



**Students as Digital Storytellers: a STEAM  
approach to Space Exploration**

Project Number - 2020-1-DE03-KA201-077546

**DiSTARS PLATFORM MANUAL**

**Summer School 2021**

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## CREATING PROJECTS

Welcome! This chapter will guide you through the setup of a new project (Story) in the DiSTARS platform. Prerequisites are that you own a teachers account and that you are assigned for a Class of a specific school.

### Starting a new Project

The first screen, after your login in the HOME page where you see a link with the name “Stories” in the left menu.

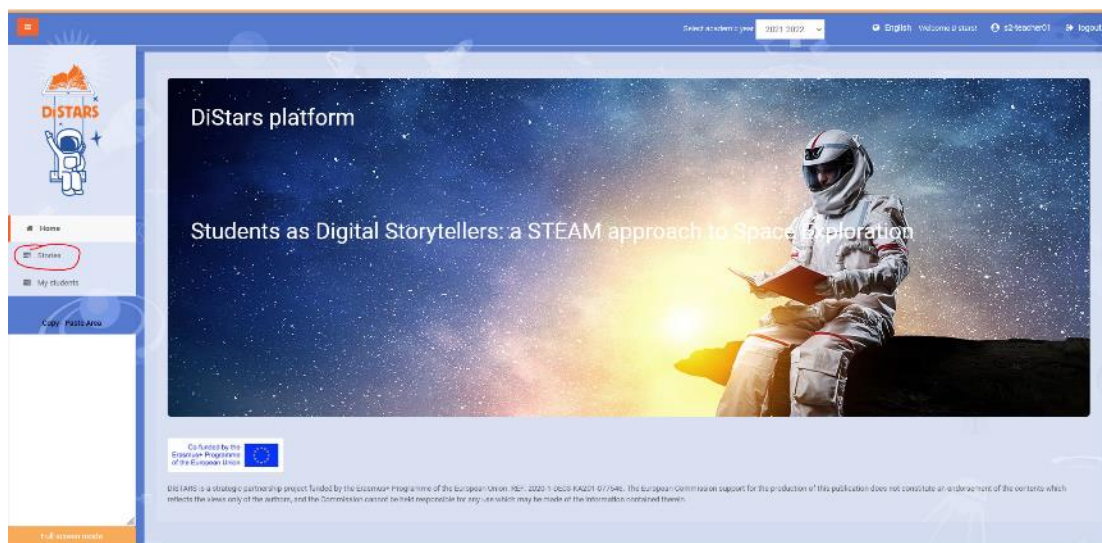


Figure 1: Home page

There you see all the projects created with your account. To create a new Project there is a button on the top-right with name “create”. When you click this button, a form appears where you have to provide the “Title”, a “Description” of the new project and upload an image that will be used as the **thumbnail** of your project. “Filename of cover image” field is automatically filled when you upload an image for the cover. In the following example we have given as title “test” and we uploaded an astronaut as the project’s thumbnail image.

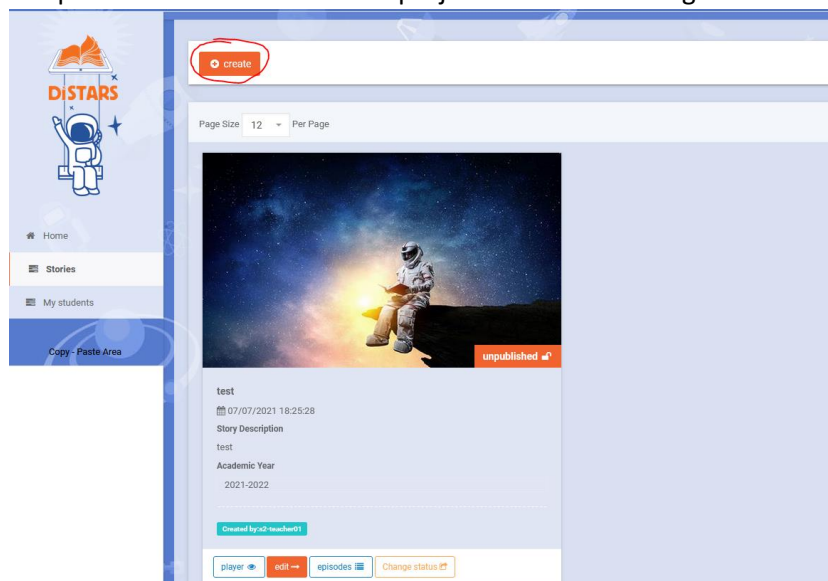


Figure 2: Starting a new project

If you click “save” button at the bottom-right area of the window the project will be saved and a notification will appear.

The new project appears in your list of projects, mentioning your class, the project title and having as background the image you uploaded.

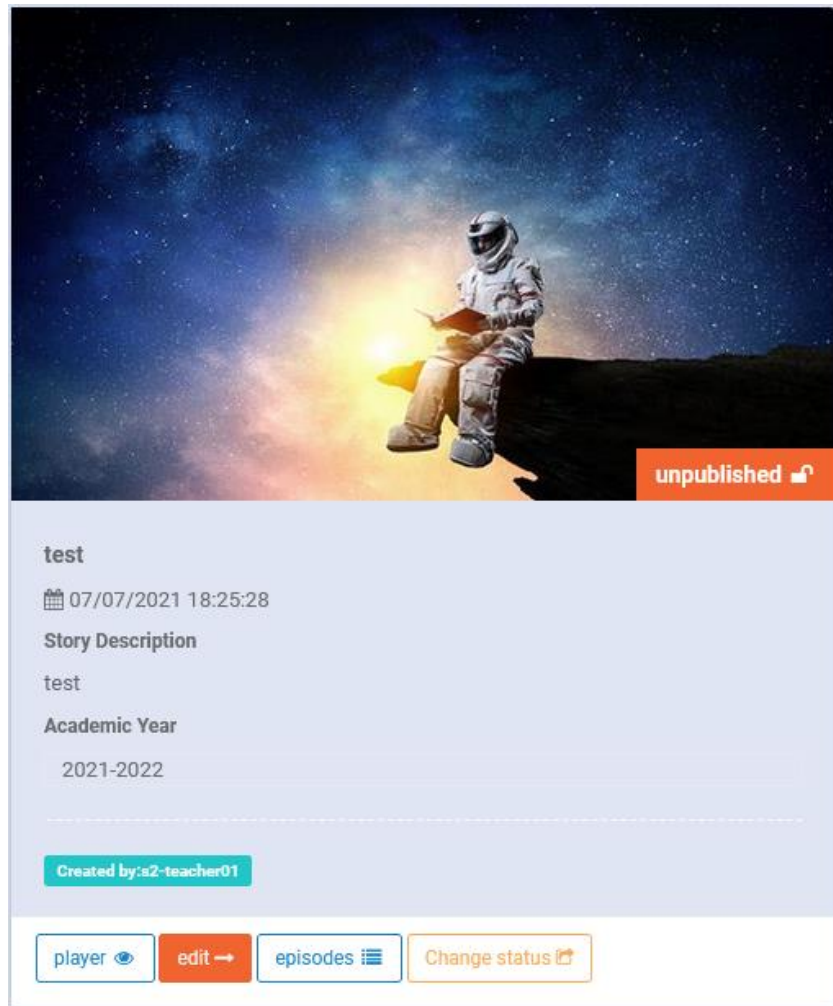


Figure 3: New Project added to the list of projects

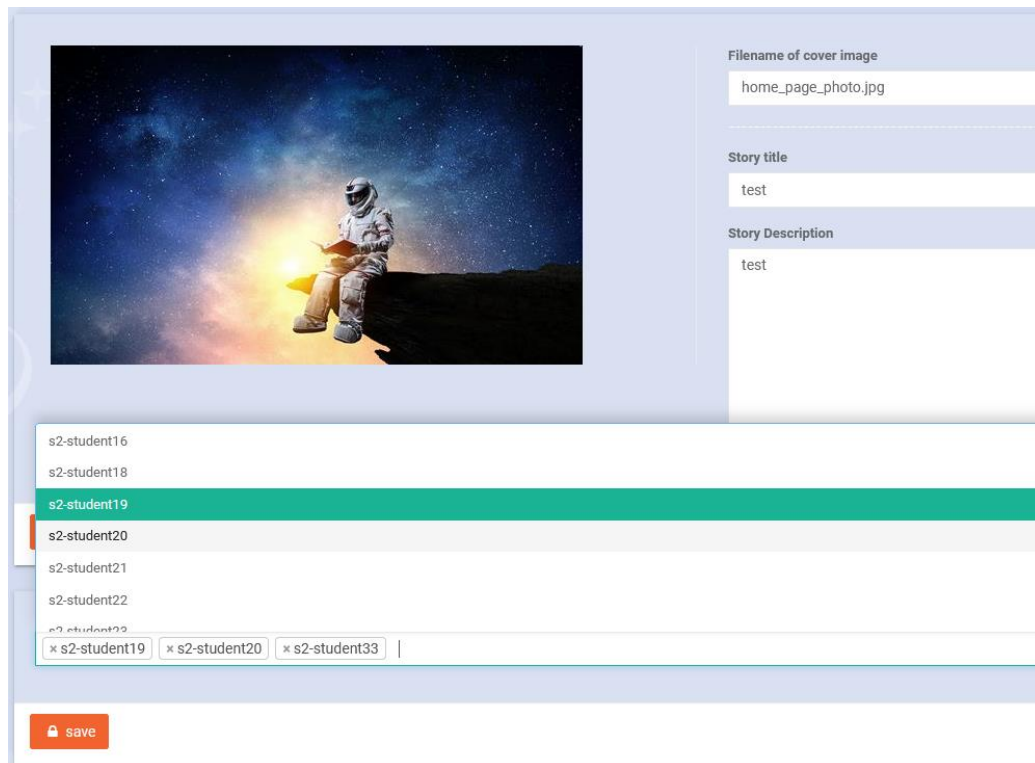
There are three available options for you to perform on a project.

- **“Edit”** where you can edit the project that gives you access to the project’s information and you can select the students that will participate.
- **“Player”** where you can preview the Story that merges all created episodes in one story and presents them.
- **“Episodes”** where you can create the episodw for your story
- **“Change status”** from where you can send the story for review in order to be published.

Figure 4: Confirm the deletion of a Project

### Editing a project – Adding students

If you click edit project you can change the information of this project when you created it, but additionally you can assign student to this project. You click in the field with name **“Participants to the story creation”** and you select the students from your classes. Students are added to the system by the school headmaster.



The screenshot displays a web interface for editing a project. On the left, there is a large image of an astronaut sitting on a dark surface, looking at a book, with a bright light source behind them against a starry night sky. To the right of the image is a form with three sections: 'Filename of cover image' with the value 'home\_page\_photo.jpg', 'Story title' with the value 'test', and 'Story Description' with the value 'test'. Below the form is a list of student identifiers: s2-student16, s2-student18, s2-student19 (highlighted in green), s2-student20, s2-student21, s2-student22, and s2-student23. At the bottom of the list, there are three tags: s2-student19, s2-student20, and s2-student33. A red 'save' button is located at the bottom left of the interface.

Figure 5: Editing a story

### Adding Episodes

As you will see later there are different types of episodes that the student can use different authoring tools. In the beginning there are no episodes in a project. To add a new episode, you should click **“Create”** button at the top of the page. For each episode you have to add a Title, a Description and the location of the episode selecting one option from the dropdown list and the order the episode will appear in the story.

Figure 6: Creating an episode

There are 4 different types of episodes

- **Earth:** in Earth episodes the 3D background around the e-book is a landscape on Earth. There is also an authoring tool for creating and sending rockets to the planets.
- **Space:** in Space the 3D background is the open Space.
- **Mars:** in Mars episodes the 3D background is a landscape on Mars. On Mars episodes the students can create 3D Colonies.
- **Moon:** in Moon episodes the 3D background is a landscape on the moon. On Moon episodes the students can create 3D Colonies on the Moon(Coming soon).

**TIP:** To be able to preview the story in the DiSTARS player, at least an episode of type earth, space or mars is necessary.

Figure 7: List of episodes.

## WORKING WITH EPISODES

All the types of episodes have a list of buttons with the tools available for these episodes. Some of them are common for all episodes, some are depending on the type of episode. The common tools for all episodes are the **story editor**, the **Assets management**, as well as the **edit** and **delete** buttons. Episodes of type “earth” include also the “**3D Rocket Authoring**” tool and episodes of type “Mars” and “Moon” include the “**3D Colony Authoring**” tool.

Episode/Module	Moon	Earth	Space	Mars
----------------	------	-------	-------	------



<b>Story editor</b>	✓	✓	✓	✓
<b>3D Rocket</b>		✓		
<b>3D Colony</b>	✓			✓
<b>Edit</b>	✓	✓	✓	✓
<b>Delete</b>	✓	✓	✓	✓

### Managing Assets in Episodes

All the episodes give the option to add assets in order to use them in the story. The assets can be images (jpg, png), sounds (mp3), videos (mp4) and 3D objects (glb). To add a new asset to an episode, you just have to click on the “ASSETS” button from the episodes Control Panel. The following screen appears. To add a new asset, either upload it, or select from the free assets in the library.

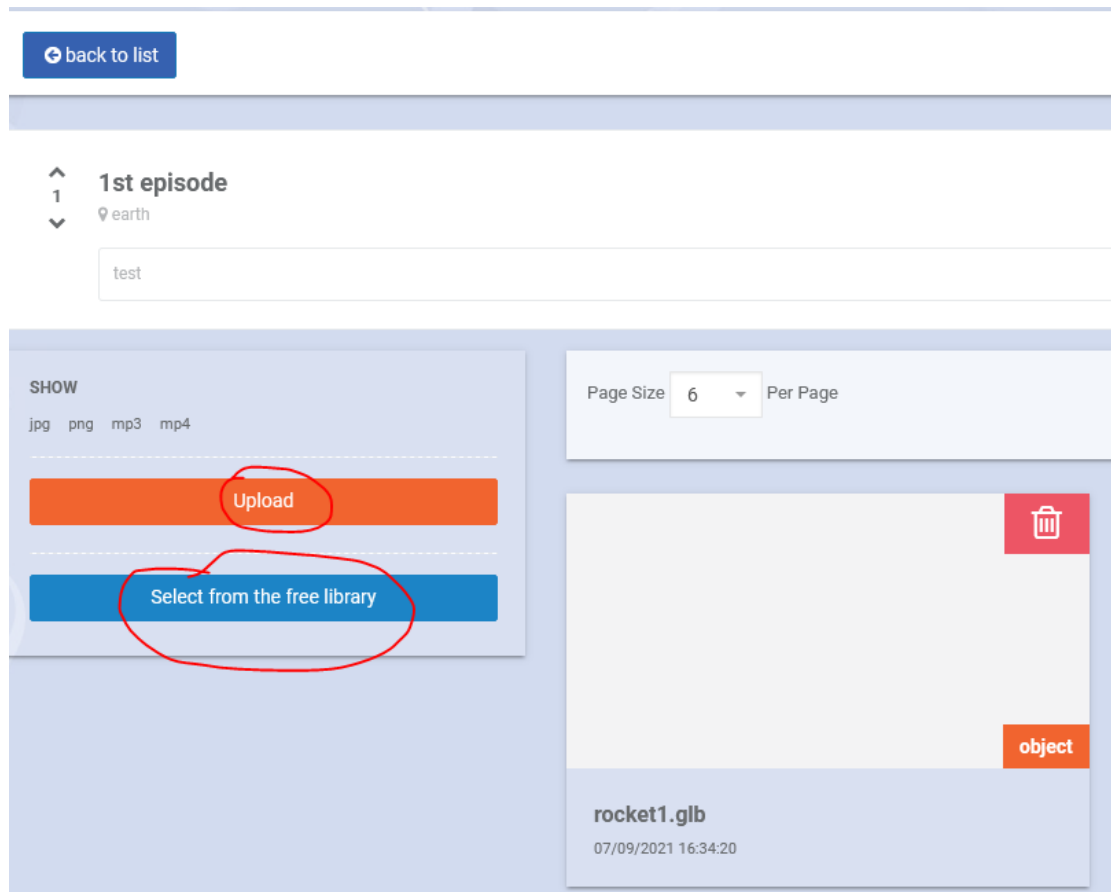


Figure 8: Uploading Assets in episodes

**TIP:** It is very important to upload correct asset types to the platform. If you upload not supported files or some necessary assets are missing you will encounter some problems in the Authoring tools, or you will not be able to find and use your assets.

If you click “select from the free library” a window opens with free assets. There you can filter the free assets by clicking the categories and tags and check those that you want to add to the assets of the specific episode. Then click “Add selected items” and these will be automatically copied to the episode assets.

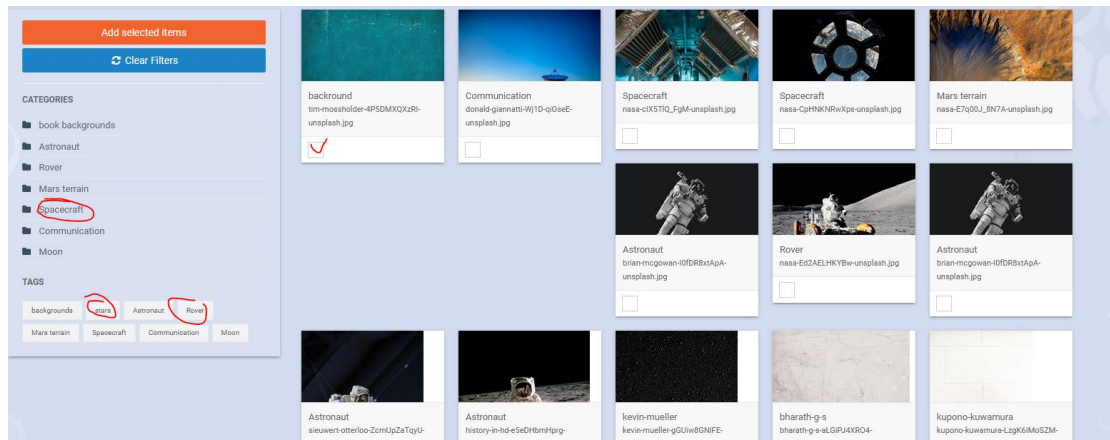


Figure 9: Selecting assets from the library

**TIP:** If you delete an asset that has already being used inside a story, this asset will appear as missing in the story. It is suggested first to remove the asset from the story and then to delete it from the assets' list.

## Using the Authoring Tools

As already mentioned, a story can consist of different types of episodes and each episode has different tools available that can be used for the story creation.

Each authoring tools appears inside the Di-Stars platform. left-part of the screen there is a copy paste area in case you want to copy paste texts in your story and a “Fullscreen mode” button with witch the authoring tool can open in full screen mode for the convenient of the author.

