



ONTOLOGY FOR MEDIA CREATION

PART 4: PARTICIPANTS

VERSION 1.0

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1 Introduction

What is a Participant? Standard dictionary definitions are quite general: “a person who takes part in or becomes involved in a particular activity” and “a person who takes part in something.”¹ The word itself comes from the Latin *participare*, “to share or participate with others in,” which in turn derives from *particeps*, which has much the same meaning as the generic English “participant.”² *Particeps* itself comes from two fairly complex works: *pars*, meaning “part” in almost any sense one can imagine,³ and the suffix *-ceps*, which indicates taking or catching.⁴

The underlying sense of sharing or taking part is clear enough, but not concrete enough for a machine-actionable Ontology, and the emphasis on “person” ignores the important part organizations and automated systems play in modern production environments. This definition is simultaneously too general and too narrow. Complicating things further, “participant” also has a very specific meaning in film industry finance and accounting,⁵ where a participant is someone who may benefit from the Creative Work’s revenue (a Gross Participant) or its profits (a Net Participant).⁶

In this Ontology, Participants are the entities (people, organizations, or services) that are responsible for the production of a Creative Work. People are the individuals that are contracted or employed to perform given tasks on a production. Organizations are groups of people or legal entities with a particular purpose relative to the production. Services are computer driven agents that can perform tasks given the proper context and structured data input.⁷

Defining Participants in a software defined workflow is crucial for automation, security, and production management. Understanding the nature of the Participants in each task can help prepare assets and infrastructure for work. Workflows can be secured by accessing the permissions of a given Participant and authorizing them appropriately. Working within the rules of a collective bargaining agreement between Participants is also crucial in the world of film and television production. Tasks are often assigned to organizations (ex: ILM for VFX or the Art Department for set design) who then determine which people in their organization are best suited for the work. This is important for security as assigning tasks to an organization delegates the security of the participants to the organization. Having software defined workflows respect these agreements is a key factor in the success of the 2030 vision.

In the world of information technology, Participants are usually thought of through the lens of identity systems. Participants is not a common term in the IT industry which prefers to use the term user. “Organization” is a more common term. Many software tools and applications have no notion of a user

¹ Cambridge and Oxford, respectively.

² *Particeps*: “A sharer, partaker, partner” (Lewis and Short, [A Latin Dictionary](#)); “a participant, sharer, accomplice” ([Oxford Latin Dictionary](#)).

³ A portion into which something is divided; a piece or component of something; that share of a thing which is allotted to someone; a member of a group; a part in a play; a function, role, or task; a region or piece of territory; the position from which an action proceeds or is viewed; a standpoint taken in a dispute; one of a set of opposing groups or individuals.

⁴ From which meanings come *princeps*, “one who takes the first place” (origin of the word “prince”), and *auceps*, “bird catcher.”

⁵ Much like Asset, which also has a specific meaning in finance and accounting. (See the Assets Ontology.)

⁶ See <http://marshallinside.usc.edu/mweinsteinteaching/fbe552/552secure/notes/deal%20structures.pdf> for details of the many varied ways of calculating Net and Gross and defining Net and Gross Participants.

⁷ This definition excludes the common use of ‘service’ in the production industry as a term for what a person or organization offers the production, e.g., “craft services.”

(the Participant) beyond the underlying operating system's concept of user, and those that do often keep the information in an application-specific database, inaccessible to any other parts of the workflow. Generally, in the creative world the identity of Participants is fragmented across multiple identity systems and databases, which are different from the systems that manage users of applications. To meet the requirements of a software-defined workflow in the 2030 Vision, it is necessary for all of these systems to have a shared concept of Participants whether for doing a job on set or using a piece of software.⁸

The following sections cover some of the general concepts that must be addressed when defining a general notion of Participant for the production ontology.

