that event type
5. A notification is sent to the coach that the “scheduled event” must be copied to the “away service”
6. The Pip is copied to the Windows 10 service running on a laptop or portable computer. This must happen before the laptop is carried to the away location, or else the event will be treated as “unscheduled”
7. When the date and time arrive, the event becomes active and accepts session connections from devices such as cameras, mobile device, and other sources
8. When the event end time is reached, the event closes

9. When the laptop returns home, the Pip is moved to the Linux server and is available on Strapi for additional download and editing

Rules:

1. If the Pip for an “away” event is not copied in advance then the event will be created at the site using an iPad or mobile device and will be established as an unscheduled event using default metadata.

Name:	Assemble PIP during event
Identifier:	UC-10
Description:	The video clips and tagging data are added to the Pip for this event
Preconditions:	<p>When the event occurs at a “home” location networking requirements may be in place</p> <p>When the event occurs at an “away” location the coach must bring the Wi-Fi equipment and power sources needed to setup the private network for the cameras and coaches</p> <p>An installation checklist is generated by Strapi that is used to inventory equipment for the event and provide setup instructions for the cameras, networks, and devices</p>
Post-conditions:	The Pip content including video and tagging data is complete and available in Strapi

Typical Course of Action:

1. Coach prints out the event checklist from Strapi and distributes to staff for inventory and setup
2. Coach or assistant powers on the cameras, streaming encoders, and Wi-Fi equipment as needed. Some customers will permanently install these resources, some are setup at game time
3. Assistant powers-on the IP streaming cameras when using fixed installations (wall mounted)
4. Assistant ensure Wi-Fi equipment for coach’s sidelines or bench area for reviewing video is available
5. Passwords are required to access the Wi-Fi network
6. Coaches open the sports app on iPad, Androids and Win10 tablets and request connection to server
7. Some type of authentication and authorization using tokens is performed
8. Streaming video sources begin sending RTSP streams over Wi-Fi to Linux server at “home” events
9. Assistant uses Stream Deck, custom keyboard or radial menu on the laptop to tag the actions during game
10. The server publishes the video clips and tagging data to the mobile devices
11. Video recording is either stop-start or continuous. If continuous, we need to have a way to make larger files available to the mobile devices, either by transfer or streaming
12. The coaches use the tagging data to select and review game action video on the mobile device
13. When the event is completed the equipment is stored for future use

Alternate Scenario:

The alternate scenario occurs when the event occurs at an “away” location

1. Coach prints out the event checklist from Strapi and distributes to staff for inventory and setup
2. Assistant packs cameras, streaming encoders, batteries and Wi-Fi equipment to bring to event
3. Equipment is setup, power is provided, networking is confirmed
4. User powers-on the IP streaming cameras when using tripods or high-rise poles
5. User installs Wi-Fi equipment on coach’s sidelines or bench area for reviewing video
6. Passwords are required to access the Wi-Fi network
7. Coaches open the sports app on iPad, Androids and Win10 tablets and request connection to server

8. Some type of authentication and authorization using tokens is performed
9. Streaming video sources begin sending RTSP streams over Wi-Fi to server (Win10 or Linux)
10. Assistant uses Stream Deck, custom keyboard or radial menu on the laptop to tag the actions during game
11. The server publishes the video clips and tagging data to the mobile devices
12. Video recording is either stop-start or continuous. If continuous, we need to have a way to make larger files available to the mobile devices, either by transfer or streaming
13. The coaches use the tagging data to select and review game action video on the mobile device
14. When the event is completed the equipment is stored for future use

Rules:

If network congestion is a problem, the system can prioritize certain coach's sessions to ensure that they receive the published video and tagging data sent from the servers first. This will require some monitoring of how long it takes for the Pip content to be published from the server to the devices.

Notes:

Long running, continuous video is used with sports with continuous play such as hockey, basketball, soccer or field hockey. The action on the field may continue for 10 minutes or longer before a break occurs. The cameraman may leave the recording running until intermission between periods when it will be paused until the action restarts. A long-running continuous event will likely have several long video clips, so the Pip needs to be able to name the video files to indicate the source and the start and stop times.