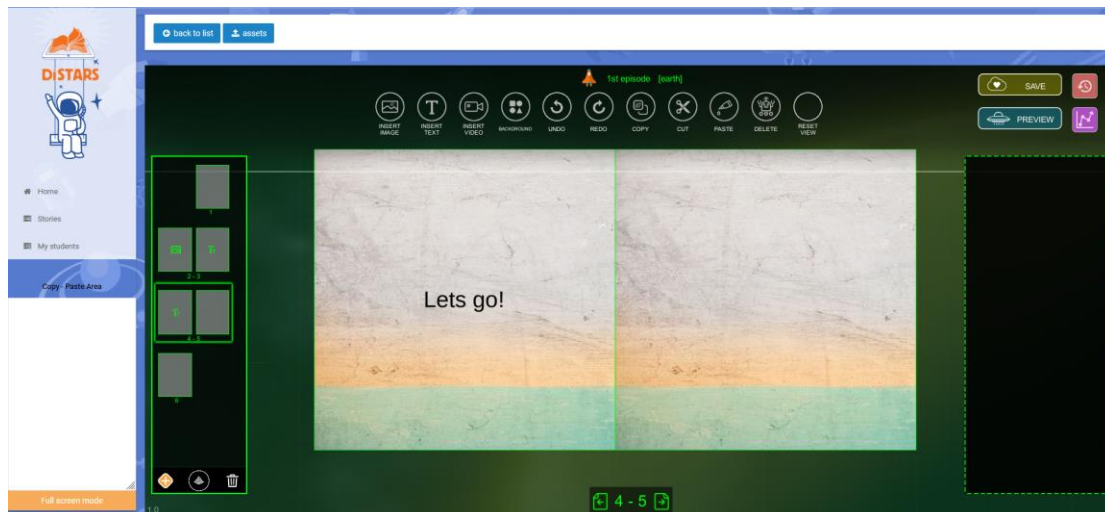


Figure 10: Authoring tools integrated in DiSTARS platform

### Write your Story tool

The tool is available for all types of episodes and it's the main tool for the students to setup and present their work and the link to the other DiSTARS modules (3D Rocket and 3D Colony).

In the first screen when the authoring tool will load you will find all the menus exposed directly to you for use.

- At the left-hand side of the working space you can find the **book spreads**. From there you can add new pages (select a spread and click + to add a new spread after the selected), delete pages and rearrange pages with drag and drop.
- At the **horizontal menu** there are general tools (Undo/Redo/Cut/Copy/Paste/Delete) always available when you need them.
- **Save button** in found at the top-right area of the screen. When you click save **wait to see the confirmation window that the book is saved! If not, your changes are not saved.** At the right of the save button you can find the **load button**. With this button you can load previous saved versions. When you click this button you will be asked if you want to save your work, because if you have not saved your changes and you load a previous version, these changes will be lost.
- Under Save button is the **Preview button** from where you can preview the book like it will appear at the DiSTARS player. You can preview your book and return back to edit easily and without losing any unsaved changes. Next to the Preview button, you can find **Statistics button** that gives you some information on the assets you have added in your story and some more info relevant to text assets (words per page, etc.).

Navigation takes place either by clicking the spreads at right or by clicking **next and back buttons** at the bottom of the screen.

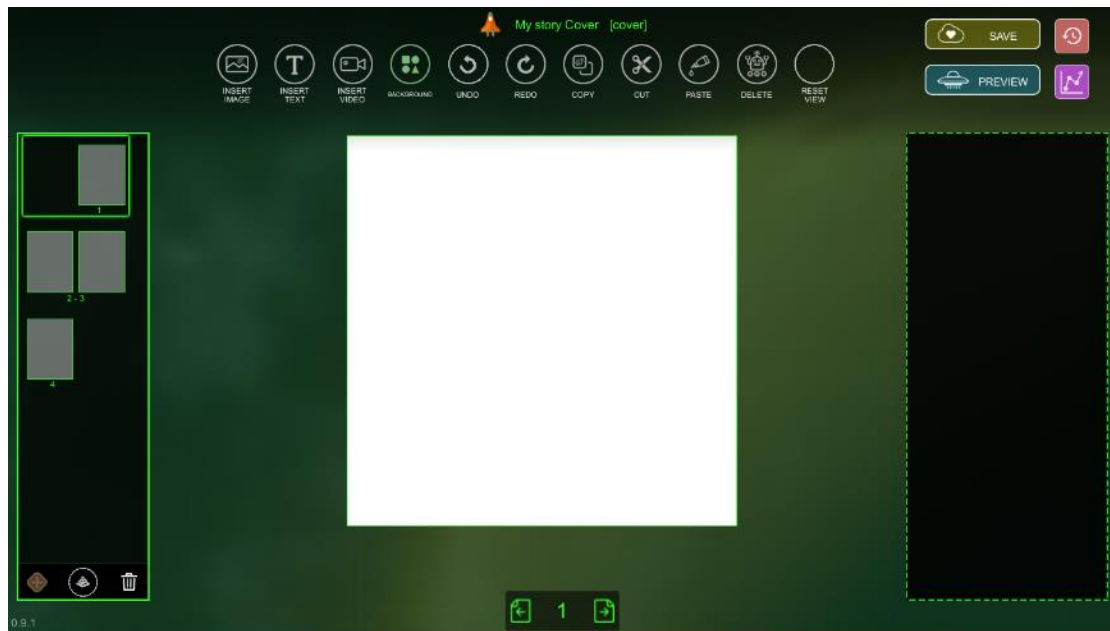


Figure 11: Edit tool main screen

When an asset is selected the empty space at the right hand side of the screen loads the toolbar with functions relevant to the selected asset. More information on these tools follows in the upcoming paragraphs.

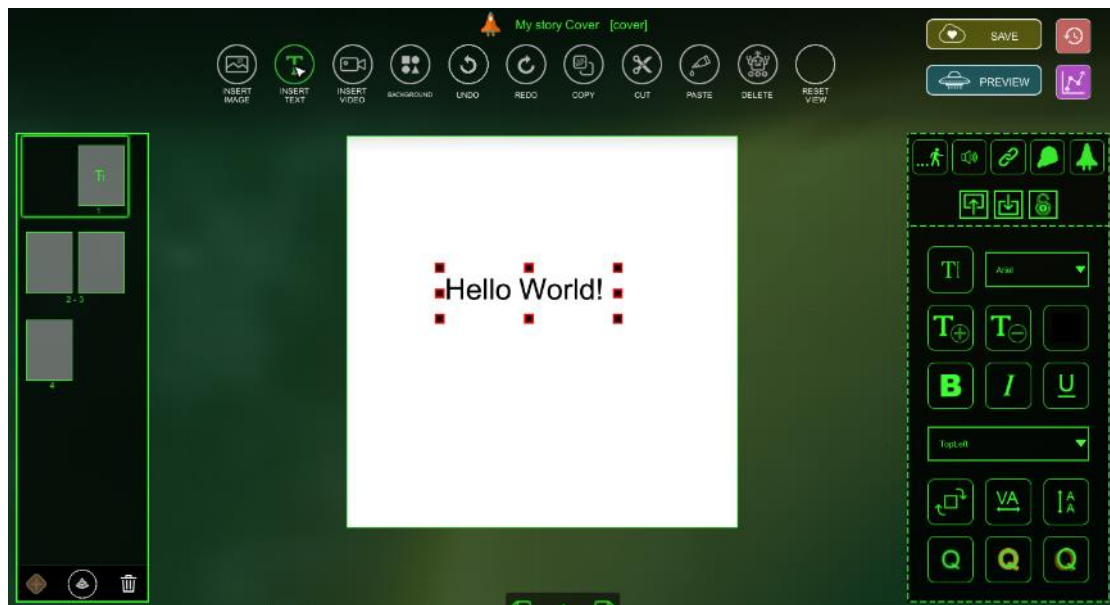


Figure 12: toolbars for selected assets

### Image Tools

To add an image to the story, you have first to upload this image to the assets and then click “Insert Image from the top menu”



Figure 13: Uploading Images

To add the new image in the book page, you have to click on the “Insert Image” button on the horizontal menu. The following panel opens.

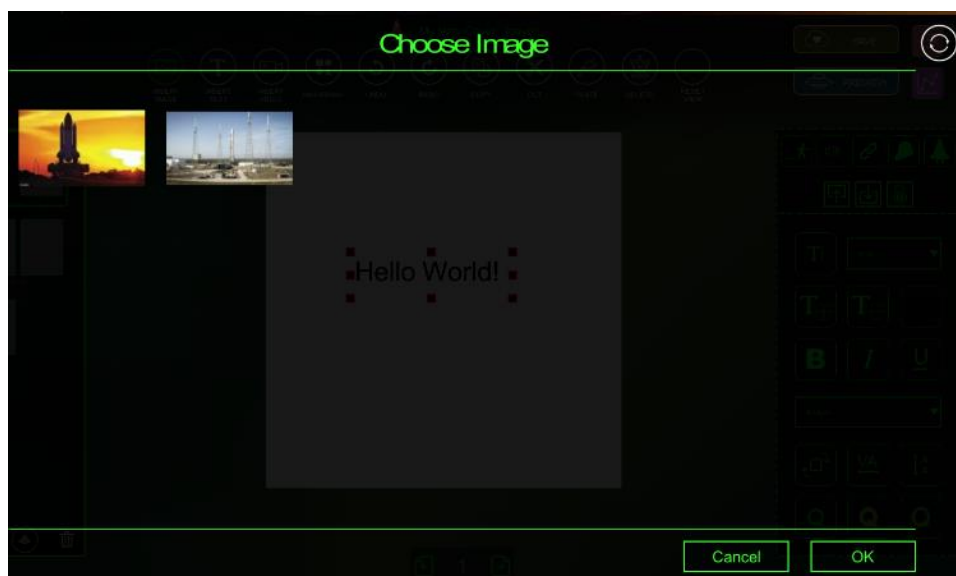
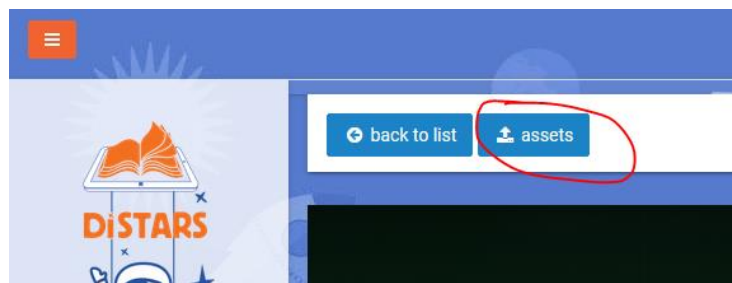


Figure 14: Images selection panel

On the top of the authoring tool, there is a button with name “Assets”. This opens the assets for the specific episode in a new tab in the browser, in order to be able to upload assets while working with the authoring tool. To see the new uploaded images, you should click refresh button at the top right of the window (figure 14).



You can select the one to add to the page. After you have selected click ok and the image will be transferred to the story.

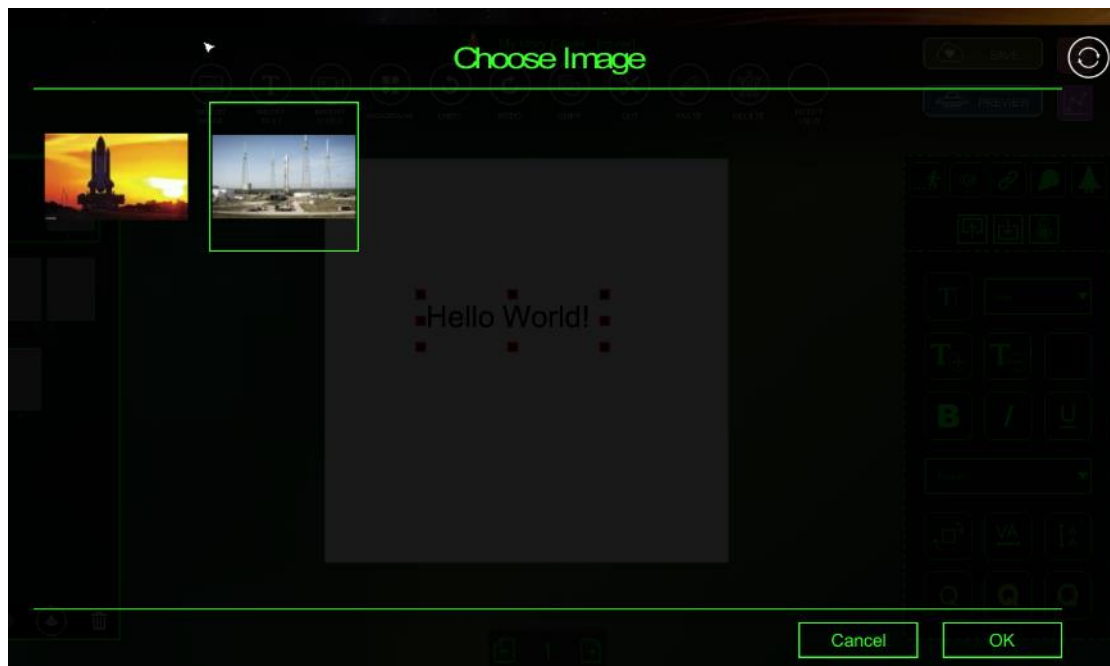


Figure 15: Selecting images to insert in the story's pages.

The selected image is placed in the middle of the page and is ready for editing.

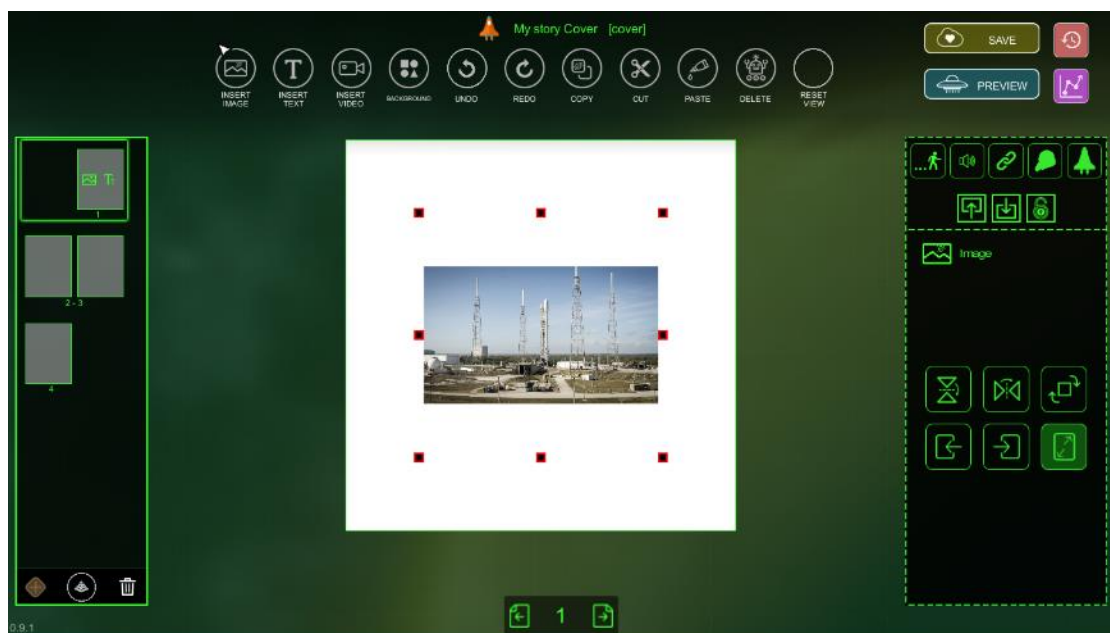








Figure 16: New images added to the story

When an image is selected the right -hand toolbar is filled with the following buttons:

	<p>Flip vertically</p>		<p>Flip Horizontally</p>
	<p>Rotate, where the following bar appears. The student can either move the point on the bar or set a precise number in the input box.</p> <div data-bbox="671 443 1091 521" style="border: 1px dashed black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; color: red;">Rotation</p> <div style="display: flex; align-items: center;"> <input style="width: 40px; text-align: center; border: 1px solid red;" type="text" value="0.0"/> °             <div style="flex-grow: 1; position: relative; height: 10px; background: linear-gradient(to right, red, red); margin: 0 10px;"> <span style="position: absolute; left: 0; top: -5px; font-size: 8px;">0</span> <span style="position: absolute; right: 0; top: -5px; font-size: 8px;">100</span> <span style="position: absolute; left: 50%; transform: translate(-50%, -50%); top: -5px;">●</span> </div> </div> </div>		
	<p>Fit to left page</p>		<p>Fit to right page</p>
	<p>Stretch image to cover all page</p>		

Additionally, you can move the image around the page and resize it using the handles provided in the corners of the image.

### Text Tools

To add a text in the story you have to click on the “insert text” button. A new text asset is then added at the middle of the page.

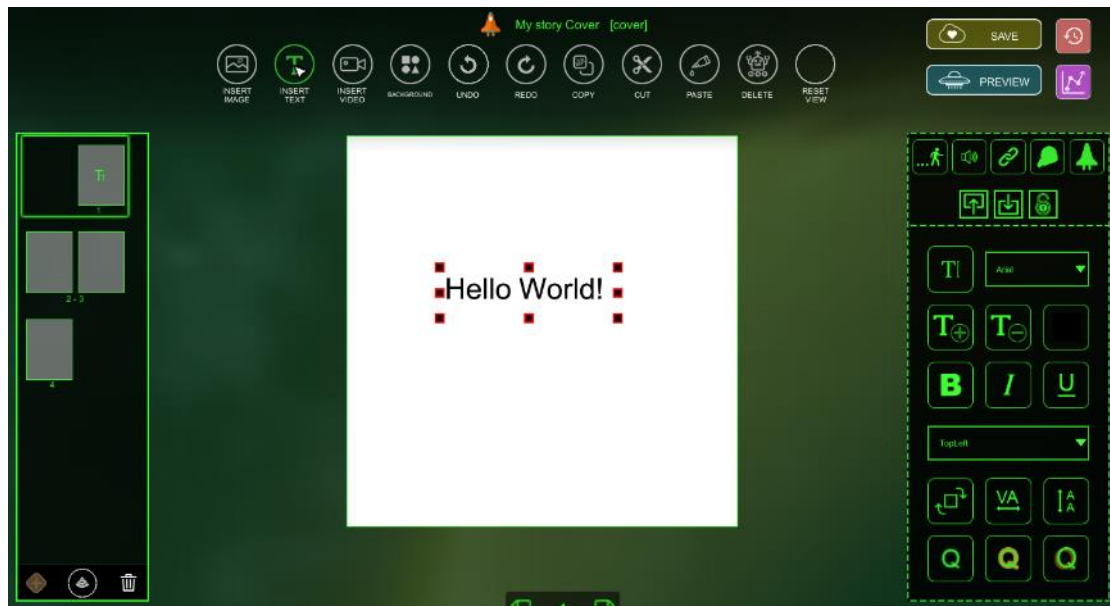


Figure 17: New text added in the story

With double click on the asset you can edit the text and write your own content. With “Ok” button the text is added in the book page.