1.1 Scope

There are often thousands of Participants in the production of a creative work. EIDR's distribution ontology⁹ has effectively captured some of the Participant types involved at the high level of producing and distributing a given creative work, though not at the level of individual contributors. This ontology will focus on the organizations, people and services that start with the creative work development process all the way to the delivery of the final master of the creative work. The details of Participants involved before and after these tasks will not be explicitly addressed here, but the general model is still applicable.

Security is an important aspect of any production. The MovieLabs 2030 Common Security Architecture for Production provides a set of security services which can be managed either centrally or in a distributed manner. These services provide (among other things) dynamic security policies that include authorizations for participants to do a particular thing. This means that security management information is not tied directly to the participants, but is accessed by using the participant (i.e., with an identifier for the participant) as part of the input data for authorization requests. Thus, this section of the Ontology does not define any security-related data.

1.2 Job Title vs. Role

The main way of identifying a person within a production is by their title. This title is stated on their production or employment contract. As described below, there are unions and guilds that often advocate for titles to be used within a production for collective bargaining purposes. Because "title" is used for other things – the title of a movie or TV show in particular – this Ontology calls it Job Title.

Role is much more variable between productions and is more closely tied to how participants are associated with given tasks. These assignments and responsibilities are set by a producer at the highest level of the production, and often by departmental and unit management as tasks become more specific. The role may be only loosely connected (or even be unrelated) to a Participant's job title. In the Ontology, this is represented as an explicit combination of the participant and the task.¹⁰

⁸ This is about data interoperability, not common data storage, although shared and federated databases, for example, certainly benefit from a common data model.

⁹ Entertainment ID Registry. See <https://eidr.org/>.

¹⁰ Much as a Depiction (see Context Ontology) is an explicit combination of a Narrative element and a Production Element.

1.3 Unions and Guilds

Unions and guilds (i.e., organizations such as IATSE, SAG, ASC, etc.) have attempted to create some standards around Participants in the film and TV industry through the collective bargaining process. There are also non-binding organizations like VES, EBU, and SMPTE that have made efforts to create best practices for Participant naming in non-unionized roles. Mapping tables will be provided from the preferred job titles and descriptions to the various union and guild representations where applicable.

1.4 Structural and Functional Classes

Participants have structural characteristics (e.g., “it is an organization”) and functional characteristics (e.g., “it is the art department”). We represent the first with a Structural Class, and the second with a Functional Class. The two are independent of each other, and when combined provide full information about the Participant.

For instance, a person has a name, age, and nationality. All people that work in a production have these characteristics and others that are captured in the various HR, IT, and production management systems. At the same time a given person has a job title, such as Camera Operator or Assistant Director, within the production. A person can have more than one job title, e.g., Producer and Director, in which case there is one structural class (the person) and multiple functional classes (one for each job title), each of which is combined with the person, producing multiple participant records. As an example, *The General* (1925) has the Participants Buster Keaton/Director, Buster Keaton/Writer, and Buster Keaton/Actor.¹¹

1.5 Appropriate Granularity

As with many other elements of the Ontology, the principle of appropriate granularity applies to Participants. This means that a Participant can be composed of other Participants, or broken down into components, each of which is a Participant. For example, a Participant can be composed of multiple organizations, people, or services, each of which can be managed as a separate participant if required to support a particular workflow or task.

For example, a production company can be organized in terms of departments each of whom has leaders who manage several Participants or crew. To the studio the production company is seen as the main Participant through whom they direct communication and tasks to the various members of the production team. Organizations and People are contracted to provide services for a production.

1.6 Relationships

Also, like other elements of the Ontology, Participants can have relationships to other things. Participants can be related to Tasks, e.g., as the entity performing the Task, or to other Participants, e.g., a Department is composed of Crew Members or a Camera Unit has many members. Participants also have relationships to other entities in the Ontology, for example, when an actor (a Person) Portrays a Character.

¹¹ The practice is long-standing and long-enduring: Lilian Gish for *Remodeling Her Husband* (1920, now lost), Charlie Chaplin for *The Great Dictator* (1940), Orson Welles for *Citizen Kane* (1941), Francis Ford Coppola for *Apocalypse Now* (1979), Barbra Streisand for *Yentl* (1983), Pete Docter for *Up* (2009), and Jennifer Lee for *Frozen* (2013).