1. User open the tagging app;
2. Press record button to begin capturing video from one or more camera sources
3. When intermission arrives, press pause button to stop recording video stream from cameras
4. Repeat as needed
5. End recording

Stop-start video is used for sports where the action is short and there is a delay between plays, such as cricket, American football, baseball or tennis. The action may only take 10 seconds, with a wait time between plays lasting as long as 30 seconds. In this case the cameraman may start and pause the recording 5 times per minute, or up to 150 times in a game (even more for a long sport like cricket).

1. User open the tagging app;
2. Press record button to begin capturing video from one or more camera sources
3. When play completes, press pause button to stop recording video stream from cameras
4. Repeat for every play
5. End recording

Name:	Live tagging with Stream Deck
Identifier:	UC-11
Description:	Assistant uses Stream Deck to improve speed and accuracy of live tagging events
Preconditions:	<p>Software development and graphic icons used during tagging are complete and available for the person doing the tagging</p> <p>Each sport will require custom actions and tags to be developed and tested</p> <p>Pip metadata such as the roster or team specific nomenclature will be available to use during tagging. This data will come from the Strapi database setup screens</p> <p>We should allow the customer to use either the 15 button or the 32 button Stream Deck</p> <p>We might use the publish/subscribe pattern to send tagging data to mobile devices</p>
Post-conditions:	<p>The tagging data is complete and published to the mobile device live during the event.</p> <p>The tagging data can be used to populate a box score report at any point during or after the event concludes</p>

Typical Course of Action:

1. System checks if Stream Deck is installed;
2. If Stream Deck is detected use full screen video on the laptop screen
3. System uses Pip metadata to determine which sport is being tagged
4. System loads sport specific tagging icons to Stream Deck
5. System load macros and actions needed to control cameras, and the video capture application
6. User presses one or more buttons to describe action on field; the amount of data captured depends on the sport and the time available to enter details
7. The Stream Deck generate the tagging data, saves on the local server and transmit tagging file to coaches
8. When the event is complete the tagging data is saved in the Pip for later use

Note:

1. Additional editing of the tagging data for completeness can be done at a later time

Name:	Live tagging without the Stream Deck device
Identifier:	UC-12
Description:	Assistant uses menu on screen with mouse or touch screen to enter tagging data
Preconditions:	<p>Software development and graphic icons used during tagging are available on the Windows 10 capture screen instead of the physical Stream Deck device</p> <p>Each sport will still require custom actions and tags to be developed and tested. We may be able to use the same back end features of the Stream Deck to do tagging</p> <p>Pip metadata such as the roster or team specific nomenclature will be available to use during tagging. This data will come from the Strapi database setup screens</p> <p>We might use the publish/subscribe pattern to send tagging data to mobile devices</p>
Post-conditions:	<p>The tagging data is complete and published to the mobile device live during the event.</p> <p>The tagging data can be used to populate a box score report at any point during or after the event concludes</p>

Typical Course of Action:

1. System checks if custom keyboard or Stream Deck is installed
2. If no custom keyboard or Stream Deck display radial menu or simulated stream deck UI for tagging
3. System loads sport specific tagging icons
4. System load macros and actions needed to control cameras, and the video capture application
5. User presses one or more buttons to describe action on field; the amount of data captured depends on the sport and the time available to enter details
6. The tagging app generates the tagging data, saves on the local server and transmit tagging file to coaches
7. When the event is complete the tagging data is saved in the Pip for later use

Note:

8. Additional editing of the tagging data for completeness can be done at a later time

Name:	Coaches review game video live or during intermission
Identifier:	UC-13
Description:	Coach uses iPad or Windows 10 laptop to review game footage and make adjustments
Preconditions:	Video clips and tagging data have been published to the mobile devices The coach can filter the tagging data to display selected video
Post-conditions:	The coach can discuss the video footage for strategy or they can share the video with the players to make in game adjustments

Typical Course of Action:

1. Coach has connected to the computer that assembles the video and tagging data
2. The playback application has a window to display footage and a menu to filter the tagging data
3. Use the menu to select the scenes of interest and playback the video
4. Use the video controller to set playback speed, forward or reverse or advance to the next clip
5. Use toolbar to select drawing tools to highlight certain scenes on screen with lines, arrows, circles, or other graphic effects
6. Set favorites icon on scenes to easily return and review with other coaches or players
7. Select statistics option to display detailed box score data with useful trends and areas to review
8. Close the app when the game is complete, reopen Pip later to review summary information and take notes

Name: Stream event video

Identifier: UC-14

Description: Use the Internet or cellphone to stream RTMP video to social media sites

Preconditions: Requires a high-speed network with capacity to upload 5 Mbps to media services

Requires a streaming service to acquire and distribute the RTMP video to fans found on the public Internet. This is not complicated now because the media companies have invested significant resources in making this available to end users.