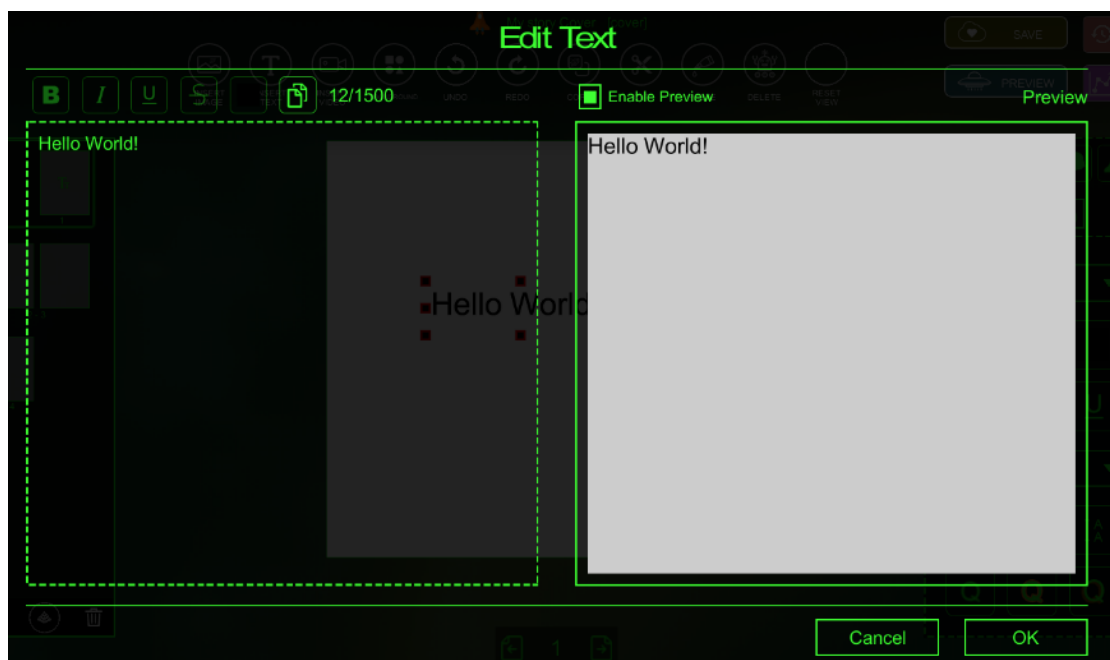

















Figure 18: Editing text



When a text is selected the toolbar is filled with the following buttons:

	Edit Text (same like double click on text asset)		Font Selection
	Increase font size		Alignment
	Decrease font size		Character Spacing*
	Set text color		Line Spacing*
	Bold		Face Softness*
	Italics		Outline*
	Underline		Shadow*
			Rotate*

\*these options open extra panel to set the different parameters. Bars and colour pickers are provided where necessary.

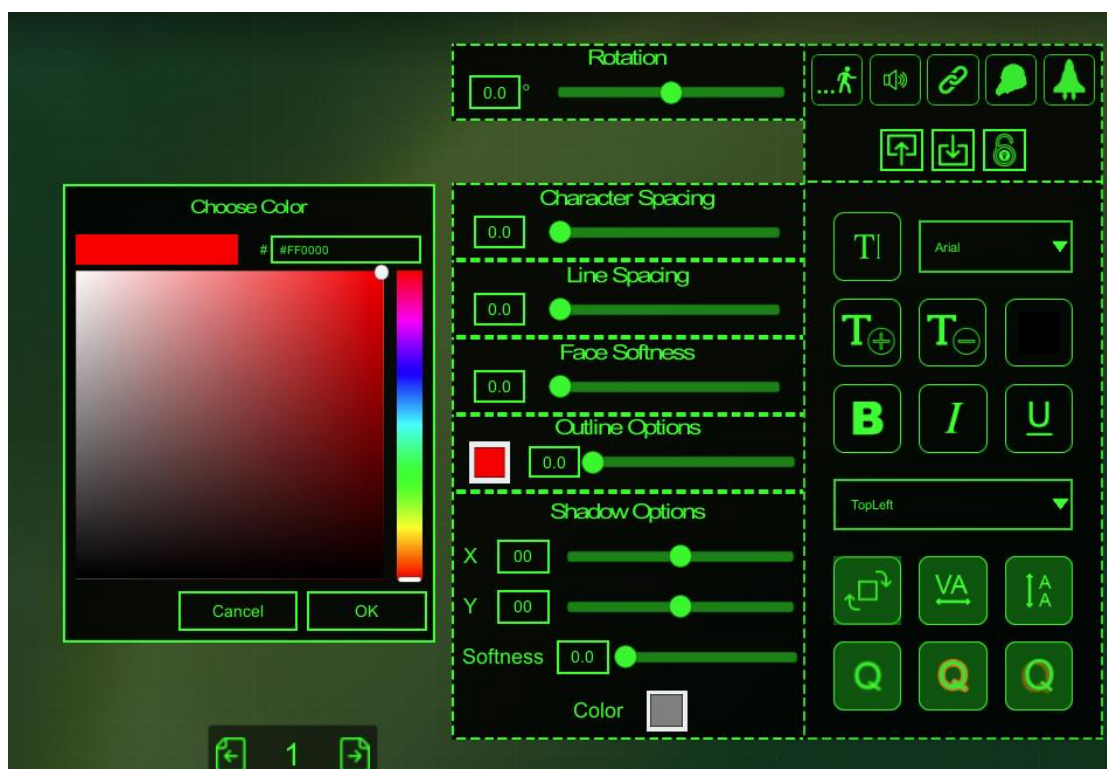


Figure 19: Text tools expanded

### Video Tools

To add a video to the story, you have first to upload it to the story's assets through the collaboration platform (see chapter "Managing assets in episodes"). As a shortcut, there is on the top of the page, where the authoring tool is loaded the **upload files** button. Clicking on it, you can browse your PC or drag and drop and image into the space provided. The video is uploaded and a thumbnail is created.

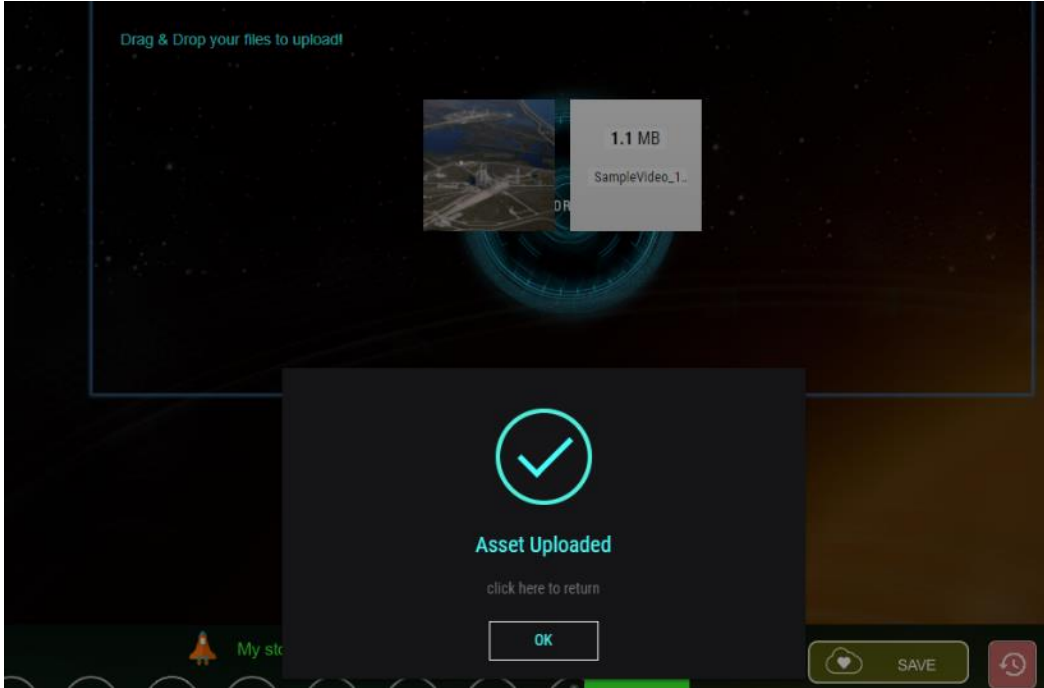


Figure 20: uploading video files in the assets

To add the new video in the book page, the user has to click on the **"Insert Video"** button on the horizontal menu. The following panel opens. To see the new uploaded images the student should click refresh button.

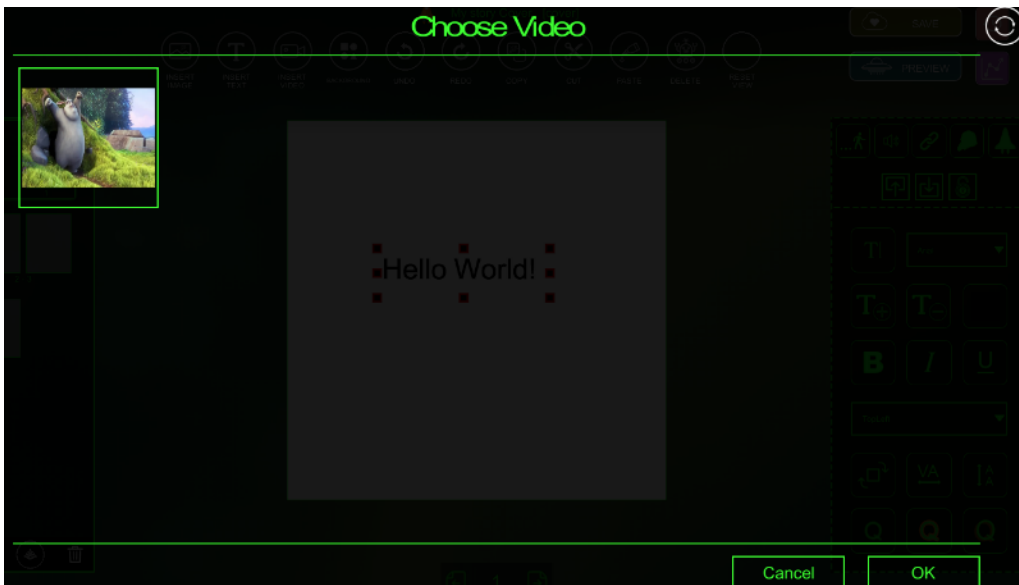


Figure 21: Video selection panel

The selected video is placed in the middle of the page and is ready for editing.

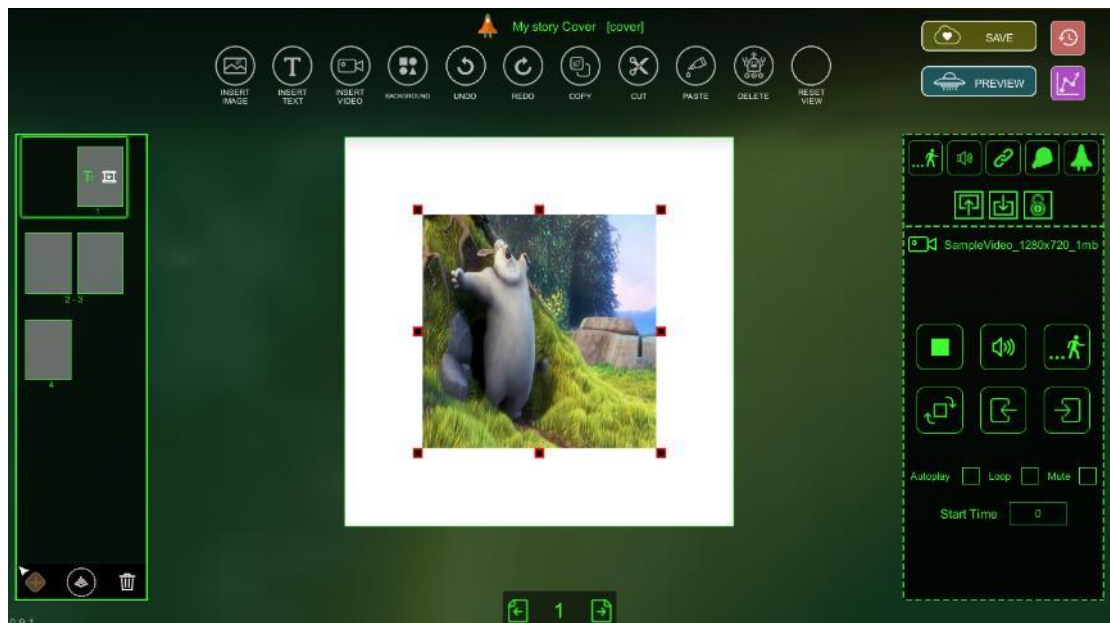

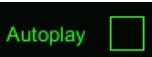



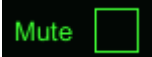






Figure 22: New video added to the story

When a video is selected the toolbar is filled with the following buttons:

	Play/stop Button		AutoPlay
	Volume*		Loop
	Playback speed*		Mute sound
	Rotate*		Start minute of the video
	Fit to left page		Fit to right page

\*these options open extra panel to set the different parameters. Bars are provided and input fields for setting the exact value.

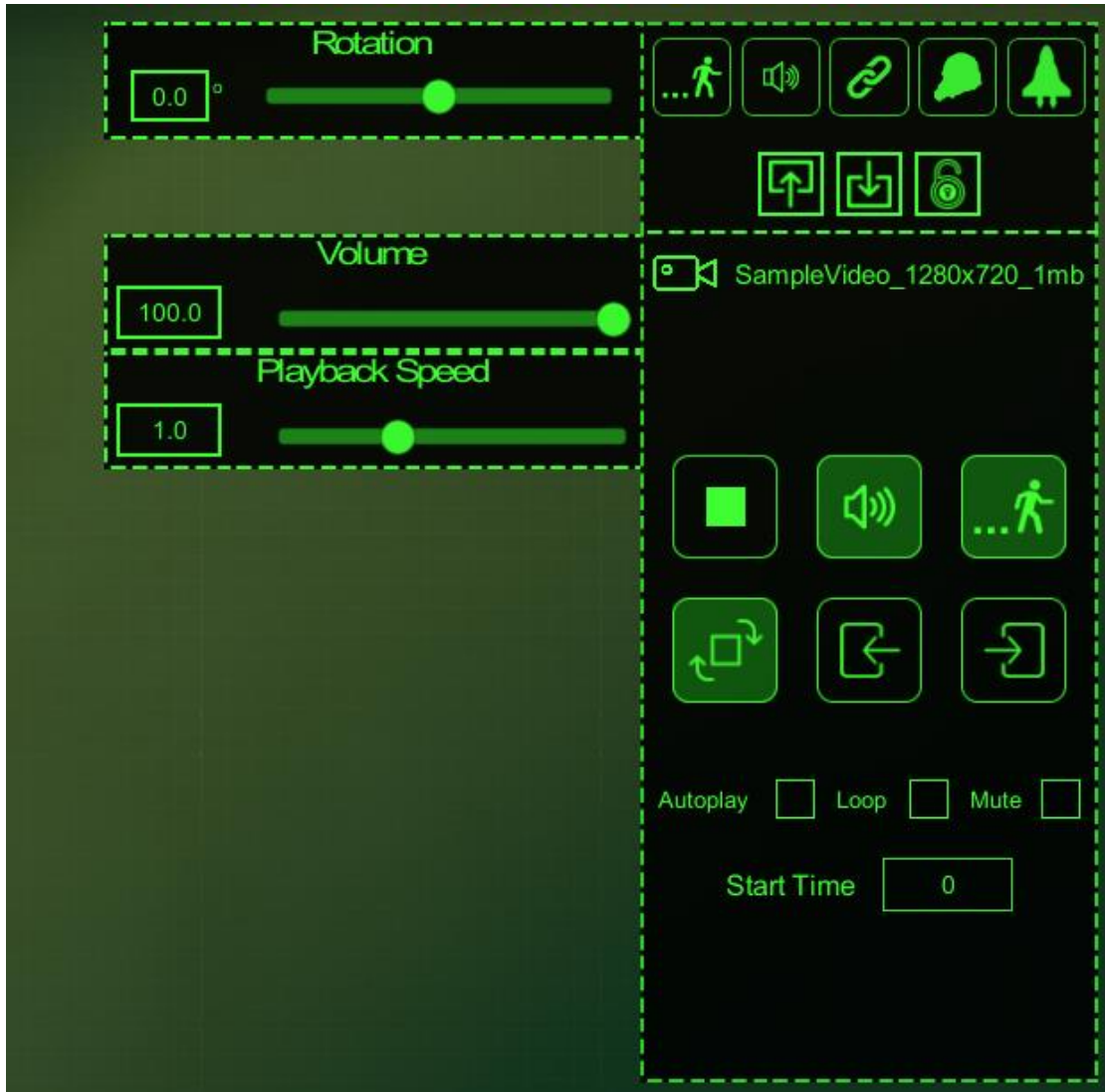


Figure 23: Setting Video Parameters









### Generic Tools for all assets

On the top of the right-hand side toolbar there is set of tools that apply to all aforementioned assets.




Figure 24: Generic tools for Image, Text and Video Assets

These tools include:

	Add animation to asset button
	Add sound to asset button
	Add external link to asset button
	Connect to 3D Rocket (if any)
	Connect to 3D Colony (if any)
	Send Backwards (in relation to other elements in the same page)
	Send Forward (in relation to other elements in the same page)
	Lock asset on Page

## Animation

To add animation to an asset on the book, you have to select the asset (text, image or video)

and then click on the animation button .