1.7 Notational Conventions

In documents generally:

- The definition of a term included in the Dictionary is in bold, followed by the definition, e.g., **Creative Work**: A uniquely identified production.
- When a defined term is used in the text of a document, it is capitalized, for example in “The Production Scene is usually derived from a numbered scene in the Script,” Production Scene and Script are defined in the Ontology. (Note, a word that is part of defined term may sometimes be capitalized by itself as a shorthand, e.g., “Scene” may be used to indicate “Narrative or Production Scene.”)
- References to other Ontology Documents are in ***bold italic***, e.g., ***Part 3: Assets*** or ***Part 3A: Camera Metadata***

For Sample Attributes In the concept documents:

- If a data field or attribute is formally defined in this ontology or a connected ontology, it is italicized, e.g., *Setup* as an attribute refers to a defined concept.
- Attribute [...] indicates an attribute can appear more than once, e.g., Unstructured Data [...]
- →Thing means that an attribute is expressed as a relationship to a Thing, e.g., →*Script*
- A combination of the two indicates that the concept can have relationships to a set of things, e.g., →Components [...]

2 Concepts and Terms

2.1 Participant

Participants are the entities that perform the tasks that a Creative Work is made from. Director, Art Department, Video Encoder are examples of Participants.

Participant: The entities (people, organizations, and services) that are responsible for the production of the Creative Work.

Participants have one or both of a Structural Class and a Functional Class. Structural Class describes the underlying nature of a Participant, independent of its use. For example, a person is always a person (its Structural Class), whether employed as a director or grip. Functional Class describes the job title a Participant has in the production process.

A Participant can be composed of other Participants – see Participant Group below.

Sample Attributes for Participant

Attribute	Description
<i>Identifier [...]</i>	One or more identifiers for the Participant. At least one of these should be resolvable within the production environment.
Name	A name for this instance of a Participant
Description	A description for this instance of a Participant.
→ Participant Structural Characteristics	An instance of <i>Participant Structural Class</i> (see below).
→ Participant Functional Characteristics	An instance of <i>Participant Structural Class</i> (see below).
Structured Data	Any formally defined information about this instance of a Participant.
Unstructured Data	Any ad hoc or private information about this instance of a Participant
<i>Participant Group</i>	See below.
Relationships [...]	

Notes:

Instances of this Class describe a particular Participant – the combination of a Functional and a Structural Class. For instance, an actor/director has a single Participant Structural Class (details about that person), and actor has a Functional Class that is shared among all actors, as does director. Combining these gives two Participants: the Person as an Actor and the person as a Director.

2.1.1 Participant Structural Class

Film and television production has always been done by people in combination with technology or infrastructure. Originally, a few people did everything, but very soon specialization emerged.¹² Over time, organizations formed to represent people's needs and requirements, and regulate the production and distribution of content – these evolved into unions, guilds, trade associations, and standards bodies, which in turn developed their own specializations. As production became more complex, producers turned to external suppliers for some parts of the process, resulting in today's large ecosystem of vendors and service providers.¹³

The newest entry into the class is the notion of services (cloud or on-prem) that do not require human intervention to perform their task. They benefit from standardized input and are the key to leveraging automation and cloud to increase the output of creative works to meet the oncoming demand for scripted content.

Each kind of Participant – Person, Organization, Service – is defined by a Participant Structural Class.

Participant Structural Class: Describes the form of a Participant along with the attributes specific to that Participant's form.

Sample Attributes for Participant Structural Class

Attribute	Description
Identifier [...]	One or more identifiers for the instance of the class. At least one of these should be resolvable within the production environment. This might include for example, an identifier for a person in an internal database ID.
Name	A name for this instance of the Participant Structural Class.
Description	A description of the Participant.
Structured Data	Any formally defined information about a particular instance of this class, such as extra information about a particular Person, Service, or Organization.
Unstructured Data	Any ad hoc or private information about an instance of this class, such as extra information about a particular Person, Service, or Organization.
→ Relationships [...]	A list of relationships to other elements of the production.

