Points to review (concerning the VMB current version)

1. Connexion

1. Find a more attractive appearance for login page.
2. Change the order of the menu as: Files|Search|Ontologies|Objects
3. The VMB somehow separated and another visual.

2. Files

- Rename «Files» as «Resources»
- (The question is general:) Is it possible to suppress the name of the player (JW Player)?
- Add a window (that may be reconfigurable) below the player where, once a resource is selected, displays the text that corresponds to it (piked up from the ontology/description).
- Think to a different presentation of the list of resources. Perhaps, as archives (list of). The user clicks on the hierarchy of the archives in order to access to the resources of a topic.
- In the case where the list of theses archives becomes long, to dispose up/down cursor.
- Resources may be: videos (2D and 3D), images, texts and sounds. They have to be clearly separated as such in an archive.
- Authorized users (as professors and administrators) may add complementary resources to an archive. In this case, they have to index it (at least, in a minimal manner: a description by a text an a list of keywords). Thus, in this window (dealing with the files), a button offers such a possibility («Import a new resource»). If the user is not authorized (typically, a student), the system suggests her/him to address her/his demand through an authorized person (typically, a professor).
- Add more functionalities to this part. Noticeably:
    - ADD (a new resource not yet existing in the data base, in an specified archive; eventually, be able to create a new archive (and arbitrary) sub-archives) for new resources or for reclassifications of the already existing resources).
    - RENAME (files and archives)
    - SUPPRESS (let us discuss about this functionality, that may be dangerous, of course!)
    - And a SEARCH functionality (as in the Main menu).

3. Main

- Perhaps, «Main» should be renamed as «Home».
- To be possible to come back to «Main» at any moment (not to be forced to logout for that).
- Perhaps, offer the possibility of the language (French, English) here. Which will affect the whole menu in the sequel (that has to appear in FR or in EN).

4. Objects

- Rename «Objects» as «MatrixGenerator»
- The first list containing the already existing presentations has to be adapted for a big number of presentations (with a vertical cursor, like in the files). The window has to specify that this list is the already existing presentations (as, for instance: «Already existing presentations»).
- Think, perhaps, for a better presentation of the first page with the already existing presentations (windows and background).
- This list should be represented as the files list (i.e. with archives and files) in the case

where we have many presentations of the same domain (i.e. Villa Savoye).

- Each presentation may also accept a small text of presentation (to be written in the next window, when we construct a new presentation, and give it a name in order to save it). Thus, in this first window, we can visualize this text (with a mouse over, for instance) and even to show it in a dedicated window at the right of the list of presentations.
- In this same window (with the list of presentations), one can visualize a presentation (VIEW button) or delete it (DELETE button). The NEW button has to be renamed as «Create a new presentation» and be placed by the list or below.
- Perhaps, change the dimensions of the active window, in order to fit it to the screen dimensions (as the rest of the windows).
- When we press on a presentation and we arrive to the next window, put some space at the left of the matrix (currently, it starts from the left beginning of the window).
- Every new matrix (i.e. an object that appears as an array of PoV/Levels) has a 5X3 form (five PoV and 3 levels) by default (currently, there is only a 1X1 array).
- Reduce the width of the list of resources (same as the width of the player), so that one can define more levels (currently, when the number of levels is high, it goes behind the player area).
- With a mouse over (on the videos of the list), show the text that describes the video.
- Is it possible to reduce the size of the thumbnails of the videos, so that they correspond to the actual size of the cells of the matrix, when it becomes more and more big? Another solution would be to have horizontal and vertical cursors. Another, to block the number of levels (until they are correctly displayed) (but there are no limits for the number of PoV).
- Add drag and drop facilities in the matrix (allowing to change the position of a video thumbnail without suppressing it and selecting it a second time from the list of resources).
- Add multiple selection facilities for the thumbnails (in order to suppress them all at once).
- Rename «Edit» as «Edit PoVs and Levels».
- Rename «Remove» as «Remove selected videos». Place the «Remove» button somewhere else. Or, make it possible to suppress a selected video from the matrix by dragging it out of the matrix area or by double click or something like this.
- Add a button allowing to write a small description text of the presentation.
- When we change the name of a presentation, conserve the ancient one. Allow, in this way, to create presentations on the basis of existing such.
- When we change the name of a presentation and go back to the previous page (where we find the list of already existing presentations), we do not find our presentation (we have to refresh the navigator page or logout/login to see it). Please, correct it.

5. Ontologies

- Rename «Ontologies» as «Concept Hierarchy»
- Separate (at the level of the main menu) «Concept Hierarchy» (that would be for creating an ontology i.e. that corresponds to the current «Edit Ontology») and «Indexation» (that would correspond to the current «Index video»). In other words, introduce a new tab called «Indexation».
- In the «Edit Ontology» (that has to be renamed as «Edit Concept Hierarchy») add a button «New Concept Hierarchy» (for the creation of such a hierarchy from scratch).
- Implement a visual way of constructing concept hierarchies (perhaps without deleting

the ancient way that already exists, that may remain as option). For instance, like here: http://jaredly.github.io/treed.

- For indexing, the better would be something that allows to work directly on the tree structure. We start from the name and the PoV, then, by clicking to a PoV, a zoom allows to see the structure contained to the corresponding node, etc. (i.e. like in the www.prezi.com presentations).
- Again, for all windows containing video files, we follow the same presentation as previously (i.e. in a window, we find archives and files of the videos).
- Find a more attractive way to present all these (new) windows (exploiting all the hight of the screen and with a more dark color (than white)).
- All resources can be indexed (even texts, images and sounds). For texts, images and sounds, a short description and a list of keywords will be sufficient (this is also the minimal requirement in indexing process for every resource). Thus, we have to change our ontologies in order to contain these complementary pieces of information (we already have the description, but not the list of keywords).