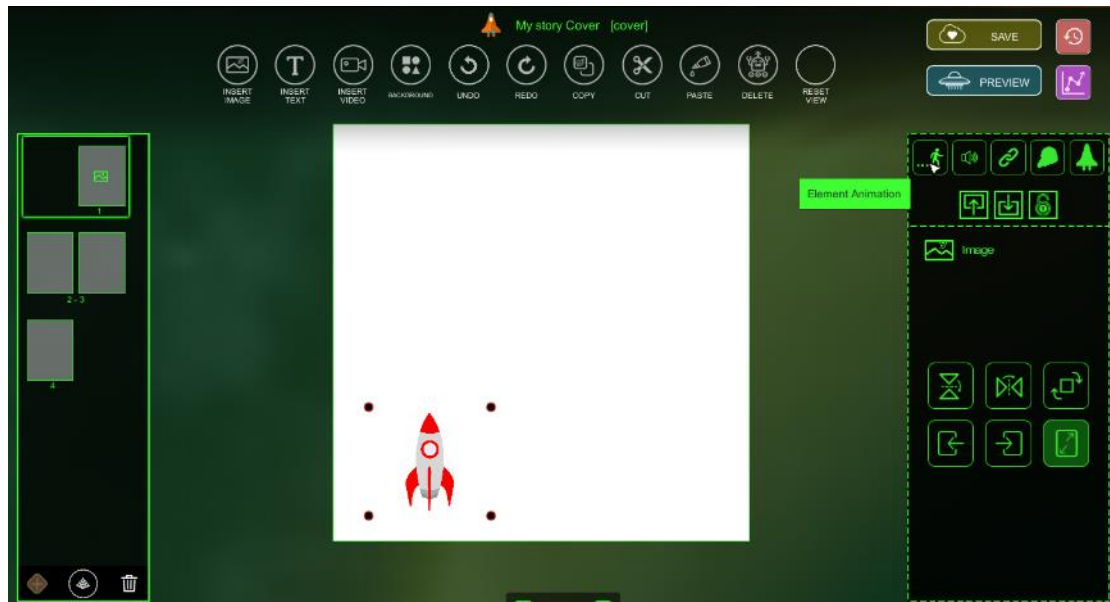


Figure 25: Adding animation to story assets

When you click the animation button, a new instance of the asset is created, linked to the original one, and the animation panel pops up. You can move the duplicate asset to the desired position for the first step of the animation.

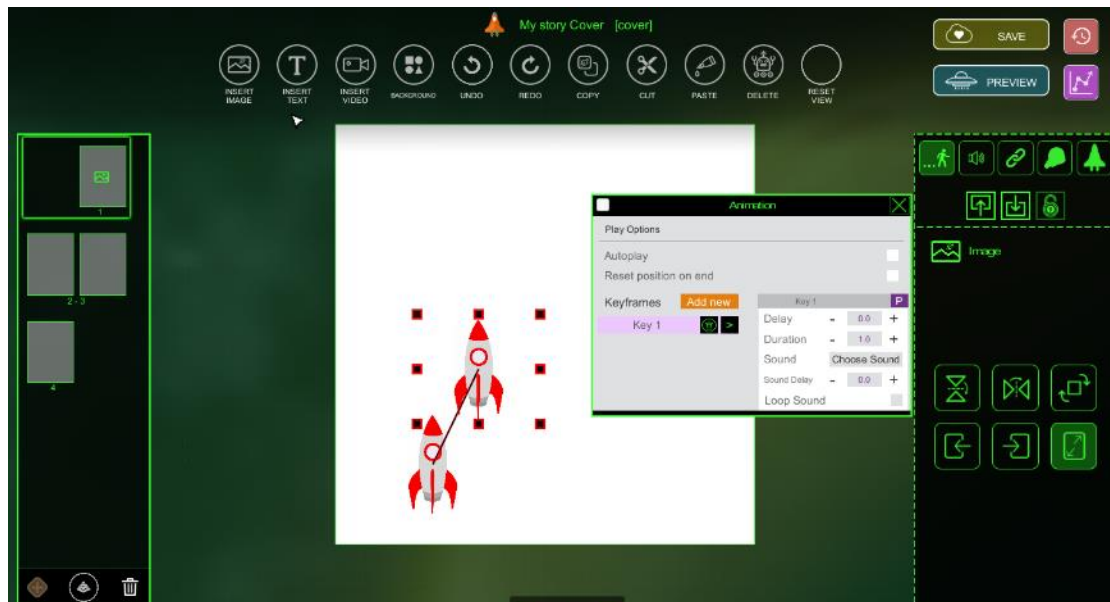


Figure 26: Adding more animation steps

**TIP:** For animation use png images that are transparent.

The same way, you can create further steps to reach the desired behavior. To add a new animation step, click “Add new” orange button from inside the animation panel.

For each step a new Key is created inside the Animation Panel.

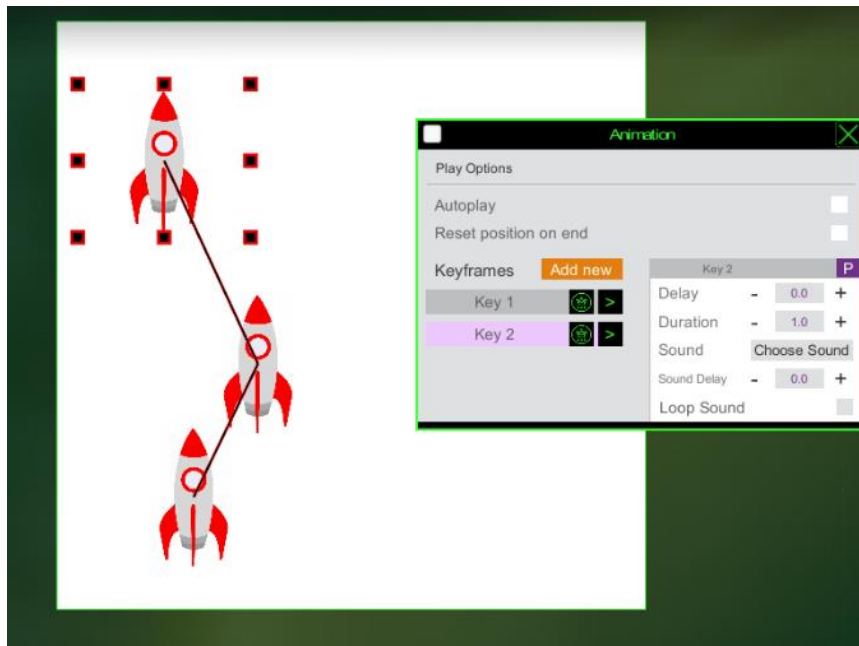


Figure 27: Animation Keys

Each key has some parameters that you can set:

- Delay, is the time that the animation will wait before starting
- Duration is the time to travel from original position to position 1, or position 1 to position 2, and so on.
- With choose sound button each animation step can be accompanied by a sound. Sound files should be uploaded in the episode assets.
- Sound delay is the time that the sound will wait before start playing. The delay counts from the time the specific animation started playing.
- Loop sound, if check will force the sound to loop till the animation step finishes.

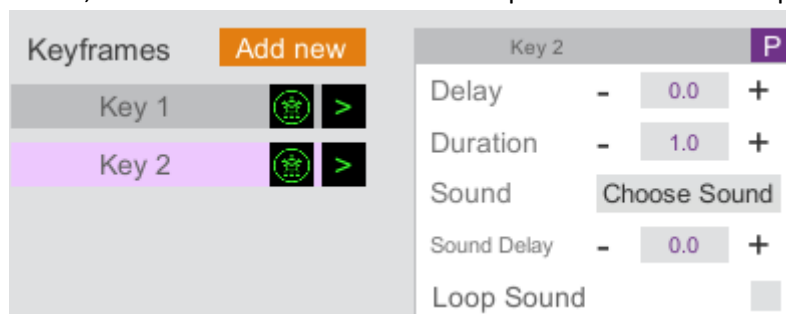
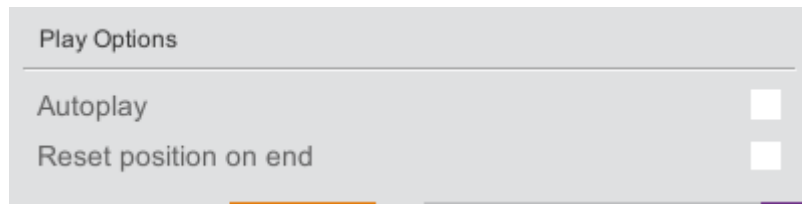


Figure 28: Animation Keys' parameters.

Finally, there are two options for setting when the animation will start and what will happen when the animation will finish.



*Figure 29: Animation Play options*

- Autoplay means that the animation will start on page turn. If not checked, the animation will start when the user will click on the asset.
- Reset position on end, if checked, causes the object to return to its starting position when the animation will finish. If not check the asset will remain at the position of the last animation step.


TIP: You have to click each key to see and modify its parameters.

TIP: Next to the key name is the delete button with which you can delete an animation step.

TIP: You can delete the entire animation with the button at the top-left corner of the panel.



## Sounds

To add sound to an asset on the book, you have to select the asset (text, image or video) and then click on the sound button .

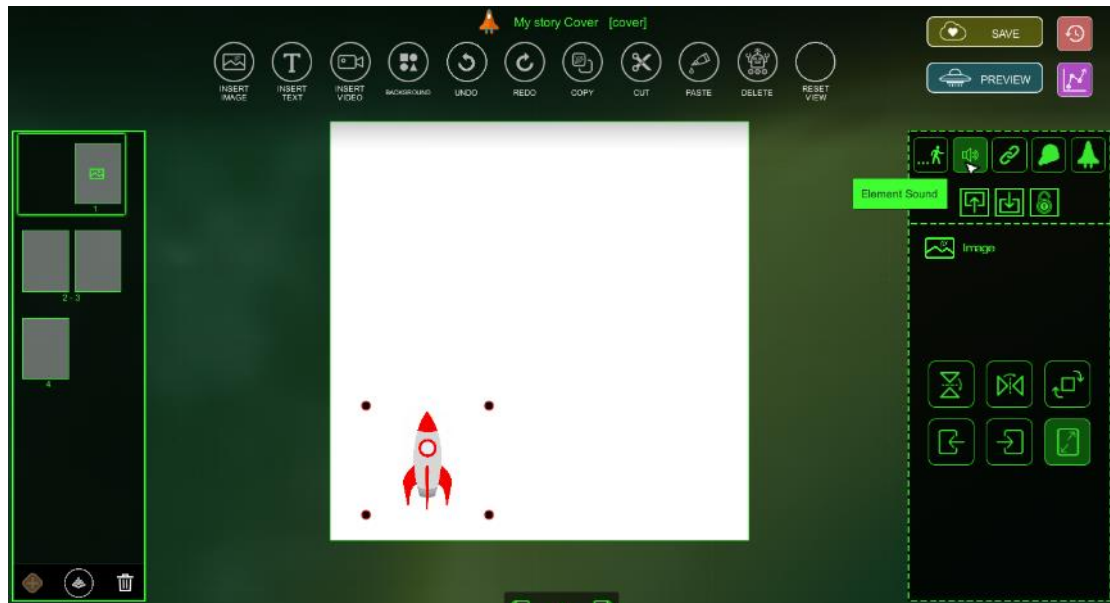


Figure 30: Add sound to an asset

The list of available sounds appears. You can select the sound that you want to add to the specific asset. Sound starts on asset click.

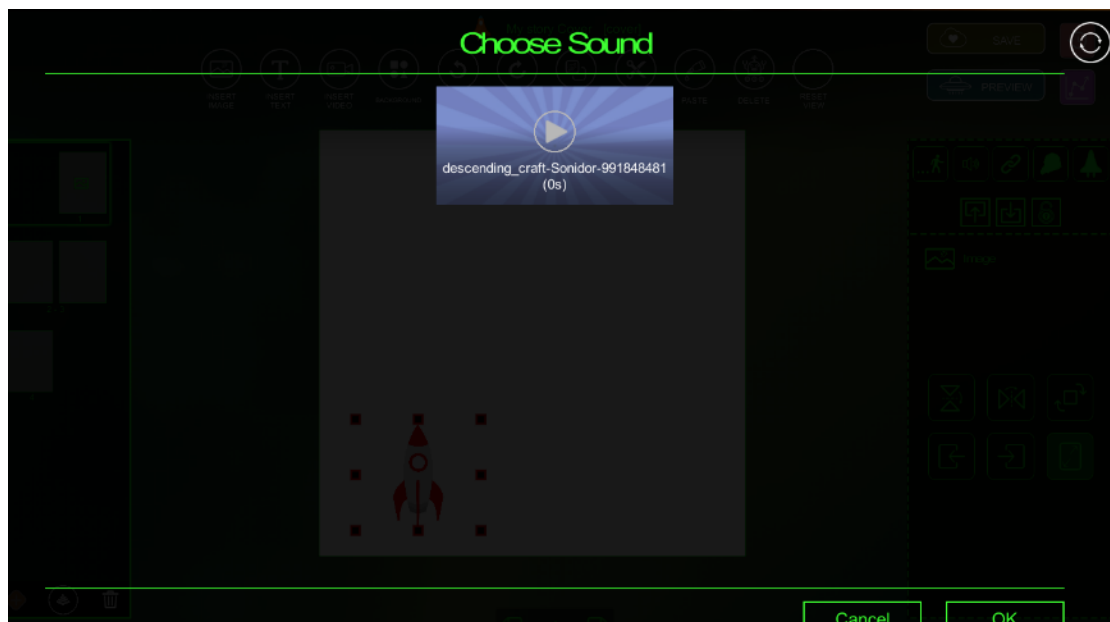



Figure 31: Selecting the sound to add to the asset

## Links

To add a link to an asset on the book, you have to select the asset (text, image or video) and

then click on the link button .

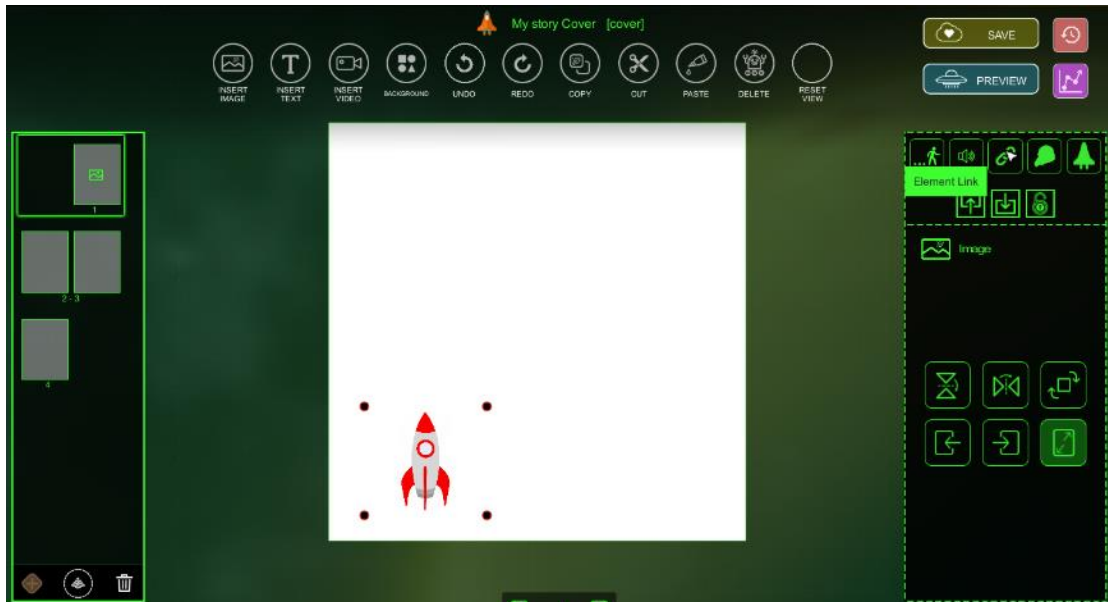


Figure 32: Add link to an asset

In the space provided, you should type the link that you want to be opened when the user will click on this asset. The full path is required with `http://` in front.

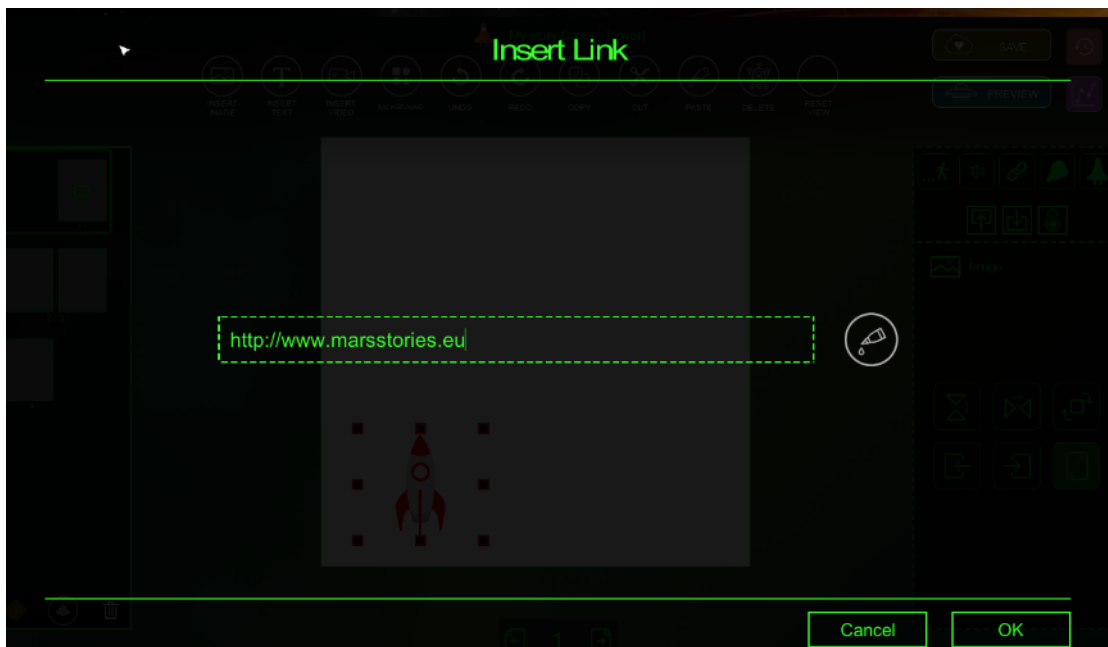


Figure 33: Adding the address of the link

## Link to 3D Rocket

You can add a Rocket you have created with the 3D rocket authoring tool (see chapter 3D Rocket Authoring Tool) by selecting a trigger element (image, text, video) and setting the connection with the rocket.



Figure 34: Connecting the rocket with the story

On story preview, when the element is triggered (clicked) the 3D rocket is launching from the e-book.



Figure 35: Rocket Launching

## Link to Colony

You can add a link to the 3D Colony you have created with the 3D Colony authoring tool by selecting a trigger element (e.g. image, text) and setting the connection with the Colony clicking the “Link to Colony” button as shown in the following figure.