¹² In the spirit of Adam Smith's observations on the division of labor in *The Wealth of Nations*: "It is the great multiplication of the productions of all the different arts, in consequence of the division of labour, which occasions, in a well-governed society, that universal opulence which extends itself to the lowest ranks of the people."

¹³ Adam Smith also prefigured this development: "It is the maxim of every prudent master of a family, never to attempt to make at home what it will cost him more to make than to buy."

2.1.2 Participant Functional Class

The Participant Functional Class describes the formal job title of the Participant within a production. Being able to refer to a given person as the first assistant director, as opposed to John Doe, is very useful to the Participants in a production.

Participant Functional Class: The use or purpose of a Participant within the production process.

Job Title: A formal name for the position a Person holds in relation to the production, usually associated with a specific set of responsibilities.

Job Title is often used in automated or formal systems, including HR, payroll, and guild contracts.

The attributes of a Functional Class are a mix of descriptive metadata and relationships to other things in the production, both of which depend on the particular functional class. See “Functional Classes” below for things defined in other parts of the Ontology that are Participant Functional Classes.

Sample Attributes for Participant Functional Class

Attribute	Description
<i>Identifier [...]</i>	One or more identifiers for the Participants. At least one of these should be resolvable within the production environment. For example, a system may have an identifier for the position of Director in a particular production.
<i>Job Title</i>	See above.
Name	The name of the Participant Functional Class, if there is not a Job Title; this will always be used for Organizations and Services.
Structured Data	Data or metadata for an instance of a particular Participant Functional Class.
Unstructured Data	Data or metadata for an instance of a particular Participant Functional Class.
→ Relationships [...]	A list of relationships to other elements of the production.

Notes:

In most cases, it is sufficient for there to be a single instance of each Participant Functional Class used in a production – one instance of Director and one instance of Actor, for example, which is then combined with individual Participant Structural classes to create a Participant. This can simplify some kinds of searches, e.g., “find all actors.” However, some Participant Functional Classes, e.g., Camera Unit, will need multiple instances if the instances really are functionally distinct.

2.2 Participant Group

Participants can be composed of other Participants, which in turn can be further comprised of other Participants. Participant Groups cover both composition and decomposition. The fact that a Participant

is a Participant Group may not be known when the Participant is created; any Participant can be made into a Participant Group by adding a Participant Group element to it. For decomposition, consider a Production Company. The production company has key people (Producers, Directors), Organizations (Art Department, Location), and Services (Encoding, Transfer). These components might be managed separately by IT systems, financial budgeting systems and production management tools but at the highest level they are (and always have been) parts of the production company.

Participant Group: A Participant composed of other Participants, where the assemblage is treated as a single unit.

Sample Attributes for Participant Group

Attribute	Description
<i>Identifier</i> [...]	One or more identifiers for the Participant Group. At least one of these should be resolvable within the production environment.
Name	The name of the Participant Group.
Description	A description of the Participant Group.
→ Components [...]	The Participants that make up the Participant Group.

Notes:

A Participant Group is usually attached to a Participant. However, if the list of members exists outside of a Participant Group it can have Identifiers and a name. For example, the crew in a Camera Unit may be only temporary, for a production or even a single day, whereas a team of specialist CG artists and programmers may be used as a standard grouping across multiple projects within or across productions.

Participant Groups can be used as a way of managing security for a set of Persons or Organizations and Services.

2.3 Role

All Participants have a job to do – otherwise they would not be Participants. From the producer and director through to VFX artists, gaffers, and caterers,¹⁴ every Participant has a role to fill, a job to do, a task to perform.