6. Search

1. We have to find a more intuitive way in representing multicriteria search (perhaps, use the current representation but complemented by a tree-based one, as previously with the collapsible tree).
2. When a multicriteria search is launched, we arrive to the «Files» that are restricted to the relevant videos. But when we come back to the search we loose our selection and we have to start from the beginning. Make it possible to come back to the latest form of the user research.
3. We have also to find an ergonomic way to allow search by keywords (one or more, free or through an already existing list).
4. Modify the ergonomy of the whole window. For instance, something like the following:

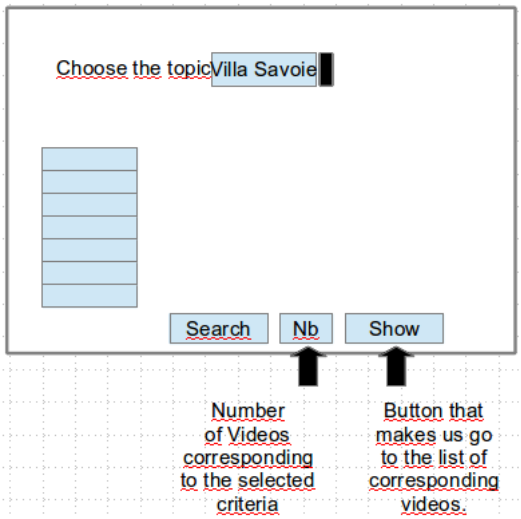

Figure 1: Research panel

7. VMB (version 2)

1. The first page (when someone is logged in) be something like this (attention: we do not figure the permanent menu buttons in the figures below; see Figure 12 for these buttons):

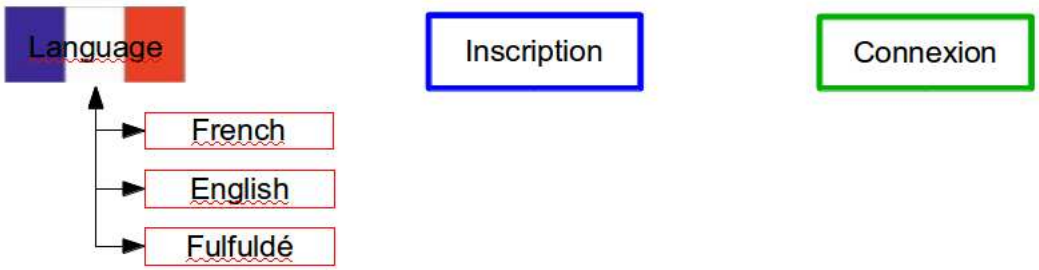

Figure 2: First connexion

Figure 2bis: A classical protocol deals with the inscription and the connection to the service. There is no possibility to access the service without account. Professors, curators, etc. (i.e., persons with major activity, the creation and the management of presentations), have special rights given by the administrator (who maintains the list of such rights). In particular, one has to be registered by the administrator as user with complementary rights (as a professor, a curator, etc.).

- **User1**: we typically think of a student, a museum visitor... Generally, someone desiring to learn by receiving presentations and even making some classwork.
- **User2**: typically, we think of a professor, a curator... In other words, someone who conceives presentations for some public and, perhaps, evaluates presentations of others.

2. User1 is either an individual that belongs to a class (and, thus, is connected in the framework of a classwork) or an individual alone (that is connected for personal reasons). Students of a class have the same code (given by the professor) for accessing to a presentation (already made up). They all can access the service, but each of them may operate with it individually. The student views the recommended presentation. Once connected, the student arrives at something like (general case (visualization)):

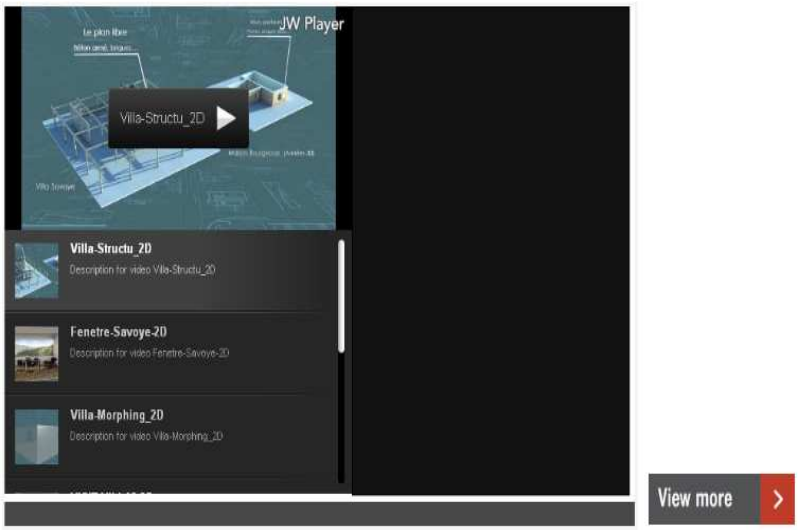

Figure 3: The user sees here the presentation proposed by a professor. She/he can skip it (by pressing the button «View More») at any moment, arriving directly to somehow like in the Figure 4.

Description of basic functionalities.