Figure 36: Linking the Story with the Colony

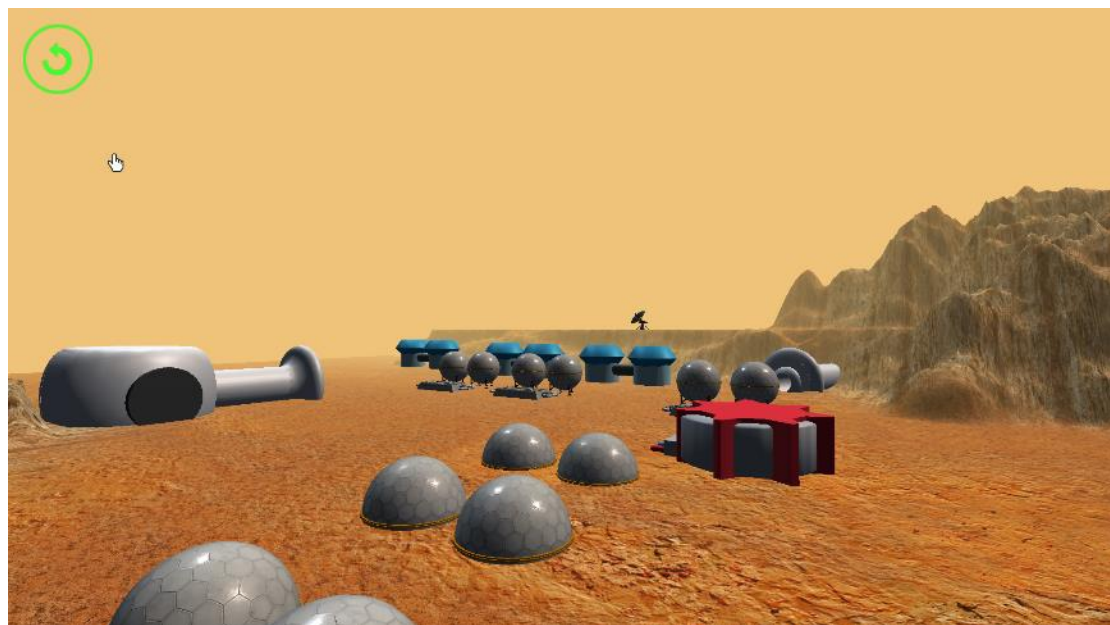






Figure 37: Visiting the Colony

Sent Forward, Backwards and managing assets on the page.

The rest of the generic tools have to do with the managing of the assets in the page.

With “Move Forward”  and “Move Backwards”  buttons you can place assets in front of other assets.

The Lock Button,  locks the selected asset in the specific place and you cannot accidentally move it or modify it. If you want to move it you should unlock it first using the same button .

Additionally there is the hierarchy button  under the spreads’ list, where all the assets are presented, with their types and information if there are locked or not. The Hierarchy tool is very important to identify assets hidden under other assets in the book pages.

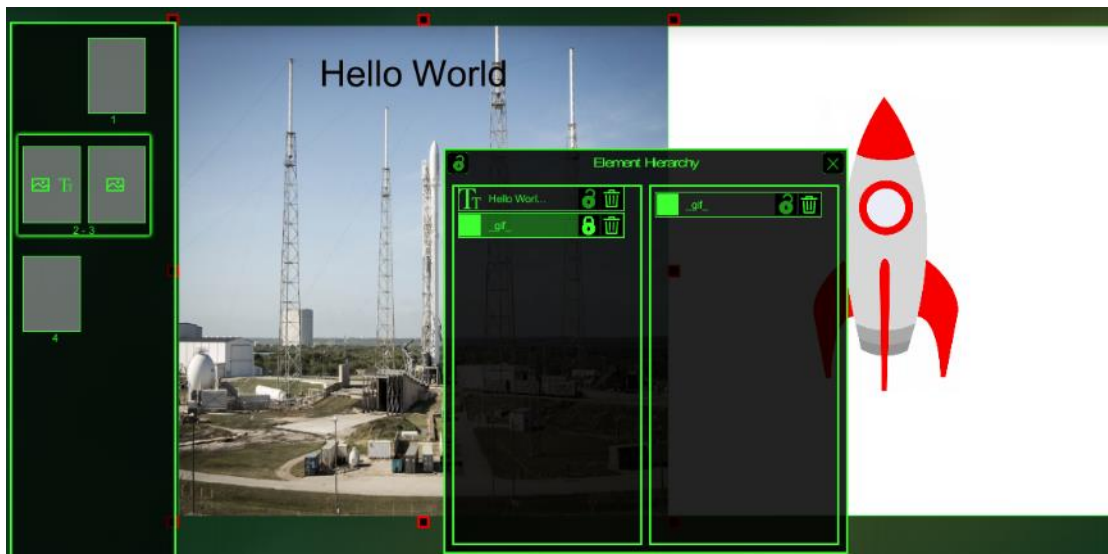


Figure 38: Hierarchy tool

## Background Options.



Figure 39: Background Options Button in Horizontal Menu

The background options are relevant to setting that are not for a specific asset, but are relevant to a specific spread, page in spread or the entire book.

The Five available options are:

- Reset Theme: That clears all selections
- Book Background: Where the student can set an image or a color as background for all book pages.
- Page Background: Where the student can set an image or a color as background for a specific page.
- Default Font Style: Where the student can set the default font style and size for each new text added in the book.
- Playlist: Where the student can add sounds as background for a specific spread (e.g. narration or background music).

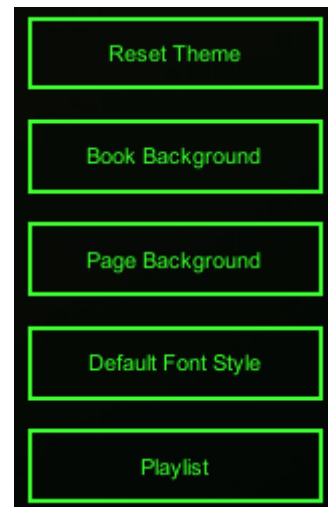


Figure 40: Background Options



## Book Background

There are two options. Either to choose an image from the list, or to select color using the tint button.

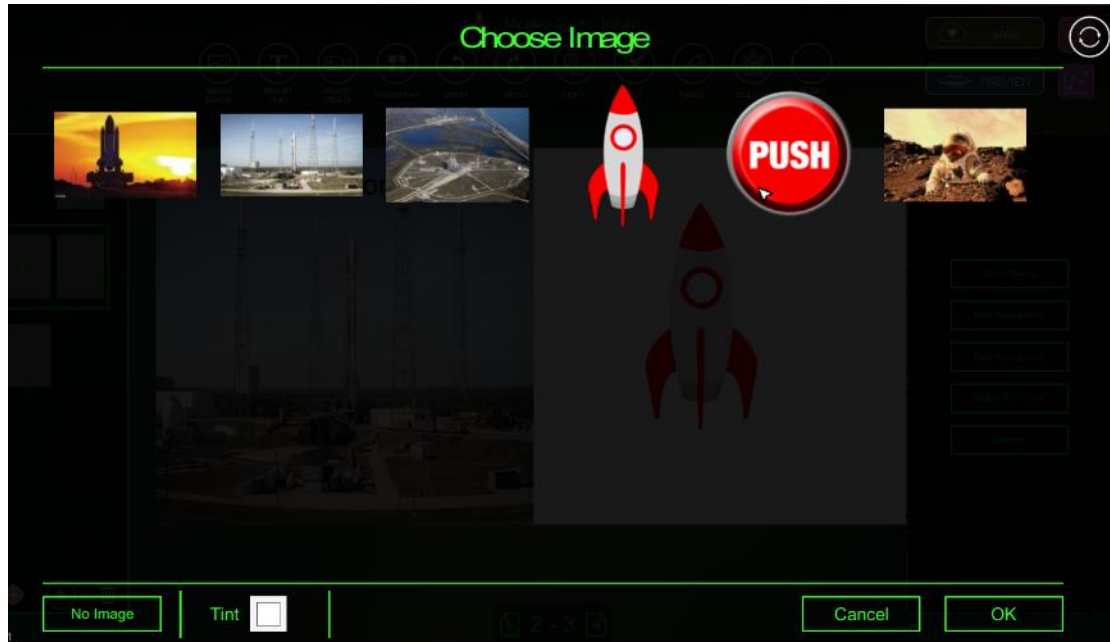


Figure 41: Setting Book Background

By Pressing Tint, the color picker appears and the student should select the preferred color.

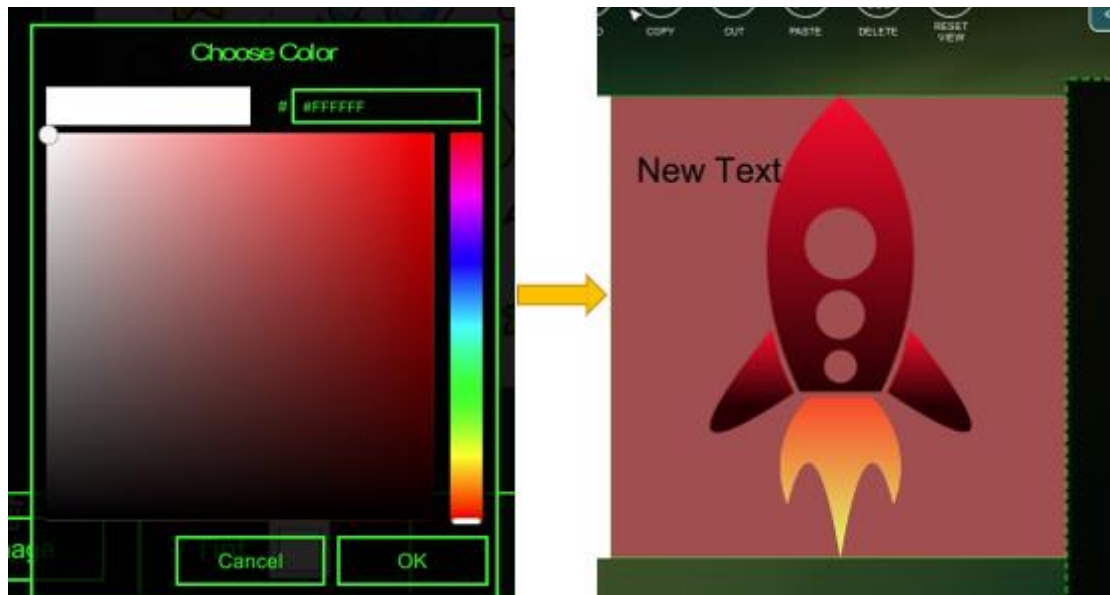


Figure 42: Selecting Book Background Color

By selecting an image, you can have this image as background to all book pages.

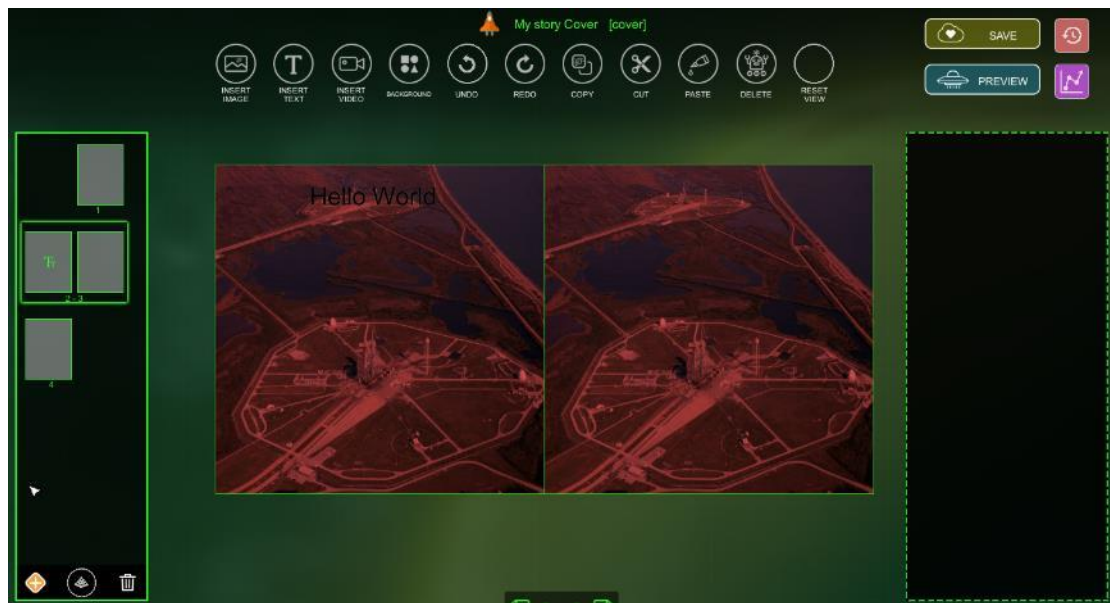


Figure 43: Selecting Image as background with tint color

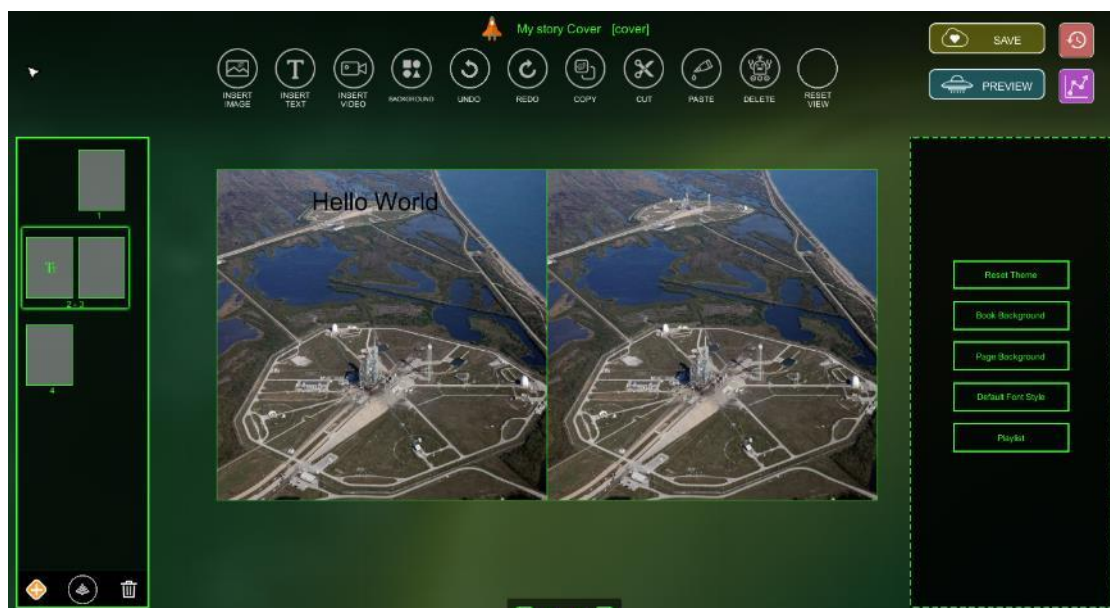


Figure 44: Selecting image as book background without tint color.

TIP: if you have selected a tint color, select white color to remove tint



## Page Background

In “Page Background” you can set a background for the specific page only. If you have set a book background, the page background overrides it.

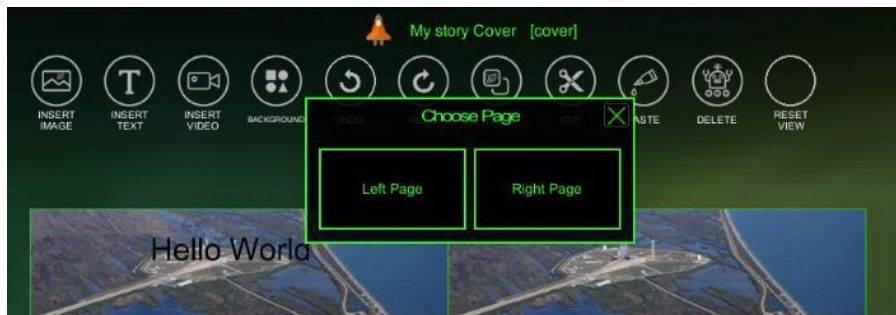


Figure 45: Page Selection for background setup

Then the procedure is the same, like setting the book background.

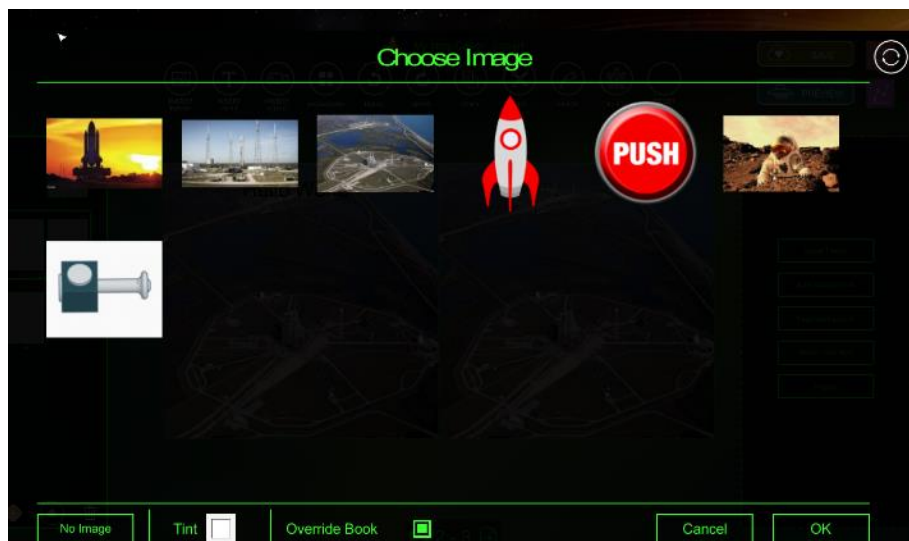


Figure 46: setting the page background to be an image or a color

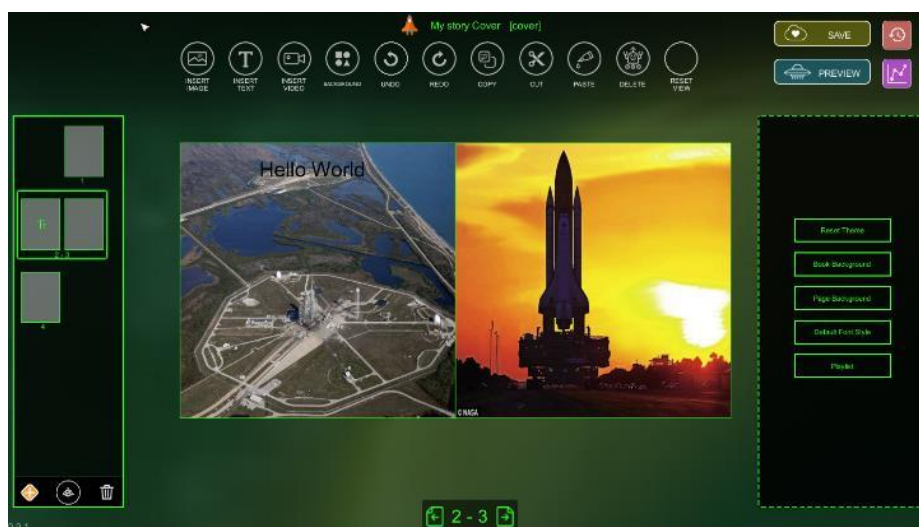


Figure 47: Page with book background on the left and page background on the right

## Default Font Style

In the default font style panel, you can setup the preferred font size and style for the entire story. Default font will appear in each new text inserted in the story but can be overwritten (e.g. changing the size and color of a specific text in a page).