For an automated workflow, it is important to know what is being done as well as who is doing it. A Role is a combination of a Participant and a Task. Many Job Titles are associated with particular Roles, e.g., a First Assistant Director often manages script breakdown, scouts locations, and manages various activities on set. Roles give a more precise view of what is going on and what needs to be done.

¹⁴ “They also serve who only stand and wait on tables” – *Hansel and Gretel and Ted and Alice* (S. 2ⁿ-1 in the works of P.D.Q. Bach)

Given that each production is a unique combination of Participants, each with their own skillsets, the specific Roles assigned to each Participant will vary, independent of the Participant's Job Title. For example, on a small production, there may be a single Grip who handles all the Roles usually assigned to a Grip, while a larger production may have a Key Grip, Camera Car Operator, Crane Operator and Dolly Grip, all with more specific Roles.

Role: The combination of a Task and the Participant responsible for it.

It is possible to think of the combination of Task and Participant as a simple Relationship, but reifying it as its own object greatly simplifies extensibility, adding extra data fields, and so on, as well as making it possible to track the pairing itself rather than its individual components.

Sample Attributes for Role

Attribute	Description
<i>Identifier [...]</i>	One or more identifiers for the Role. At least one of these should be resolvable within the production environment.
Role Name	A name for this Role, indicating what the participant is doing for the Task.
Structured Data	Data or metadata for a particular Role.
Unstructured Data	
→ <i>Participant</i>	The Participant performing this Role
→ <i>Task</i>	The Task performed by this Role.

Notes:

The Participant can be blank if it is not known, e.g., before a Participant has been assigned to the Task.

Some Tasks need multiple Participants to complete, in which case there will be a Role for each Participant involved in that Task. Sometimes the Roles have the same name, such as when multiple people have to review something. An important feature of a Role is that the Participant can be changed, if necessary, for example if there is an availability issue.

Some Role Names match Job Titles (e.g., a Director who is actually fulfilling a Director Role) and some do not (e.g., a Director who takes on the Role of Editor). The Role Name is the name of the role being done, with as much or as little detail as needed (for example, "Edit night scenes" vs. "Edit day scenes.") The Role Name is what the Participant really does, independent of any Job Title.

2.4 Structural Classes

This section defines some Participant Structural Classes. These are all subtypes of Participant Structural Class.

2.4.1 Organization

Organization: A legal entity or groups of people associated with the production

Example: Art Department or IATSE.

Department: Part of a larger Organization with a particular set of responsibilities on the production.

Notes:

Department is a subclass of Organization

Departments are useful for structuring a set of individuals for a particular purpose, such as finance, budgeting, and some kinds of security management.

2.4.2 Person

Person: People are the individuals that are associated with the production.

Example: Bernard Herrmann and Ennio Morricone.

2.4.3 Service

Service: A Service is a computer driven agent that can perform tasks given the proper context and structured data.

Example: A transcoding service or transfer service.

2.5 Functional Classes

This section provides a list of some common Participants in film and television productions. The number of kinds of participants will continue to grow, especially as the industry adopts new ways of working (whether socially or technologically driven). The Dictionary portion of the Ontology provides a much larger set, which is, of course, not complete. The ones included here are in general use, and the names and definitions should be viewed as an example set of best practices.

The list will be extended as more consensus is reached across the industry.

<i>Participant Functional Class/Job Title</i>	<i>Participant Structural Class</i>	Definition	Notes
<i>Director</i>	Person	Person who leads the production of motion pictures and sets whatever is heard or seen in the final film.	
<i>First Assistant Director</i>	Person	Person that organizes the pre-production preparation and the flow of production activity on-set.	
<i>Producer</i>	Person	Person who makes key decisions for the Creative Work on behalf of the studio or broadcaster.	