- When «User1» is selected on this page, we suppose that we are in the case of a student, aiming at viewing a presentation and, eventually, create one, and share it with her/his community.
- Generally, each student has to be identified as student of a class (by her/his professor through the administrating facilities of the system); she/he then has access to all presentations of all professors and all topics (the resources are structured under classical file hierarchies (categories); presentations are separated from resources).
- Moreover, she/he can find there some complementary presentations that have been defined upstream as «default presentations» (and that are included in these archives) as well as presentations done by other professors (using the same resources of the official resources base).
- There, she/he can consult the existing presentations by topic.
- She/he can also have the benefit of a recommendation system (that allows to refine and/or extend the presentations she/he views).
- She/he can even create a presentation and share it in a dedicated space with other students (working space of the community). Sharing means that she/he drop the presentation in the common space (so that can be viewed by all).
- She/he can, moreover, import a new resource (not already existing in the system) for her/his presentation. But the indexation of such a new resource is not mandatory (i.e. such resources may not be indexed; and thus, they cannot belong to the official base of resources).
- There are two working spaces: Professor's space and student's space. Each space contains the resources and the presentations.

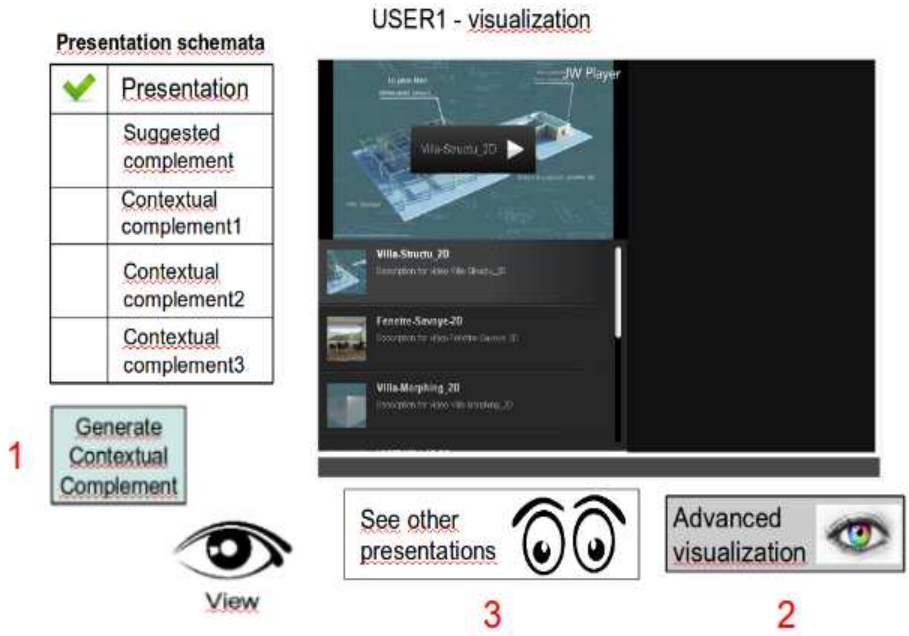

Figure 4: Visualization of complementary pedagogical material, creation and sharing possibilities.

- When the first presentation is finished or if the user skipped it, by pressing the «View More» button, we arrive to an interface like in the Figure 4. On the left panel, the user may choose the presentation (and its complements) she/he desires to view. The contextual complements are generated (button 1 «Generate Contextual Complement») on the basis of what the user has already viewed, incrementally (first press => first complement, second press => second complement, etc.). With «View», one sees the selected presentations (or parts of presentation).
- Here enters in application the «completion algorithm» of the recommendation system (see section 5 below).
- When «Advanced visualization» is selected (button 2), the user1 can be also a «limited creator» (in the sense that she/he can create a new presentation, on the basis of the presentation of the professor; but, for the moment, she/he cannot change neither the matrix nor the resources it contains). Firstly, she/he arrives at something like the following:

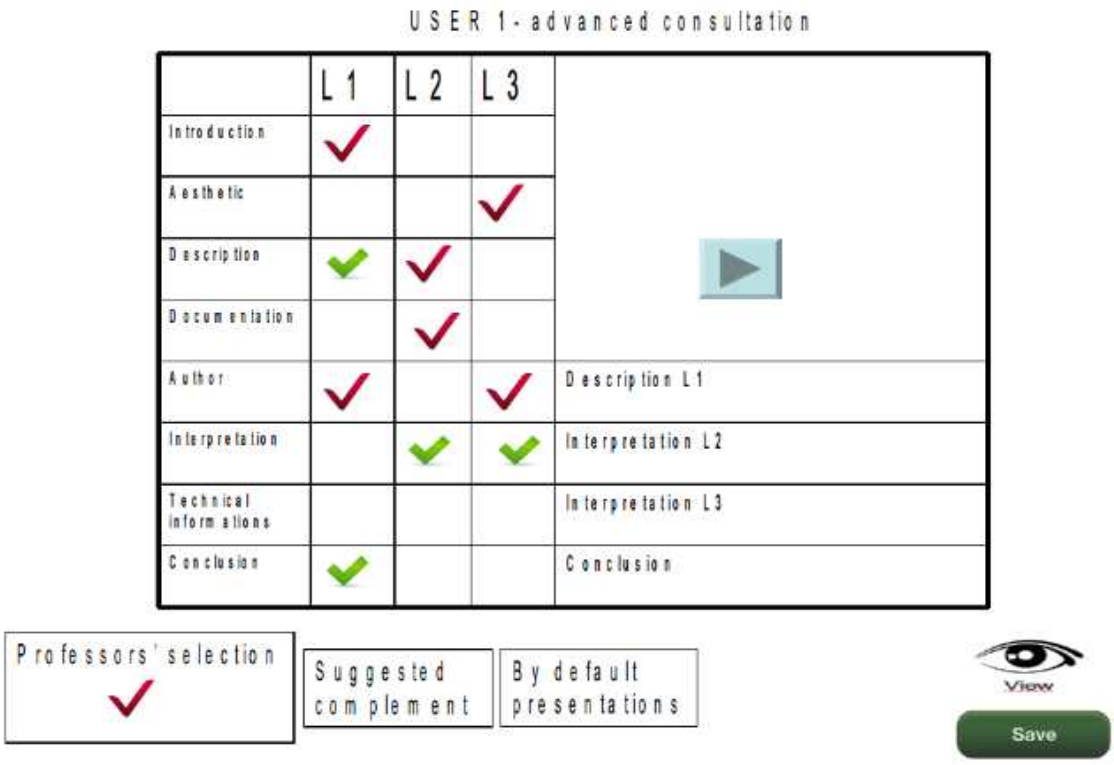

Figure 5: During the advanced visualization, the user1 just creates new presentations on the basis of a given matrix and resources (from where the presentation of the professor comes).

- By clicking on the buttons «Professor's selection», «Suggested complement» and «By default presentations», she/he can see on the matrix the corresponding presentations; but NOT the list giving the order of presentation of the video clips, below the player. She/he can select any of these buttons and even more of them at the same time; videos selected are presented only once (even if they are present in many selections). (Perhaps, we can also specify (with different colors) if a clip is taken once, twice or even three times.) She/he can then build her/his presentation by selecting or de-selecting the displayed resources. Only her/his selection is displayed below the player, in the usual manner. If she/he press the button «View», she/he comes back to something like in Figure 3 (displaying her/his own presentation). And she/he can follow with the protocol of Figure 4.
- Moreover, here, the user1 can save the selection she/he made. Clearly, in this case, as the user1 is a student, the presentation created is saved only in students' space.

The «See other presentations» button (number (3) on the Figure 4).

- This button concerns all the presentations inside the topic in which the student is engaged (for instance, only Geology, only Villa Savoye, etc.). NOT all the presentations at disposal in the system (on other subjects).
- «Other presentations» covers three categories : i) by default presentations on the subject, ii) presentations made by other

professors (or other presentations of the same professor of the same subject) and iii) presentations of other students always on the subject. The user1 arrives to an interface like the following:

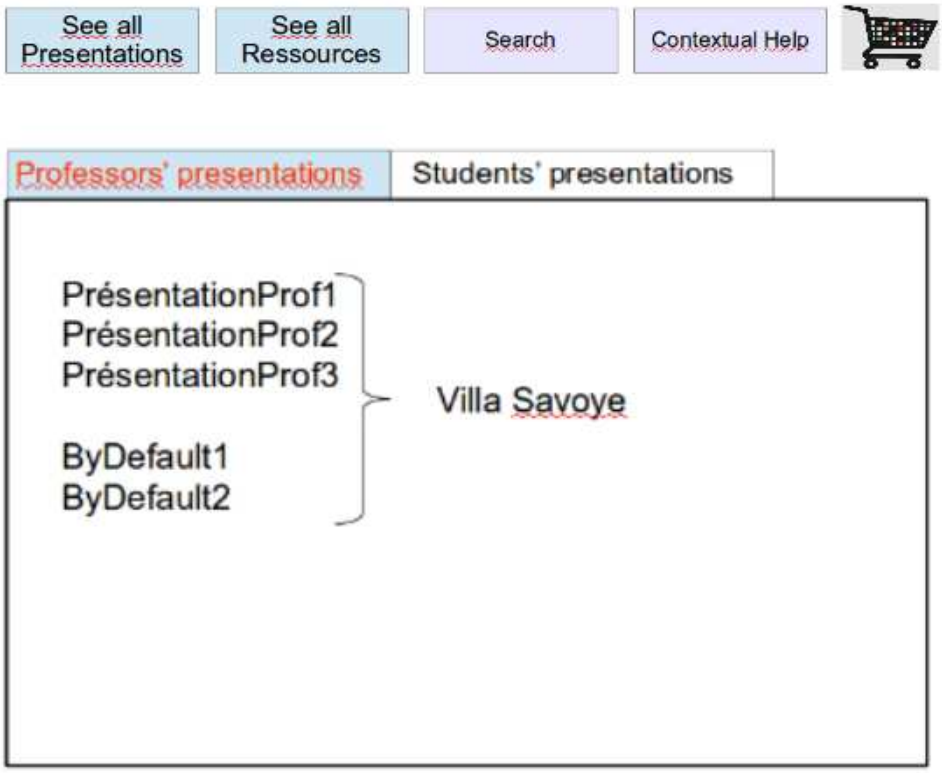

Figure 6: The «See Other Presentations» functionality. The list of presentation of the concerned topic (here, Villa Savoye) is split into two: the list of presentations of other professors and by default presentations. When the user1 click on any of them, she/he arrives to the Figure 3 and starts the same procedure.