Figure 48: Default font style panel

If you set for example that the default font style will be Bold, Italic, Underlined, of color RED with a yellow outline, when we will insert a new text in the story will have this style as the default one.

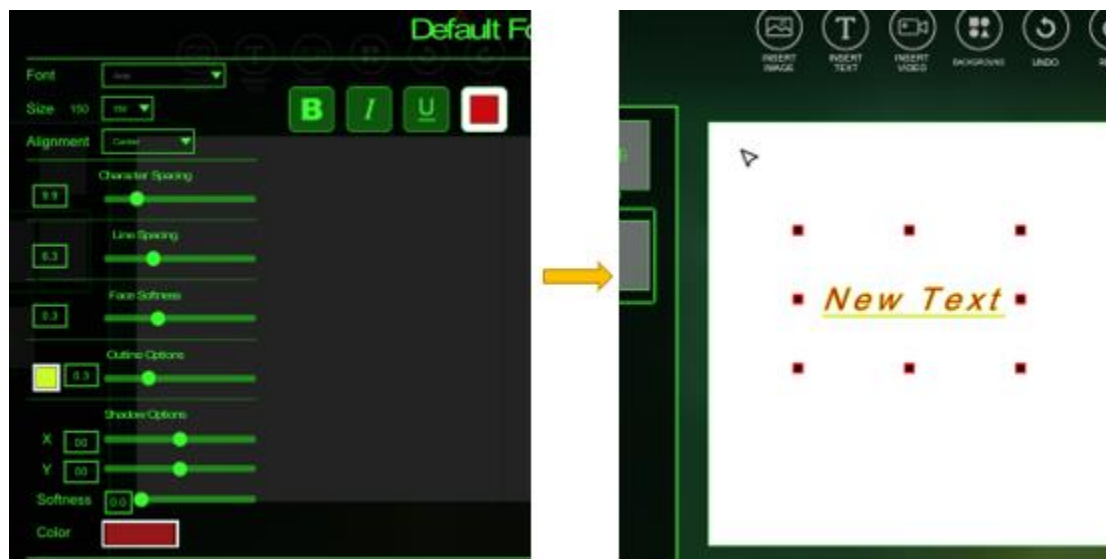


Figure 49: Setting Default Font Style

## Playlist

In the playlist panel appear the sounds that will start playing when the page is turned. In the beginning the list is empty. To add a sound file you should press the “Add new” button at the bottom – right of the playlist panel.

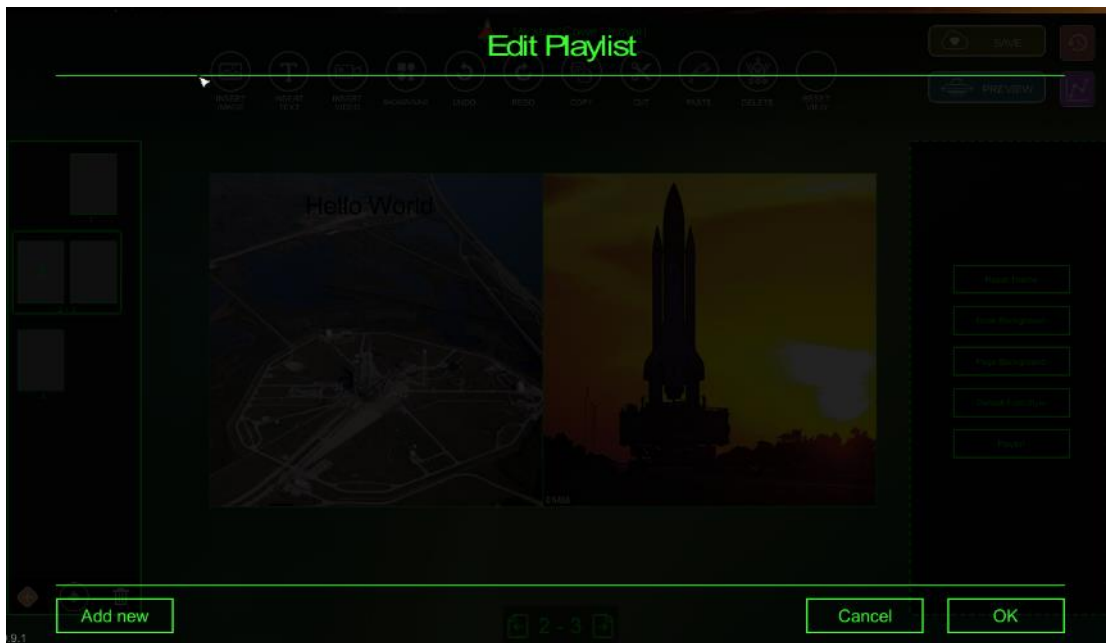


Figure 50: Playlist

From the uploaded sounds, the student can choose those that wants to add to the playlist.

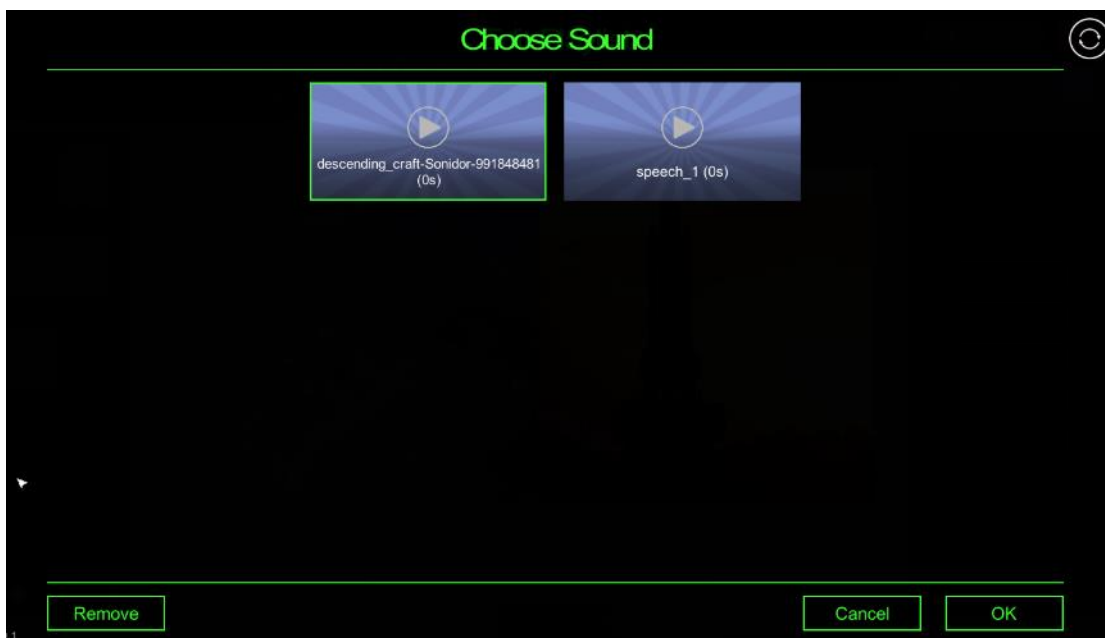


Figure 51: Add sound to playlist

## Analytics

The authoring tool keep tracks of the assets used inside each episode. These data are available


for the students also to see with the  button.



Figure 52: Story Analytics

## 3D Rocket Authoring Tool

The 3D rocket authoring module is a tool for sending your own rockets to Mars. You can either use available 3D rocket models in the library (you should add them to the episode assets first, or upload your own made .glb 3D file by other applications(e.g Tinkercad).



Figure 53: Setting up the 3D rocket to send on Mars

### *Creating your own rocket*

You can create a 3D with an external application. For example a rocket made with Tinkercad Application. It's very easy to build and export your preferred rocket with this tool. When you finish, you can export your rocket as an .glb file (available from Tinkercad menu→export).

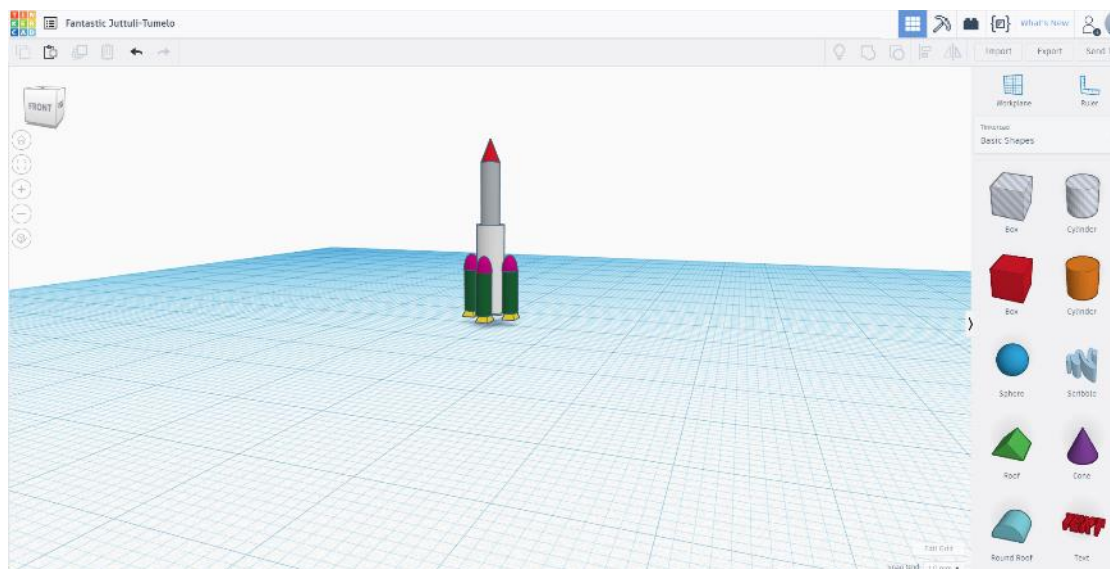


Figure 54: Adding own rockets to the 3D Rocket Authoring tool.



Some things to take care when preparing these objects for DiSTARS is the size and the position of the object. The size should be as shown in the pictures and the position should be at the middle of the workplane.



Figure 55: Object correct position

Then, you just have to upload the .glb file in the Episode assets and the rocket is automatically available to be used in DiSTARS Rocket Authoring tool.



Figure 56: Adding new rocket to the Authoring tool

The grey rectangle at the bottom, indicates the book spread. Students can select the place of the page that the rocket will launch from and can also rotate, scale, move and test the launching ability of the rocket.



Figure 57: Modifying the rocket

There are several bars on the right-hand side to manipulate object, especially when it is imported from external applications. One of the most important aspects when loading 3D models is the position of the pivot point. It affects rotation and position of the object when its imported (that's why when you create a rocket with Tinkercad it should be place in the middle of the workplane).



Rotates the object



Changes the size of the Object (scaling)



and move the object in the relevant axis.

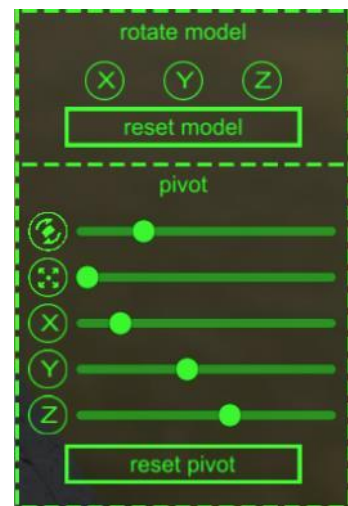


Figure 58: Modification tools

### Loading the Rocket

You should perform a series of tasks to prepare your rockets. First, you have to select or add your own 3D objects, next you should select the type of the rocket and finally to choose where on Mars will send your Rockets to. A TODO list appears also at the right-hand side of the tool to help students perform these tasks.



Figure 59: to-do list



To set your rocket type, you have to click the button shown above and then to pick one of the available types(fig 80). Each type has different characteristics, the **payload** it can carry and the **number of crew**. You can change anytime the type of rocket but you must be aware of their different characteristics. If a Rocket is overloaded it won't launch and the objects won't be available in the colony.



Figure 60: Rocket Types



Next step is to load your rocket. To set your rocket type, you have to click the button shown above. There is a list of suggested types of objects they can carry, and the you should make a choice.



Next to each object there is a number with the items that selected to loaded from each category.



Figure 61: Selecting object to load

Each object has a weight and a list of other properties that can affect the sustainability of your colony. Clicking on an object's name this information is available.



Figure 62: Object Properties

The bar on the bottom indicates the payload. If the rocket is overloaded it will become red and the rocket won't launch. The same stands for the passengers and the bar on the top.



Figure 63: Available payload

Selecting the place on Mars to send the rocket.



The final step is to select where on Mars you will send your rockets. To select the place you have to click the button shown above. It is important, since if you send it to the wrong place, you won't be able to build the colony in the desired place. No objects will be available! Of course, you are able to go back and correct the problem.

There are three available areas with their descriptions.

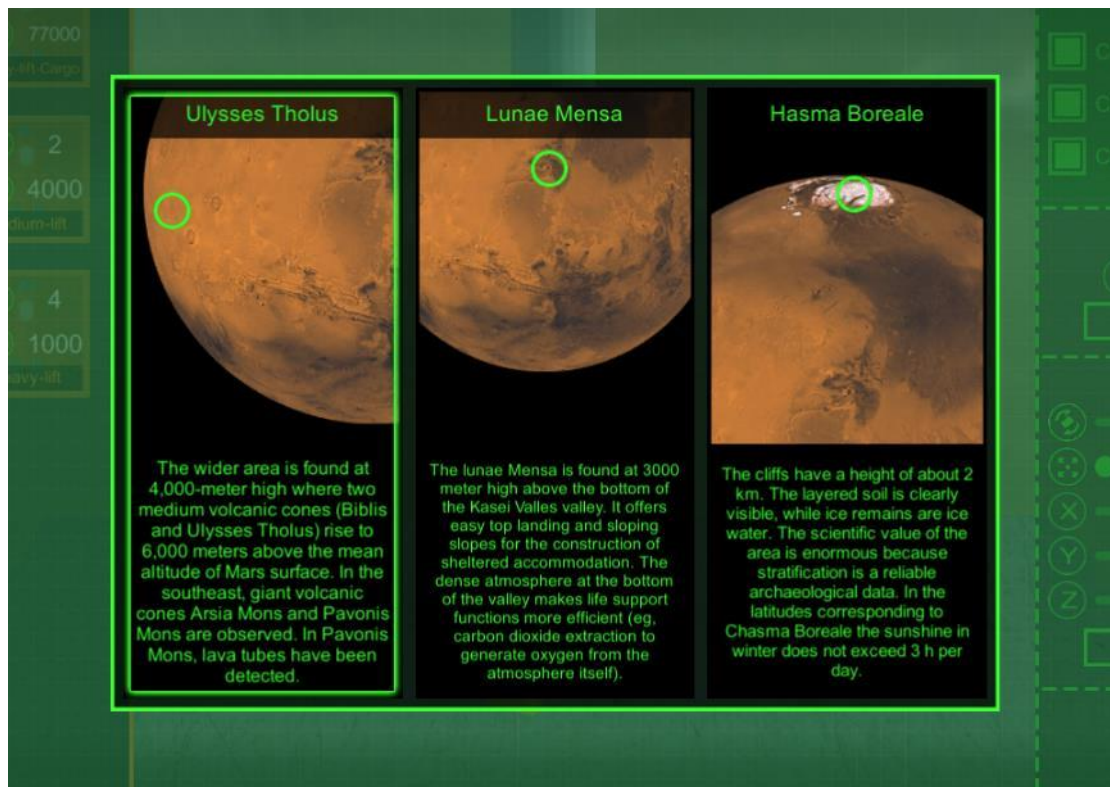


Figure 64: Selecting the place on Mars to send the rocket.

To save your rocket with the selected settings you have to click the disk from the horizontal menu. The Refresh button is used when you upload a new 3D object to the project assets and you want to have it available in the 3D Rocket Authoring Tool.



Figure 65: Horizontal menu

### 3D Colony Authoring Tool

The 3D colony authoring tool is available for episodes of type “Mars”. With the 3D colony authoring module you can build your own colony on Mars.

#### *Selecting area to build your colony*

First you have to select the place you want to build your colony (North hemisphere, Equator, Volcanic areas) and then you are transferred to the relevant terrain. Remember that this should be the same with the place that you sent your Rocket.

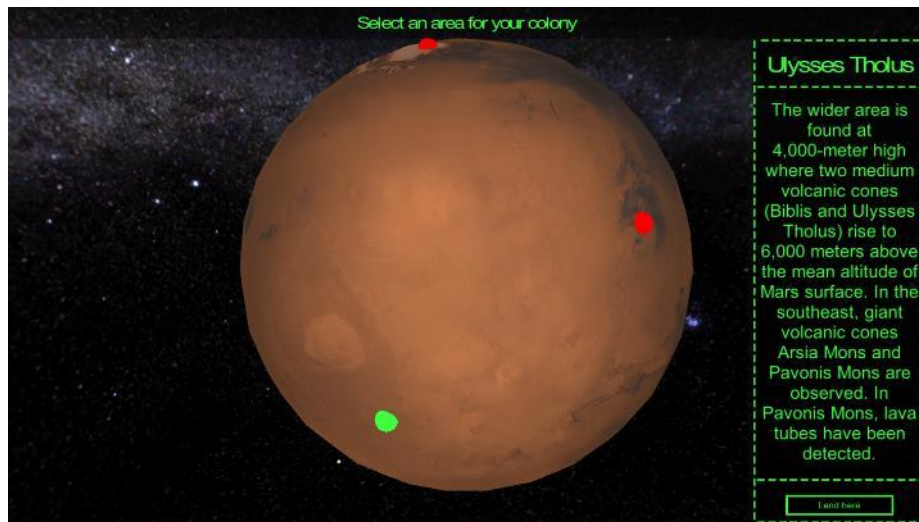


Figure 66: Selecting where to build on Mars

In the selected terrain you can add objects and build your colony in the preferred way. At the left-hand side there is the list with the available 3D Objects. These can be made from you or the ones offered by DiSTARS.