The Linux server or Windows service needs enough processor resources to stream at a constant bit rate without affecting the live event

It may be possible to offload the streaming to another device

Post-conditions: The team fans will be able to watch the event on Facebook or YouTube live

Typical Course of Action:

1. Coach signs up for social media streaming service such as Facebook, YouTube or Twitch
2. Copy connection token from streaming service; enter data on server or laptop; establish connection
3. Use Internet or phone hotspot for uploading video
4. Insert scoreboard data if available
5. Add audio narration if available
6. Fans use social media sites to watch video
7. Tear down session when completed

Notes:

1. The team can notify the fan base by email that the stream will be available at a certain URL and time.

Name:	Move the “Away” PIP from Windows 10 service to “home” Linux Server
Identifier:	UC-15
Description:	<p>Add the “away” server to the local network and automatically copy the Pip to the Linux server. Coach can manually delete the Pip from the “away” server.</p> <p>There are two objectives; be sure the Pip is saved with all files on the Linux Server and avoid having duplicate Pips on multiple devices. If the new Pip is edited, then this becomes a problem with version control if coach does not clean up redundant files.</p>
Preconditions:	The “away” server needs to join the network and connect to the “home” server
Post-conditions:	The Pip is now available from Strapi for viewing or editing

Typical Course of Action:

1. User connects Win10 computer to Linux Server network
2. Linux server automatically detect updated Pip and copies it to local storage
3. Coach can use Strapi to display, download and modify any metadata on the Linux server as needed
4. If edited, the Pip updates a version control number or last modified data (i.e. Version 15 or some type of change log that is visible to the coaches)
5. Disconnect Win10 app from server

Note:

1. We want to avoid losing the game video by deleting it by accident, but we also want to keep the Pip up to date. It would be useful to keep some type of version designation when changes are made
2. We may want to log the name of the person that makes edits to the Pip

Name:	Download and edit PIPs from Strapi (this happens at a later date and time)
Identifier:	UC-16
Description:	<p>The coach or a player can download the Pip from Strapi to review and edit the content for additional analysis or to add more information</p> <p>Can also be downloaded to create a presentation before sharing the game footage with players, coaches or other teams</p>
Preconditions:	The editing app needs to be on the same network as the Linux server and able to logon to the Strapi pages
Post-conditions:	The edited Pip can be uploaded to Strapi as a new version, either replacing or adding to the files from the previous version

Typical Course of Action:

1. Registered user logs on to the Strapi website; navigates to the Pips page and displays content
2. User uses filter with Strapi list to find specific PIP
3. Press “edit button” to initiate download of PIP from Linux Server to local device
4. Pip opens in Windows 10 editing app (in future may also allow editing on iPad device)
5. User chooses view and uses controller to review video footage
6. User can view live tagging data created during event
7. User can use Stream Deck or menu to modify or extend existing tagging data
8. User can also choose to create new tagging data to meet specific requirements (with a new name)
9. User can save updates to tagging data
10. If new tagging data added, this appears as an additional item which can be access, both are available
11. Add graphics to video
12. Add narration to video
13. Save PIP changes back to server
14. Some basic change control data is added; date and time of change, updated version number, editors name

Note:

1. We will have UI design update to the current Windows 10 editing app to support the new features

Name:	Create a new on-demand Pip on the Windows 10 editor (stand-alone solution)
Identifier:	UC-17
Description:	There is another important way to create and edit a Pip. Add a Pip in the editor. A coach can keep a series of lessons in one Pip. This is my example of the golf instruction video we watched. The coach creates a Pip the first time the student attends a lesson. Every time the student visits for instruction the coach can add new video clips to the original Pip package. The coach can then create a new tagging file at each lesson with new instruction and audio comments and export a presentation for the student to review at home.
Preconditions:	The editing app does not need access to the Linux server or the Windows 10 service. This can be a stand-alone implementation.
Post-conditions:	The edited Pip can still be uploaded to Strapi as a new version