- Pressing the button «Students' presentations» we arrive to a similar interface (with the presentations made up by students). But here one has not the list of ByDefault presentations.
- The «See all presentations» and «See all resources» buttons (as well as the buttons «Contextual Help» and «Search») will be present to all all pages since the interface given by Figure 4. They are somehow a standard menu on the right above.
- Pressing the button «See all presentations» we arrive to something like the following:

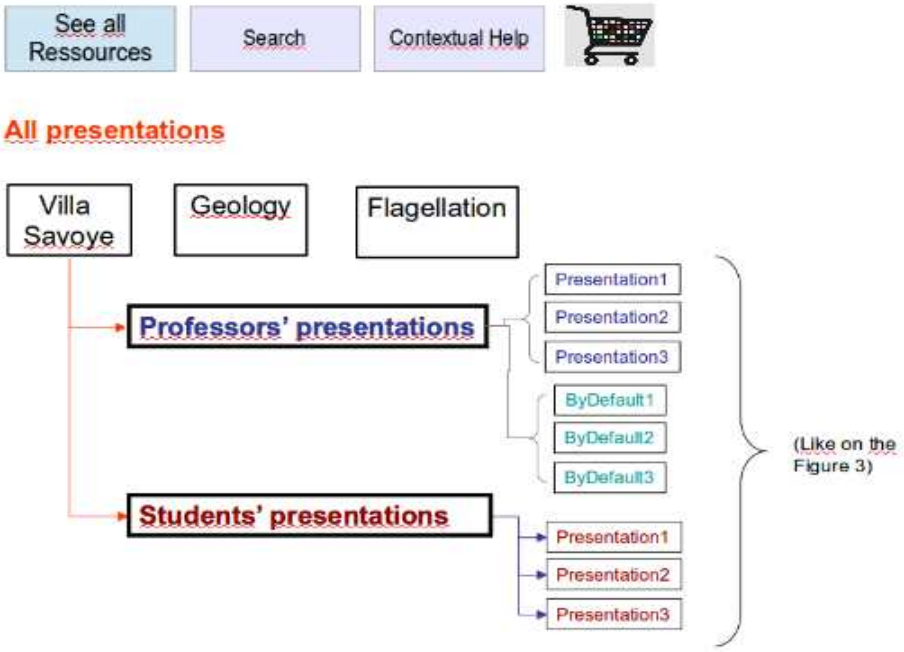

Figure 7: The «See all presentations» function. When a presentation of any of these lists is selected, we jump to the Figure 3 interface.

- Pressing the button «See all resources» we arrive to something like the following:

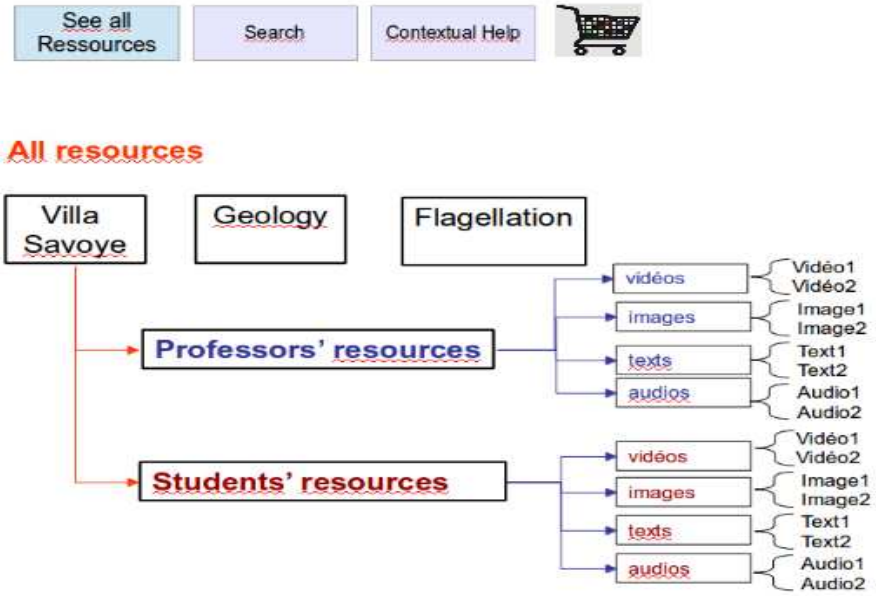

Figure 8: The «See all resources» function. When a resource of any of these lists is selected, we can view it and, if we want, place it in our caddy.

- The «Contextual Help» will give information about how the current page is structured and functions (what we obtain in pressing the buttons in the current page). It will be present to all pages, of course.
- The «Search» button is the search engine for finding resources (but NOT presentations: one cannot search a particular presentation).
- The «Caddy» button makes us arrive to a space where are conserved resources and/or presentations for further use. The «Caddy» button is always visible (generic menu). It is equally split into a resource and a presentation part, as the professor and student spaces.

Create and/or share a presentation.

Here the case is this of a user who wants to create a presentation on a particular topic. This creation is broad: she/he can of course use the points of view and the levels of an already existing presentation, but she/he can also define them from scratch. In other terms, here the student operates as a professor; the only difference is that she/he is not forced to index the complementary resources she/he imports for this presentations that remain, together with the presentation, saved in the students' space.