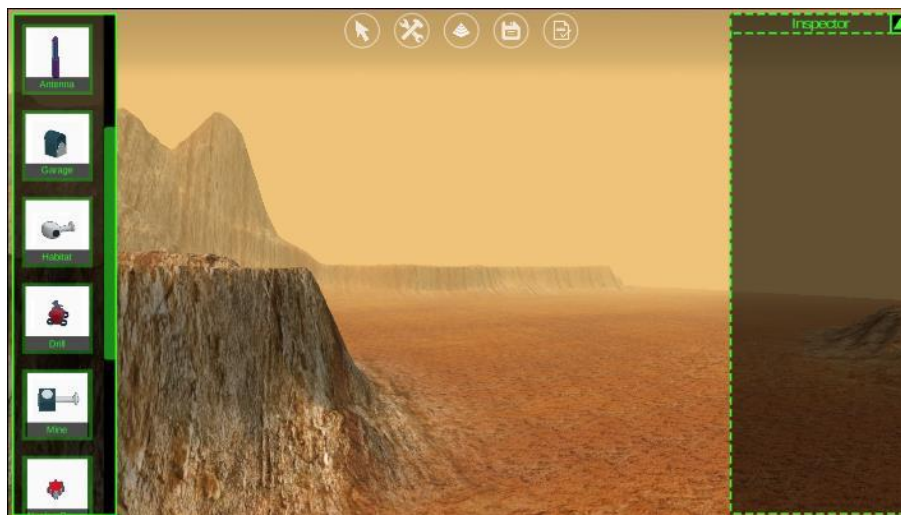


Figure 67: Adding Objects to the selected terrain



### Adding 3D Objects

To add a new 3D object in the terrain click on the thumbnail of the 3D Object and move the mouse inside the terrain. The relevant 3D Object will start following your mouse.



Figure 68: Adding a new 3D object in the terrain

With left mouse click the 3D object is dropped to the terrain to the position of the mouse. When the left mouse click is released a list appears with the available objects (those that you sent with your Rocket). You have to select which type of object you are placing inside the terrain.





Figure 69: Selecting the type of the object

After selecting the object type the properties of this object (set by experts) appear. There also some tools available to modify your object.



Figure 70: Object properties and tools

With  button you can rotate your object.

With  button you can place it underground

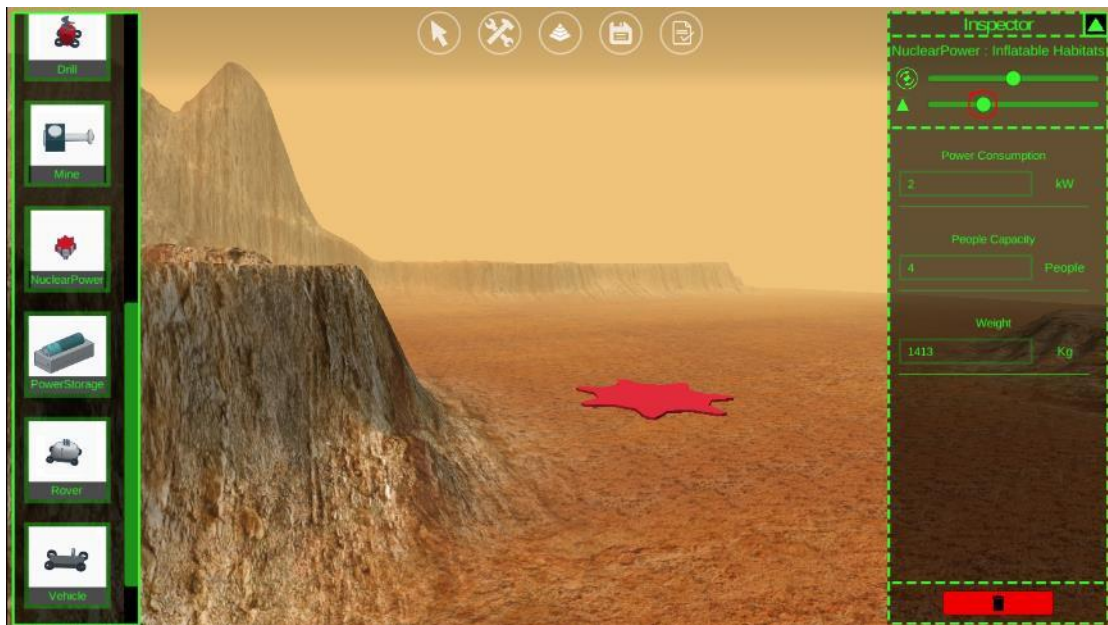


Figure 71: Modifying 3D objects

### Evaluating your Colony

Based on the number of the objects and their properties, the rules made by experts, can at any time assess the sustainability of your colony. You can make modifications in the number of items to reach sustainability.







Figure 72: Rules for Validating the Sustainability of the Colony

The rules are accessible from the horizontal menu, last button at the right.



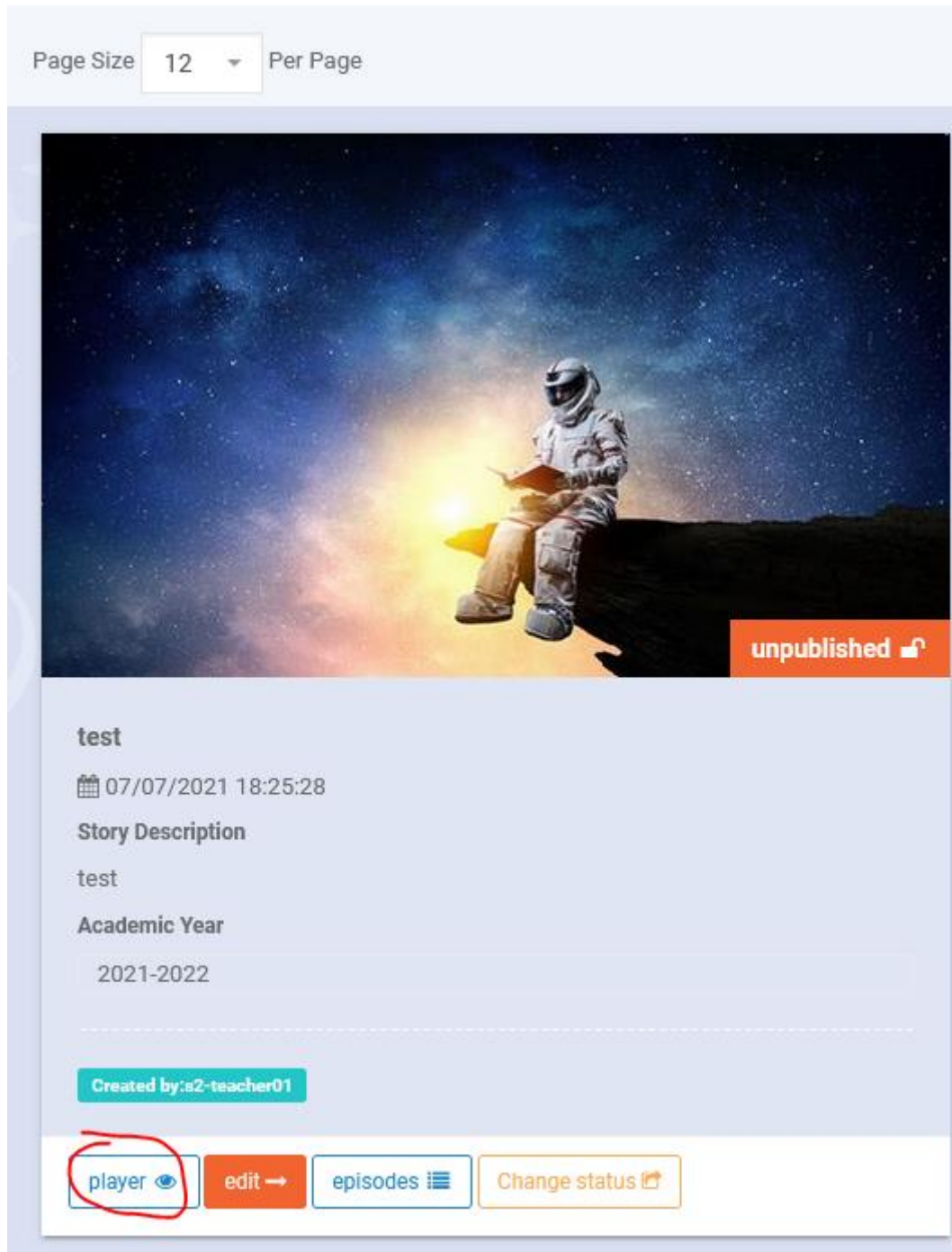
Figure 73: horizontal menu

Other buttons in the menu are the  save button where you can save your colony, the  hierarchy button where you can see all the objects placed in the colony, the  tools button where you see all the available objects, and the  arrow button where the mouse is released if you have grab something.

## DiSTARS PLAYERS

### DiSTARS Web Player

The DiSTARS web player undertakes to compose and present a story when requested. The DiSTARS' web player is loaded if the relevant button is clicked (see the following image).



The screenshot displays the DiSTARS web player interface. At the top, there is a 'Page Size' dropdown menu set to '12' and a 'Per Page' label. Below this is a large image of an astronaut sitting on a dark surface, looking at a glowing object in space. A red 'unpublished' label is in the bottom right corner of the image. Underneath the image, the story title 'test' is shown, followed by a calendar icon and the date '07/07/2021 18:25:28'. The 'Story Description' section contains the text 'test'. Below that, the 'Academic Year' is listed as '2021-2022'. A teal button labeled 'Created by:s2-teacher01' is positioned below the year. At the bottom, there is a row of four buttons: 'player' (circled in red), 'edit' with a right arrow, 'episodes' with a list icon, and 'Change status' with a status icon.

Figure 74: Loading DiSTARS player



A loading screen appears and the story is prepared. All episodes are merged in one story.



Figure 75: Players' Loading Screen

When the story is loaded you can start reading the story.

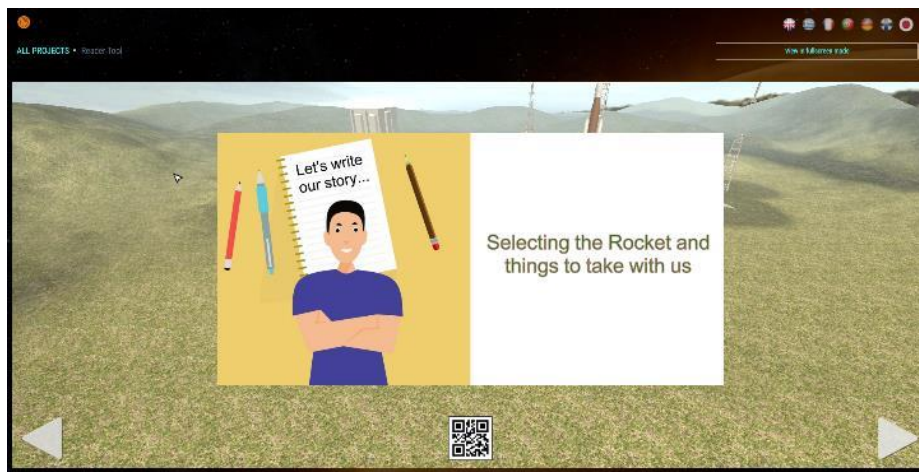


Figure 76: Reading the story

Holding the right mouse click button and moving the mouse the reader can look around.

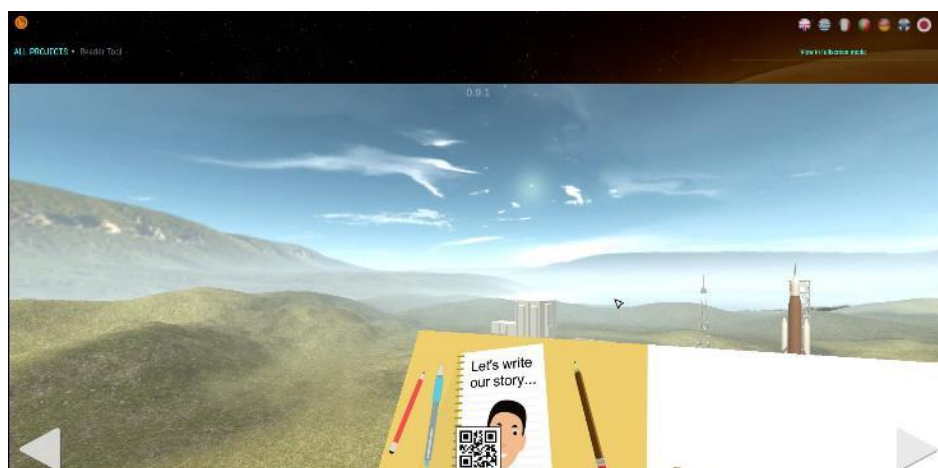


Figure 77: looking around the episodes' landscape

Stories have 4 different landscapes (relevant to the type of episodes). Apart from Earth, the other landscapes are Space, Mars and Moon surface. Moon is under development.

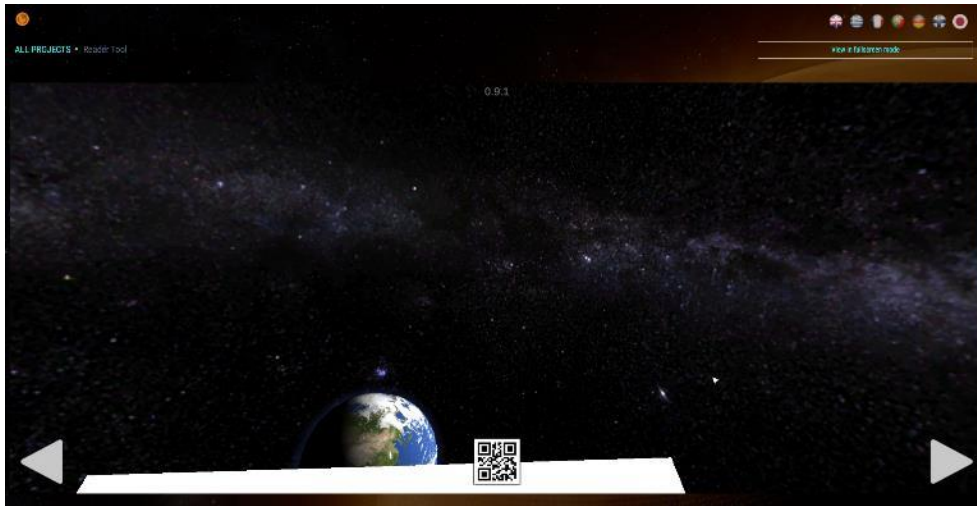


Figure 78: Space landscape



Figure 79: Mars Surface

Inside the story's pages there are the triggers assets that onclick either initiate launching or transfer the reader to the colony on Mars.



Figure 80: Rocket Launching

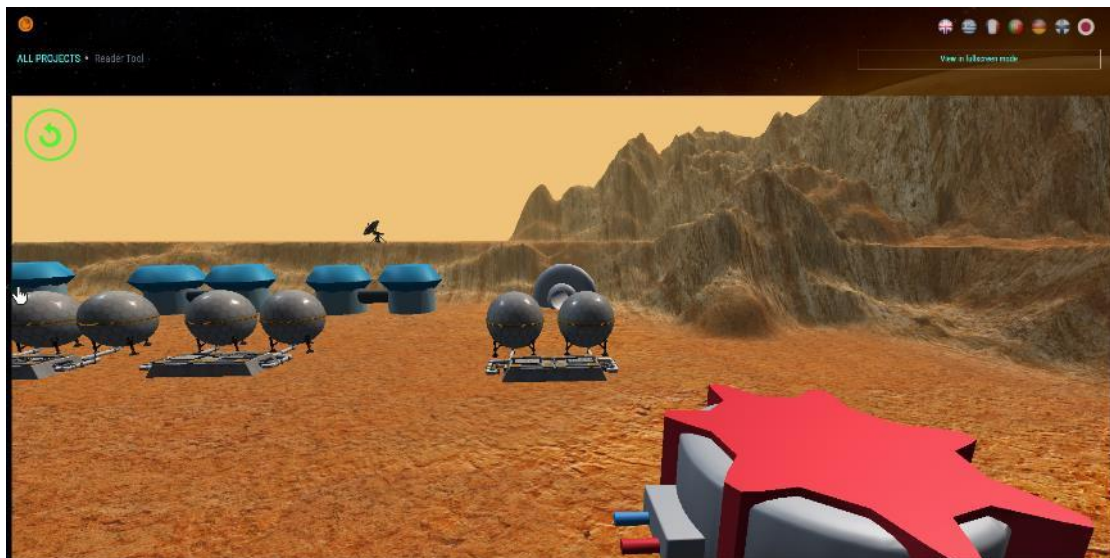


Figure 81: Visit to the Colony the students made.



## DiSTARS VR Player

Unlike the WebGL online version of the DiSTARS player, the VR application requires the student to login using her/his credentials. To preview a story in VR you need a Windows PC with Oculus Rift installed and calibrated.

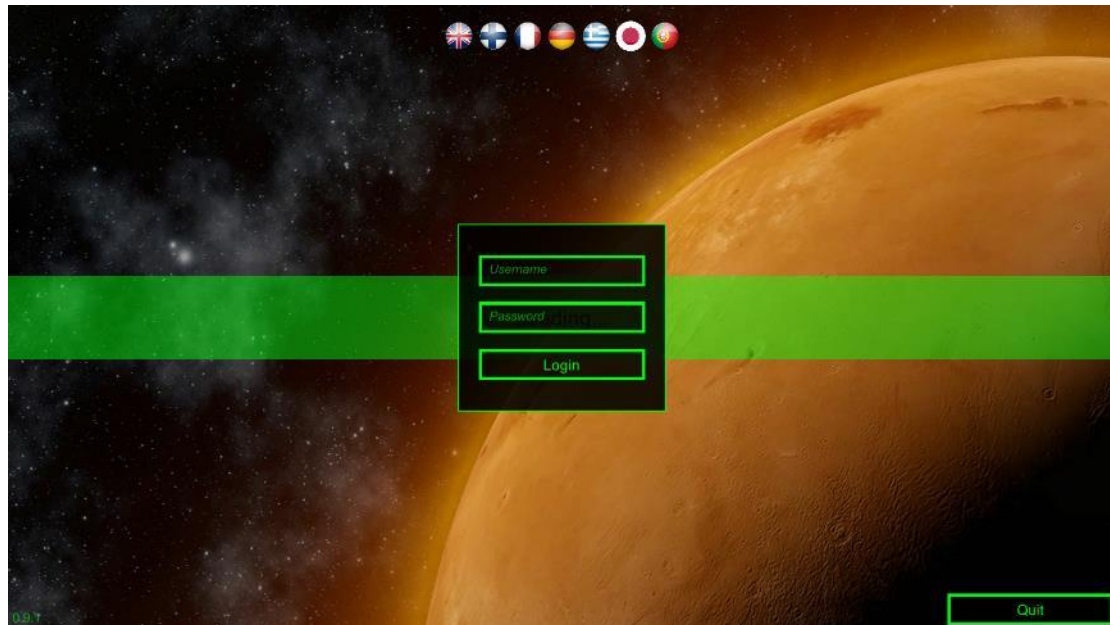


Figure 82: Logging in the VR player

After login, the list of projects appears. According to your account type you can see your projects or all the projects in the platform. All the students' projects can be previewed in VR mode.