<i>Participant Functional Class/Job Title</i>	<i>Participant Structural Class</i>	Definition	Notes
Showrunner	Person	Person who has overall creative authority and management responsibility for a television program.	
Actor	Person	Person who plays the role of a character.	
Voice Actor	Person	Person who records primary dialogue for a character in the script, often in animated works	
Screenwriter	Person	Person that develops the story either through adapting original written works or creating a new screenplay.	
Editor	Person	Person that works with the director and Producer to edit the final cut of the creative work.	
Director of Photography	Person	Person responsible for all the elements that affect what the camera is able to capture (i.e., lighting, composition, exposure, etc.).	
Composer	Person	Person that creates the musical score that accompanies the production.	
Sound Mixer	Person	Person that records, dubs, synchronizes, and scores sound in a production.	
VFX Supervisor	Person	Person responsible for achieving the creative aims of the director/producers of a project through the use of Visual Effects.	
Production Designer	Person	Person that creates and develops the overall look, atmosphere and emotion that move the story.	
Set Designer	Person	Person that architects the structures or spaces required by the production designer.	
Casting Director	Person	Person that collaborates with producers, directors, network, and studios executives to cast the talent per role.	
Stunt Coordinator		Person that creates and engineers stunts and hires the stunt performers.	

<i>Participant Functional Class/Job Title</i>	<i>Participant Structural Class</i>	Definition	Notes
Art Department	Organization	Organization responsible for designing and creating the visual style of a production.	
Camera Department	Organization	Organization responsible for setting up and operating the cameras during a production.	
<i>Camera Unit</i>	Organization	Organization (perhaps temporary) responsible for shooting some element of a Scene, e.g., a Main Unit or Second Unit.	Individual members of the Camera Unit are represented as a Participant Group attached to the Organization. See Part 2: Context . Unlike some other Participant Functional Classes, there are likely to be multiple instances of it, one for each unit, named appropriately (Main Unit, Second Unit, Hawaii Unit, etc.).
Costume Department	Organization	Organization responsible for all of the clothing and costumes worn by the cast in a production.	
Editorial Department	Organization	Organization responsible for the artistic assembly of the Creative Work working with the director and producers.	
Visual Effects	Organization	Organization responsible for the creation and manipulation of image data to add or remove objects, environments, characters, and effects to a creative work.	
Production Office	Organization	Organization responsible for all of the administrative and management tasks in a production.	
Archives	Organization	Organization that provides preservation of and access to digital and physical assets.	

<i>Participant Functional Class/Job Title</i>	<i>Participant Structural Class</i>	Definition	Notes
Encoding	Service	Service to compress, index, encrypt and package media assets.	
Transfer	Service	Service to move or copy media assets between locations.	
Rendering	Service	Service to process content creation setups (2D and 3D) to deliver image assets.	

Notes:

Some common, informal groupings, such as “cast” and “crew” are better defined as Participant Groups rather than as Participant Functional Classes. The Participant Group can then be connected to a Participant instance with a generic Organization as its Structural Class.

Appendix A External Definitions

These are terms defined elsewhere in the Production Ontology, included here for ease of reference.

Media Creation Context: Informs scope within the construction process of a Creative Work.

See **Part 2: Context**

Asset: A physical or digital object or collection of objects specific to the creation of the Creative Work.

See **Part 3: Assets**

Camera Metadata: Capture-specific details and information about the Camera itself.

See **Part 3A: Camera Metadata**

Participant: The entities (people, organizations, or services) that are responsible for the production of the Creative Work.

See **Part 4: Participants**

Task: A piece of work to be done and completed as a step in the production process.

See **Part 5: Tasks**

Creative Work: A uniquely identified production.

See **Part 6: Creative Works**

Relationship: Describes and defines the connections between elements of the Ontology, such as Assets, Tasks, Participants, and Contexts.

See **Part 7: Relationships**

Infrastructure: The underlying systems and framework required for the production of the Creative Work; it is generally not specific to a particular Creative Work.

See **Part 8: Infrastructure**

Utilities: Common data models and data structures used in multiple places and in multiple ways in a larger system.

See **Part 9: Utilities**

Identifier: An identifier uniquely identifies an entity within a particular scope.

See **Part 9: Utilities**