- In order to create a presentation, she/he has to be identified as such (student).
- By a mouse-over on the button «Create and/or share a presentation» (see Figures 11 and 13), she/he chooses firstly, the creation mode (from scratch or based on an already existing presentation).
- When «from scratch» is chosen, she/he jumps to something like the following:

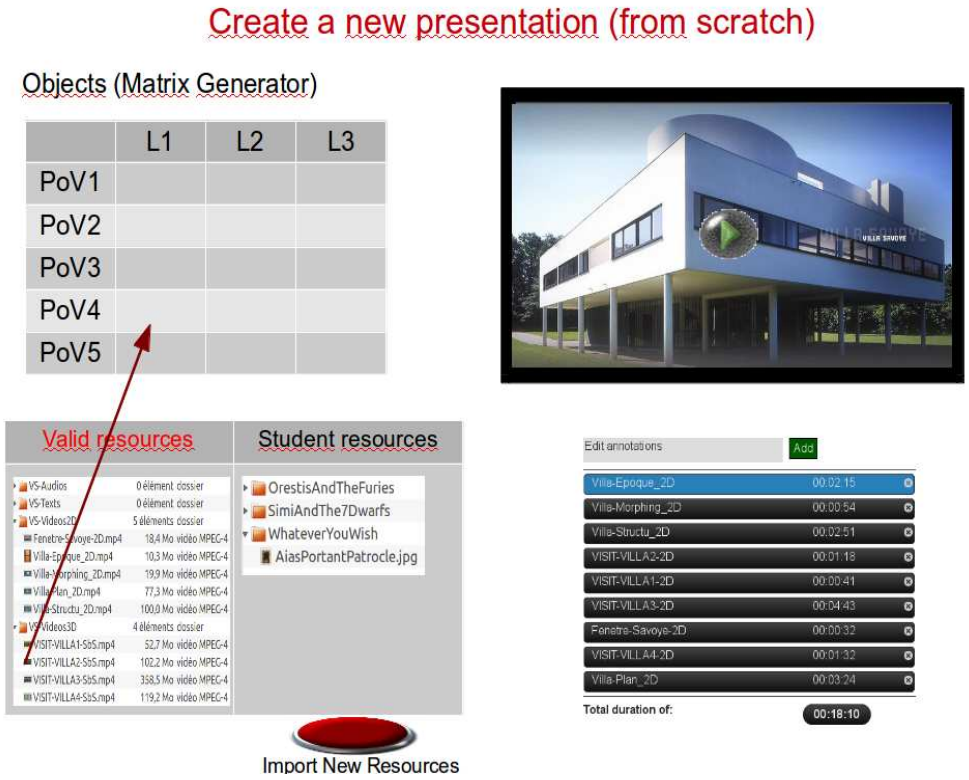

Figure 9: Creating a presentation from scratch (student case). Clearly, the page is complemented by usual permanent menu buttons (up) and evident one (SAVE, SHARE, etc.). On the other hand, the list of videos (right down) has to be understood as a list containing two parts (main and suggested list of videos). The professor can choose the space where the presentation will appear. The student necessarily saves in the student space.

- She/he has first to create the matrix (by defining the points of view and the levels she/he needs for her/his presentation). Then, she/he imports the resources to the cells of this matrix, from the official (validated resources) or the unofficial (student resources) space.
- A particular point: the user1 has to complete all the matrix in order to make the recommendation system work. User1 has also to specify

her/his presentation. That means: the order of the videos, eventual complementary list of videos (suggested complement), annotations, etc.

- What we describe above is the general functionalities. She/he can, of course, save, edit, etc. facilities (as already implemented for Matrix Generator (previously, Objects)).
- Moreover, she/he has the possibility to import resources from her/his computer.
- Once the presentation is built up, she/he can save it (in the student's space) and even invite friends to visualize it (as a professor can do it).
- When, by mouse over, the option «creating a presentation on the basis of an already existing such» is selected, she/he arrives to something like the following:

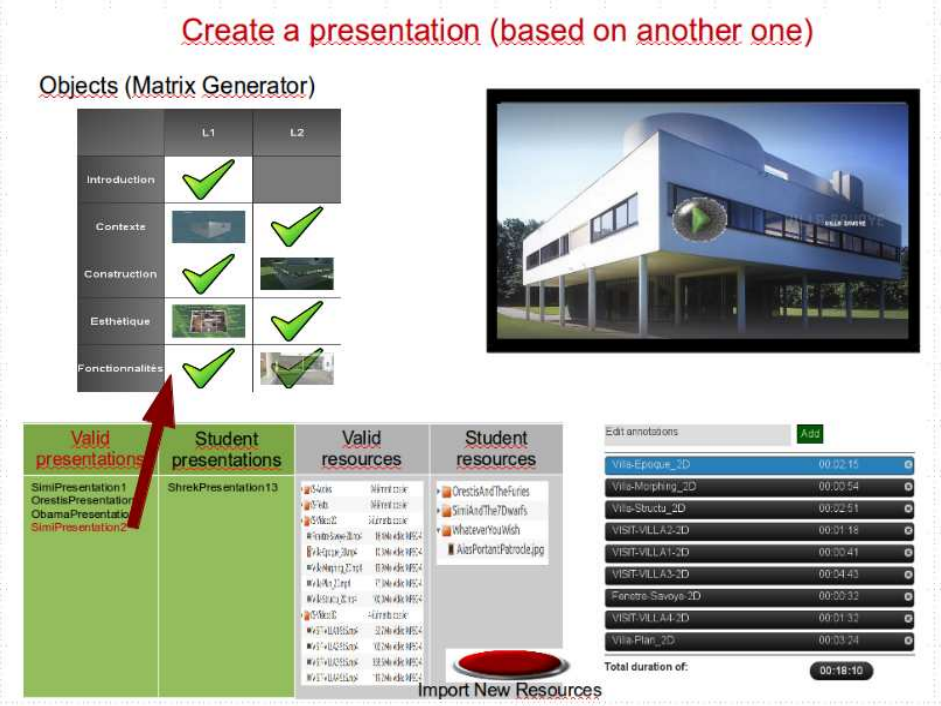

Figure 10: Creating a new presentation on the basis of an already existing one. The user1 selects a presentation whose matrix appears up-left instantaneously. Then the usual editing operations are at disposal. Thus, user1 may modify the selected presentation. And even import new resources to complement it. Here, again, we have SAVE, SHARE, etc. buttons; and the list of videos is double-fold (main and suggested list).