Typical Course of Action:

1. Coach records student video technique with a camera or mobile phone during a lesson
2. Coach press "Add" button to create a new Pip package on his computer. Or the coach can edit a Pip that was previously created on this device.
3. If previous Pip is available the coach navigates to the students previous Pips page and opens the file in editing app and imports the new video clips to the Pip
4. Coach chooses view in the Windows 10 editing app and adds new video
5. The coach needs to be able to move the video clips from a DSLR by connecting the camera to a computer and copying the video files to the Pip
6. The coach may also need to be able to copy the video clips from a mobile device to the computer and add to the Pip. This may need a utility to get files from an iPad since they do not connect to a computer as easily as an Android device does
7. Coach can create new tagging data during the lesson or modify or extend existing tagging data
8. If new tagging data added, this appears as an additional item which can be access, both are available
9. Coach adds graphics to video or gets professional demonstration video from stock video library
10. Coach add audio narration to video
11. Coach can create presentation and export package to send to Azure with email so student can view
12. Coach can save PIP changes back to server if available, or save locally if not available
13. Basic change control data is added; date and time of change, updated version number, editors name

Note:

1. We will have UI design update to the current Windows 10 editing app to support the new features
2. This can be a stand-alone version of the Windows 10 editor by a single coach who does not buy the server

Name: View Pip from Strapi in HTML player

Identifier: UC-18

Description: Sometimes a coach or player will want to see some video footage from a Pip without downloading the entire file or they may not have the Windows 10 editing app installed on their computer. In this case we want to be able to let the coach control the video playback using some type of streaming technology.

Preconditions: The coach or player needs to be able to sign-on to the Strapi website and find the Pip

Post-conditions: We may want to have a counter that shows how many times the Pip is viewed

Typical Course of Action:

1. Login to the Strapi website using registered account; go to the page with the Pips listed in a grid
2. Filter Strapi list to find the required Pip
3. The users account and permissions will determine which Pips can be viewed by this user
4. Press view to open the Pip data and video player in an HTML page
5. View tagging data and use to select scenes of interest
6. We may add the ability for the user to add comments on the page (future feature)
7. Close page

Name: Analyze Pip with additional data

Identifier: UC-19

Description: There are many data sources used to improve the technical analysis of sporting events and technique. For example, wearable sensors, motion capture, A/R or V/R. These will be important in the future, but we are not ready to implement now. So, this is just a placeholder for future planning.

Preconditions: Need to follow industry trends and look for opportunities to partner with established companies or universities in this space.

Post-conditions: Additional data types captured and saved to the Pip

Typical Course of Action:

1. No action at this time

Name:	Create presentation – Option 1
Identifier:	UC-20
Description:	Here we are preparing a traditional YouTube style instruction video for a student to review. This is just a screen recording of the presentation. The advantage of this option is it is easy to develop the feature and screen capture software is available. The disadvantage is the mp4 file delivered to the client is not interactive and the client is unable to view other useful videos.
Preconditions:	Coach has microphone for narration, video clips of student or game and stock footage of example techniques or strategy for demonstration.
Post-conditions:	An mp4 file is saved using some type of screen recording software like Camtasia. It uses H.264 or H.265 compression and reduced resolution for efficiency and sharing.

Typical Course of Action:

1. Enable recording from microphone
2. Start screen capture recording software
3. Edit the presentation using toolbar, video, stock footage, and 1, 2 or 4 viewing angles
4. Instructor can pause recording at any time
5. When finished, end screen capture recording
6. Save the file and export as mp4
7. Upload mp4 to Linux server or Azure for sharing with client