- The Matrix (with the Points of View and the Levels) appears already fulfilled, and the selected presentation specified (videos selected, order, complementary list of videos, annotations, etc.). She/he can change instantaneously presentations (and thus the corresponding matrices and lists of videos).
- Clearly, one can also change, in this case, the names of the Points of View and the Levels. And even suppress from or add resources to the presentation (and even import her/his own resources). But she/he cannot suppress a resource or change the name of a resource of the base in the server.

Permanent menu

- Figures 8 and 9 give the essential elements of the interface (not all the details and all the buttons as, «Search», «Contextual Help», «Caddy», etc. buttons).
- We repeat that in the caddy the user can put resources and presentations that she/he choose for further use. Whenever a presentation is viewed or whenever a resource is visualized, there will be always the possibility to «add to my caddy (i.e. my selection)».

User2 (with high rate rights)

1. When «User2» is connected (Figure 2) we are typically in the case of a professor that aims at creating and sharing a presentation with her/his class.
   - Once connected she/he receives specific professor's administration rights. She/he arrives to a page where she/he can view the resources and the existing presentations (of all topics).
   - She/he views an interface like the following:

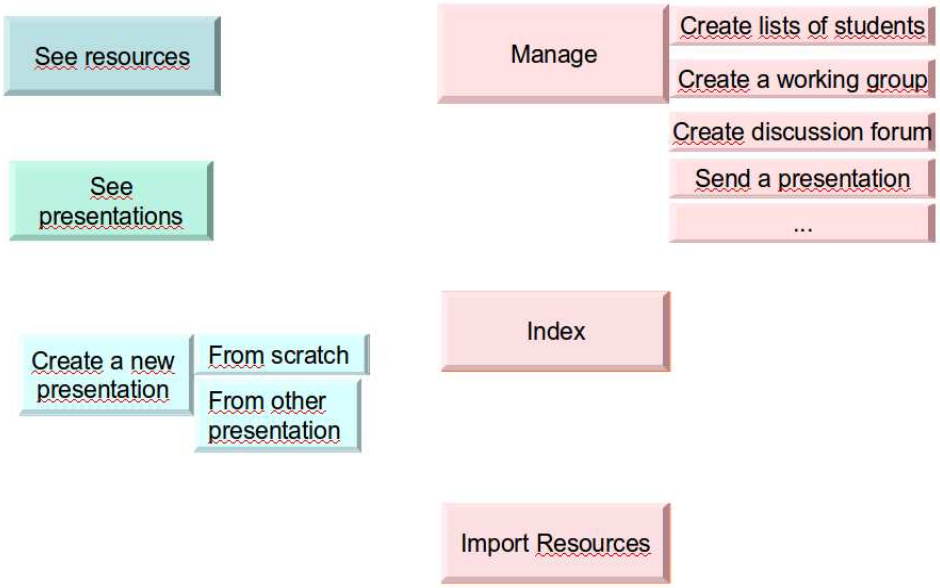

Figure 11: The professor can see resources and presentations (all, professors' or students'), index resources, create presentations, import resources, suppress resources of the students of her/his class, create the list of her/students (as a class group), create and edit working groups, etc.

   - When she/he creates a presentation and wishes to save it, the systems ask her/him to index the non indexed resources used for the presentation she/he built up (at least, minimally: a short description and a list of keywords). If she/he indexes it, the resource is saved into the files of official resources; if not, she/he can always achieve her/his presentation, but it will be saved only in the working space of the students. At any time, of course, she/he can return to her/his presentation and transform it to an official such (by indexing the non indexed resources she/he used in building hes/his presentation).
   - The presentation she/he creates generates an access code (that the professor may communicate to her/his students).

- She/he can split her/his presentation into a mandatory part and an suggested (optional) part.
- When User2 presses «See presentations» she/he arrives to something like the Figure 7. When User2 presses «See resources», she/he arrives to something like the Figure 8. It is, of course, possible not to reserve a special treatment for these two functions and consider them in the basic menu of the page, as in the Figure 6.
- When user presses «Create a presentation», she/he can select by a responsive manner either «From Scratch», «From Other Presentation». She/he then arrives to Figures 9 and Figure 10 respectively.
- Pressing «Import resources» is like in Figures 9 and 10 again. To import a resource, it has to be elementarily indexed (text plus keywords). Otherwise the resource is copied into her/his personal space only (not visible from other users). On the other hand, once a resource is imported and indexed, is automatically placed in the official space (and thus seen by all).
- Pressing «Index», we arrive to the indexing page (previously «Ontologies»). There, we have to implement a complementary module asking the User2 to write a short text and to give some keywords (taken from the ontology) for the resource. This is mandatory for indexing (the minimum but necessary one has to do in indexing).
- Pressing «Manage», User2 can edit the list of students, create a working groups (containing two or more students of the class), send a presentation to an individual, a group or all the class, create a discussion forum, etc. We have to find solutions for all these functions.

The recommendation system.

- It is always operational if one visualizes a presentation (whether this last has a suggested (optional) material, built up by the professor, or not). If there is no suggested list of videos, the recommendation system replaces it in an automatic and somehow intelligent manner.
- The recommendation system completes an already viewed presentation applying always the same algorithm:
- Apply as order of exposition the order of the main presentation (first made by the professor).
- If a point of view does not appear in the presentation (i.e., if there is no video belonging to this point of view), consider the video that has the lowest level in this point of view.
- If a video (of a point of view) appears in the presentation, select the video with the lowest level (of the same point of view) not appearing in the list of the presentation (main and suggested).
- If there is not a video with lowest level than the selected videos, then select the first video (always of the same point of view) that has a level higher than the highest used level of the videos.
- Thus the recommendation system may be called many times, until the

completion of the matrix (i.e., until all videos of the matrix are viewed).

The fundamental menu (i.e. the menu that will appear to almost all the pages).

1. It has to be responsive (activated with mouse over).
2. It has a look like the following:

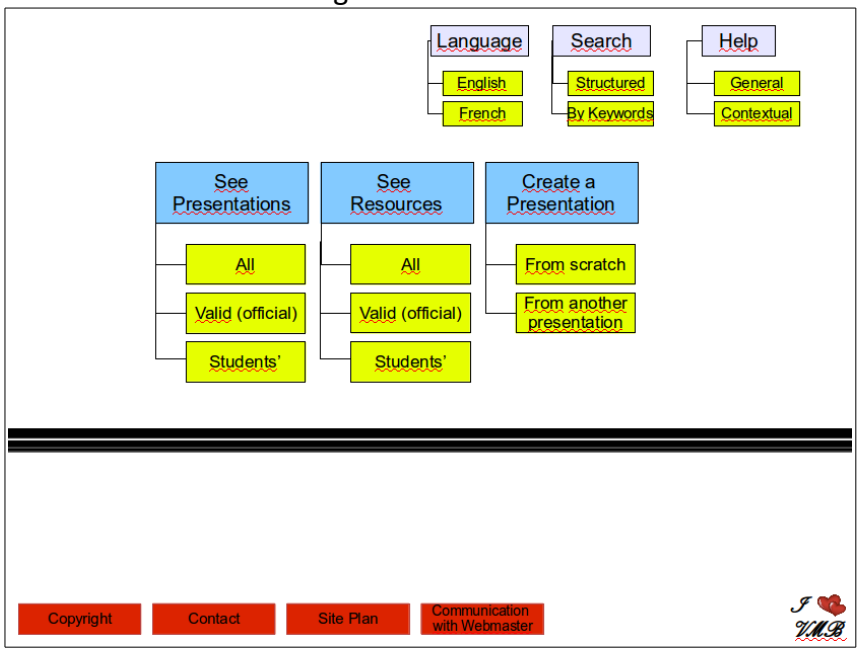

Figure 12: Basic information panels to be seen to many (almost all) pages.

Initial pages

- **Site page: we have to design this page with a more attractive manner (not only buttons).**
- **Connection page:** The usual functions of a connexion procedure.
- One can visit the site either as professor or as student (or as general public/visitor). User1 can thus be connected either as in the Figure 3 (when she/he uses a code in order to view a presentation) or as an already identified visitor (student of a class). In the case where she/he is connected as an already identified user, she/he arrives to something like the following (similar page as Figure 11, by with restricted possibilities):

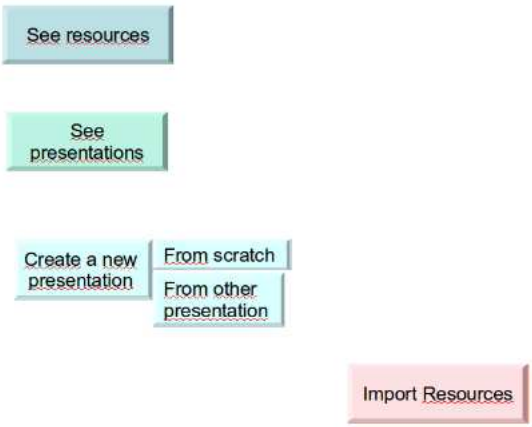

Figure 13: Connection as user with simple rights. Figures 11 and 13 may be merged with the permanent menu (Figure 12) so that the ergonomy be the same.

- Connecting as User2, she/he arrives to the Figure 11.
- In all cases, it will be possible to have usual connection options (change your password, forget the password, etc.).

Last case: when «Administrator» is selected

For the moment, it is the current page of «admin». But administrator, in this new version, is someone who has the whole responsibility of the system. Such profile has to be specified in detail. Generally:

1. Administrator may perform everything that can be done by User1 and User2.
2. She/he distributes rights to new users.
3. Creates classes, groups, etc.
4. Suppresses resources and blocks users.
5. Generally, operates changes to the system.
6. ...

Exemples d'interface

7. **Menus**
    1. http://www.developgo.com/component/css3-multi-level-menu/preview/9440.html
    2. http://www.developgo.com/component/magic-multipurpose-site-template/preview_live/9558.html
    3.
8. **Navigation**
9. **Présentation**
    1. http://www.developgo.com/component/html5-gallery-banner-with-thumbs.html
    2. http://www.developgo.com/component/photo-video-html5-template/preview_live/9639.html
    3. http://www.developgo.com/component/ft_all_files_pack.html
    4. (for texts and images) http://www.developgo.com/component/responsive-slideshow-photo-gallery-grid/preview_live/9411.html
10. **Divers**