Name:	Create presentation – Option 2
Identifier:	UC-21
Description:	This is a more complex solution. In this case we deliver a Pip with an interactive presentation to the client. The difficulty is saving the presentation interactivity in the Pip in a useful way for the coach and the student. It would require building a timeline and saving all the gestures used during the construction of the presentation. It would be like the queue of actions used for “undo” or “redo” feature in editing a document.
Preconditions:	Coach has microphone for narration, video clips of student or game and stock footage of example techniques or strategy for demonstration. The client (student) has downloaded the Windows 10 editing software to their computer before they receive or view the presentation.
Post-conditions:	A Pip is used to create a custom presentation for the client and is copied to Azure for distribution. This would allow the student to interactively view different video clips in the

Typical Course of Action:

8. Enable recording from microphone
9. Start saving the editing actions such as changing the canvas layout, inserting video, setting markers, adding graphics or object on the canvas into some type of “macro file” which can be included in the Pip and played back by the client.
10. Edit the presentation using toolbar, video, stock footage, and 1, 2 or 4 viewing angles
11. Instructor can pause recording at any time
12. When finished, save macro recording
13. Save the file and export as a Pip with the video, metadata, audio narration and “macro file”
14. Upload presentation Pip to Linux server or Azure for sharing with client
15. If desired, compress the video and reduce resolution before sharing

Name: Reduce

Identifier: UC-22

Description: The Reduce stage is largely an automated process. Based on the meta-data the Pip is designated to be saved, but the file size reduced by additional compress, lower resolution or lower bit rate.

Preconditions: Pip was defined in Strapi setup as eligible for compression.

Post-conditions: The video files in the Pip have been replaced by smaller file sizes

Typical Course of Action:

1. System identifies Pip requires compression
2. System compresses video files and replaces original files

Name:	Share - Upload
Identifier:	UC-23
Description:	There are several reasons the Pips are shared to Azure. The first is to allow the players, coaches, players and registered users to download the Pip to review. The second is to fulfil conference obligations to share game footage with other team's coaches for review.
Preconditions:	<p>Pip is edited with tagging data and possibly compressed for sharing.</p> <p>The intended user may need to have a Windows 10 application.</p> <p>The Pip can also be formatted to upload to Hudl using their upload utilities.</p>
Post-conditions:	<p>The Pip is sent to Azure and a notification email is sent to the interned party with links to download the file.</p> <p>The Pip was uploaded to Hudl per their technical requirements</p>

Typical Course of Action:

1. Publish PIP to Cloud
2. Connect to account
3. Upload PIP to account storage
4. Send email notification to other coaches (with links to download free Win10 editing app and PIP)
5. Send text notification to coaches and players to notify of PIP availability
6. Send app notification to production staff to notify of schedule activities

Name: Share - Download

Identifier: UC-23

Description: The coach is notified that a Pip is available for download from Azure or Hudl

Preconditions: The Pip was successfully upload to Azure or Hudl

Post-conditions: The coach has downloaded the Pip to their local computer

Typical Course of Action:

1. Acquire PIP from Cloud
2. Connect to account
3. Download PIP to local computer
4. Coach gets email with link to download free Win10 player
5. Our Email notification includes marketing material to competitive coach
6. Coach click on link to PIP and download to computer
7. Coach can open and edit PIP on Windows 10 player
8. Save PIP on local computer

Name: Archive

Identifier: UC-24

Description: The system moves the Pip from the Linux server to a NAS device for long term storage. The Pip may also have a delete date in the metadata which will allow the NAS or the Linux server to delete the file. The deletion activity is logged.

Preconditions: The Pip metadata indicates the Pip should be archived

Post-conditions: The Pip was moved to a NAS for long term storage

Typical Course of Action:

1. The metadata for the Pip when initially created will have an archive date and a delete date
2. The system will identify a Pip on the Linux server as ready for archiving
3. The Pip will be copied to a NAS and deleted from the Linux server after copy is confirmed
4. The system will identify a Pip on the NAS as ready for deletion
5. The Pip will be deleted from the NAS
6. All archiving and deletion will be logged and reported to the system admin

Stakeholders

Sports

Coaches

Video Recording Staff

Video Analysts

Players

Competitive Coaches

Recruiters

Parents

Fans

Publishers

Administrators

IT Staff

Education

Schools

Principals

Specialists

Teachers

Students

Parents

Administrators

IT Staff

Business

Managers

Workers

Departments

Procedures and processes

Administrators

IT Staff