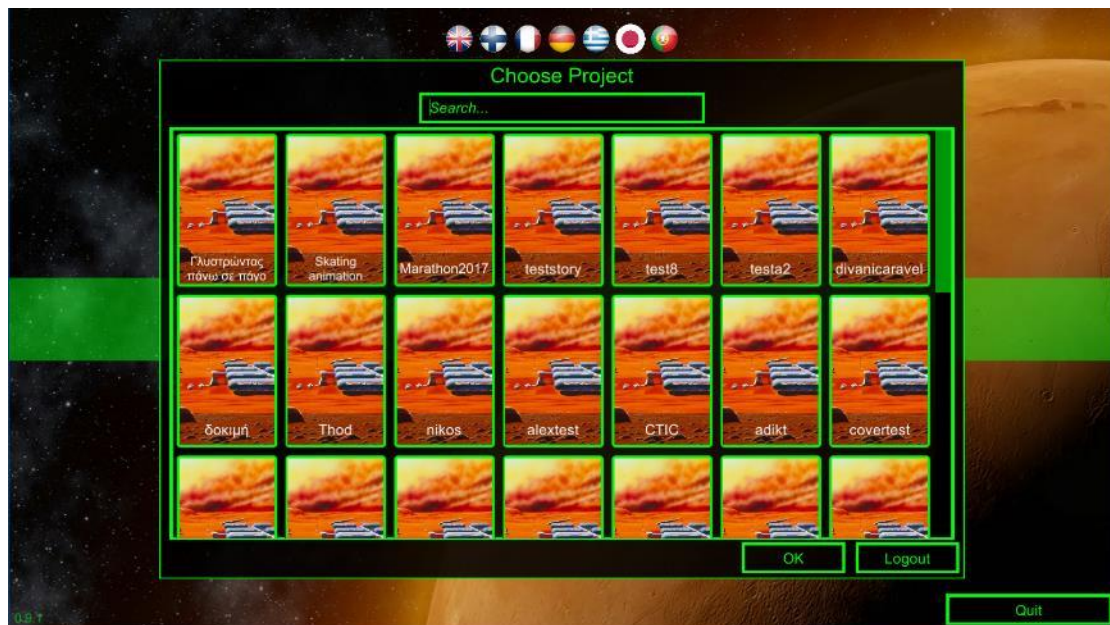


Figure 83: List of projects

There is a search box to help you find a story faster.

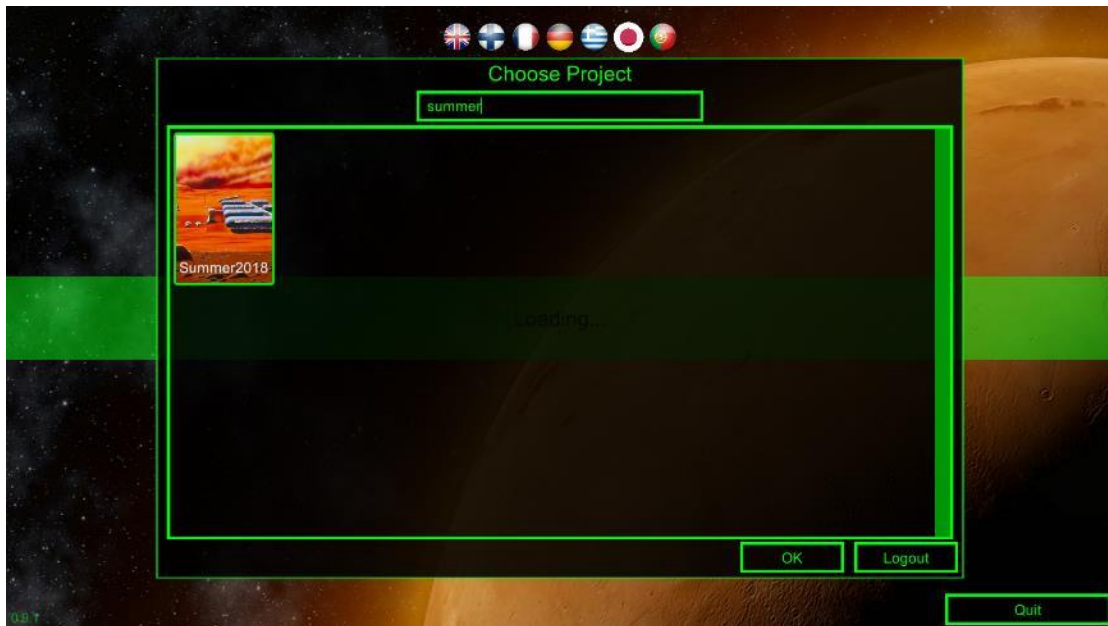


Figure 84: Filtering Stories

To open a story, select it and then press "OK" button.

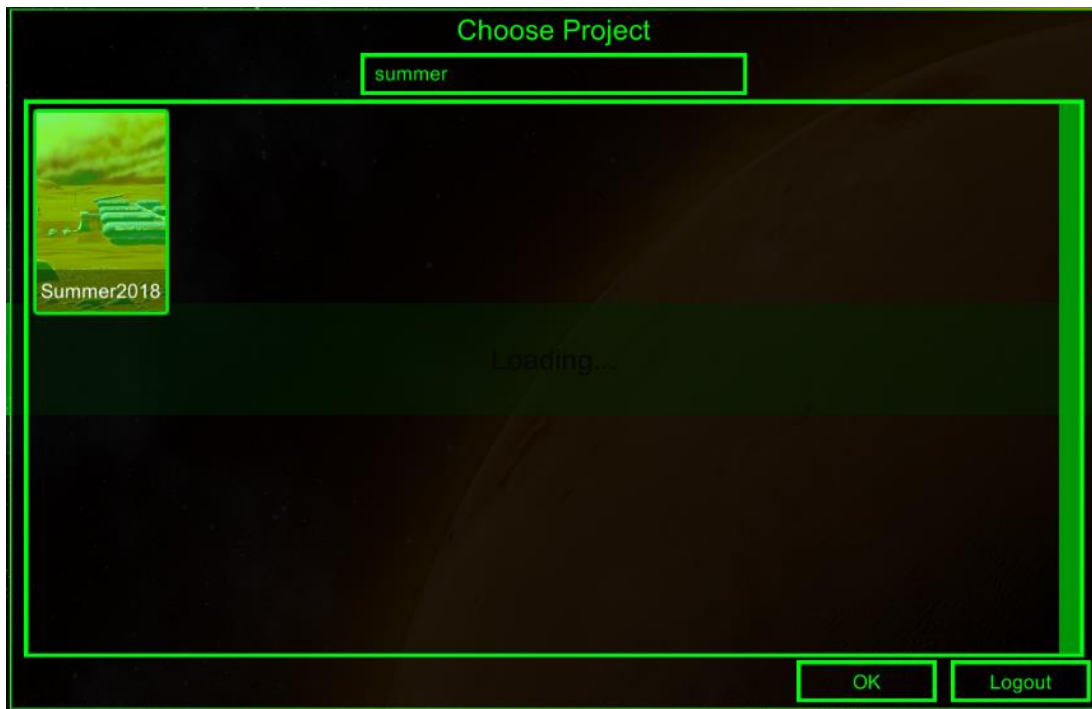


Figure 85: Story Selection

The application identifies automatically if there is a VR headset connected to the PC that the application runs on. If there is a VR headset connected, the story starts in VR mode. You can see two astronaut hands holding the book of the selected story.



Figure 86: Holding the e-book in VR environment

Using the left's controller's joystick, you can turn the book pages reading the book content.

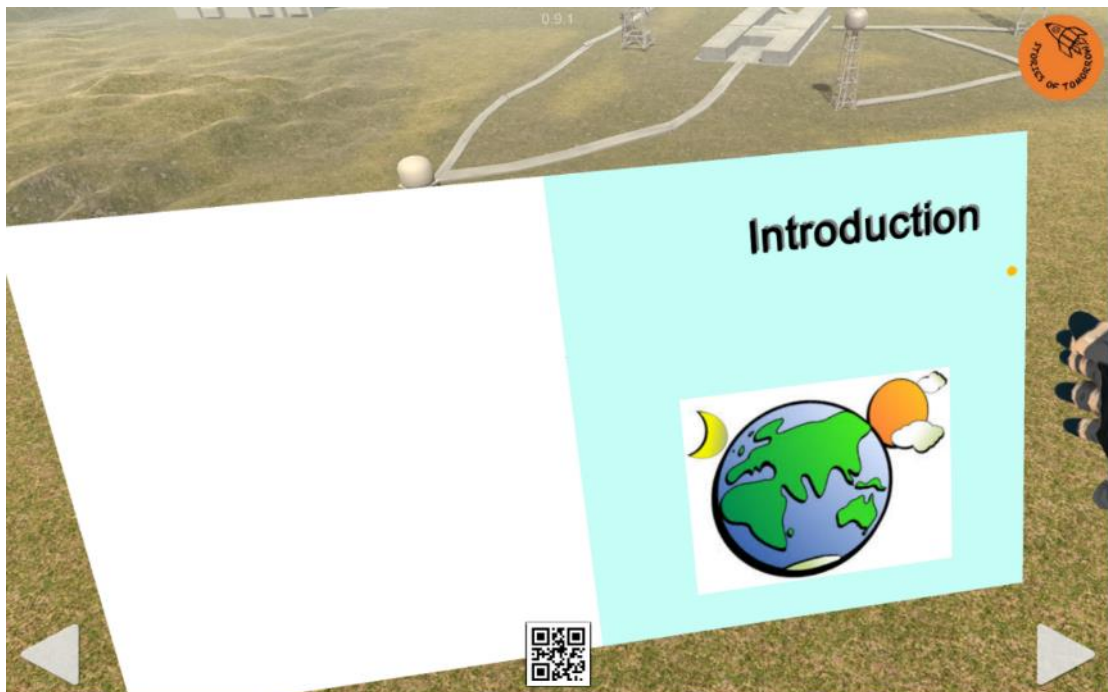


Figure 87: Reading the story in VR



You can point wherever you want on the book. A small circle like a laser dot is projected on the element you are pointing at. By pushing A button on the right-hand side VR controller you are able to interact with the selected page element.



Figure 88: Pointing the dot to an interactable item on page and by pushing the relevant button on the VR controller some action takes place

### 3D Rocket in VR

The 3D Rocket appearance in the VR player is different than the online player. In the online WebGL player the 3D rocket launches from inside the book page, while on the VR player the 3D rocket is launching from the launching base that is placed in the 3D scene around the user.



Figure 89: Launching base on VR Environment

When the image on the book page is clicked on (the image is linked to the rocket through the DiSTARS rocket authoring tool), the launching process starts. The rocket that appears is the one created with the 3D Rocket Authoring Tool.

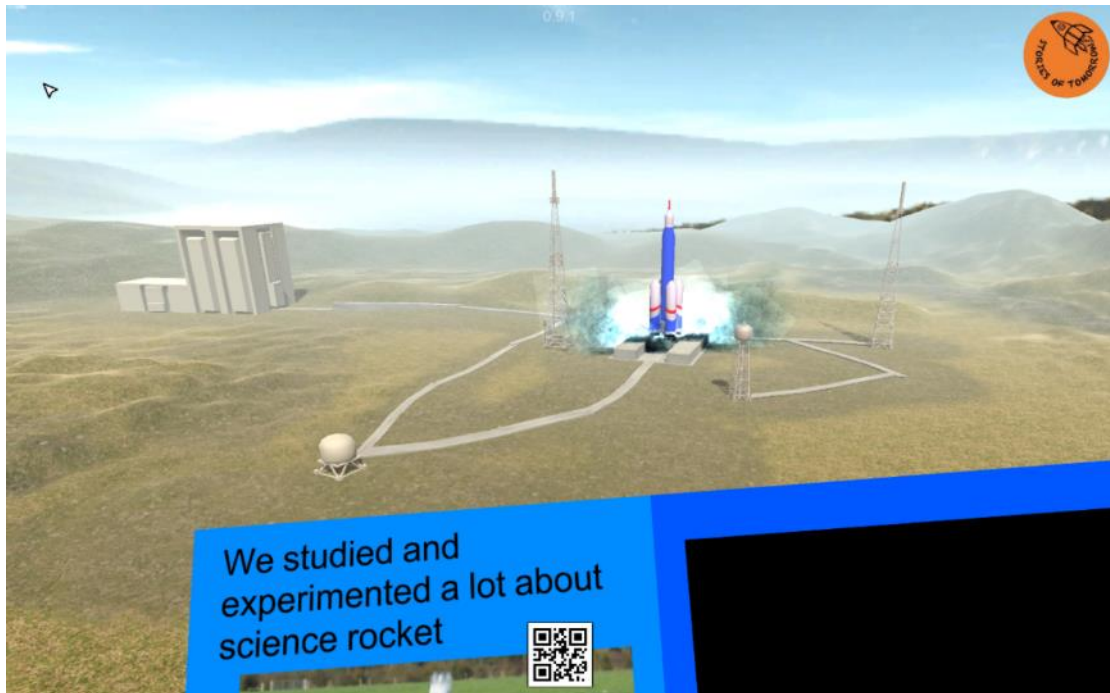


Figure 90: Launching starts on user click

You can, looking up with the VR headsets, follow the rocket as it leaves earth.



Figure 91: Rocket Leaving earth



The story then continues in the next episodes and you find yourself on space.

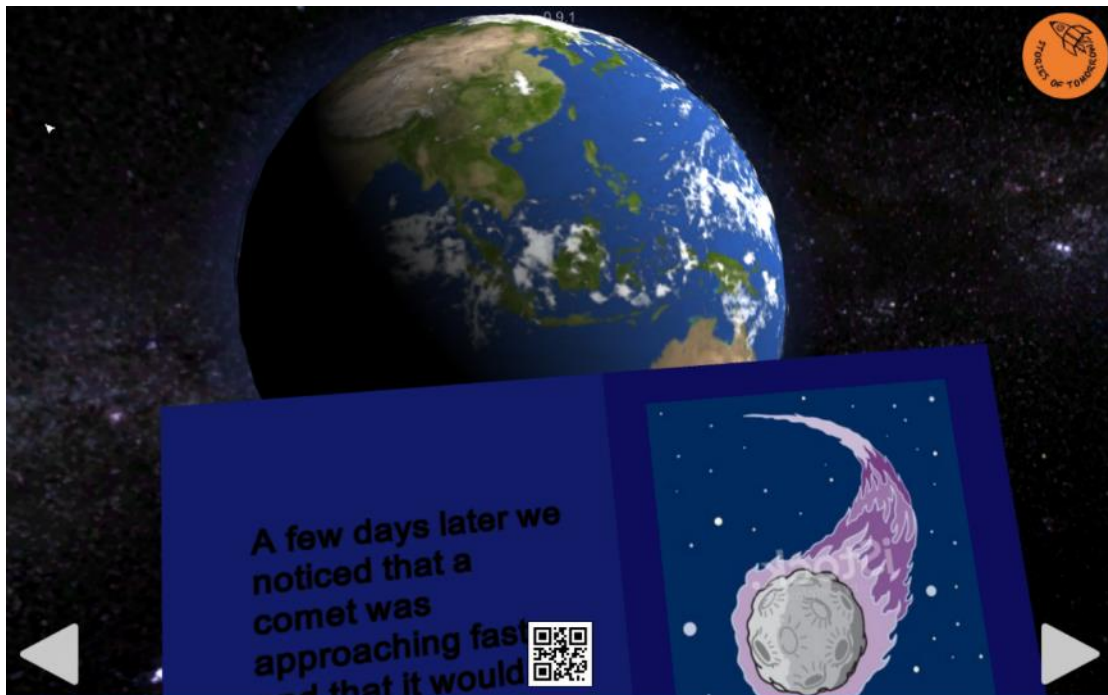


Figure 92: Episode taking place on Space

### 3D Colony in VR

In “Mars” episodes you can visit the 3D colony by clicking on the trigger element on the book page.



Figure 93: Visiting the colony from Mars episodes.

When moving from the book to the colony you find yourself inside a Martian Building.



Figure 94: Transferring from the book to the colony

When loading is finished, you are inside the colony.

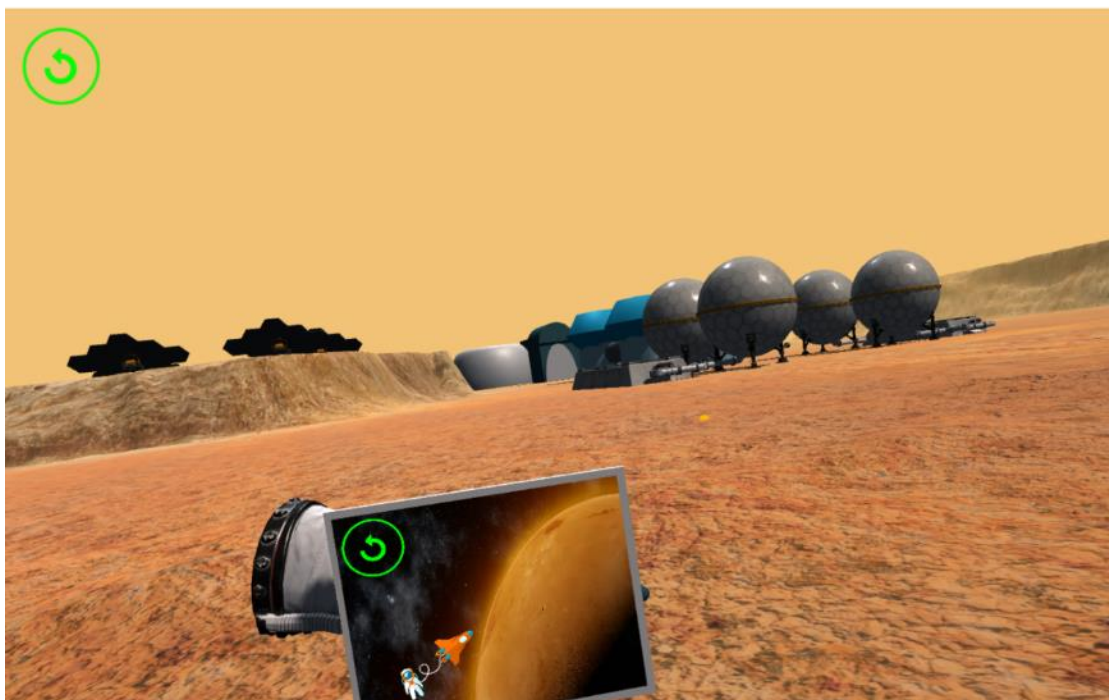


Figure 95: Inside the colony

You can move inside the colony using the controllers by clicking on the point that you want to move to. You can climb the mountains, go close to 3D objects, or even inside them.

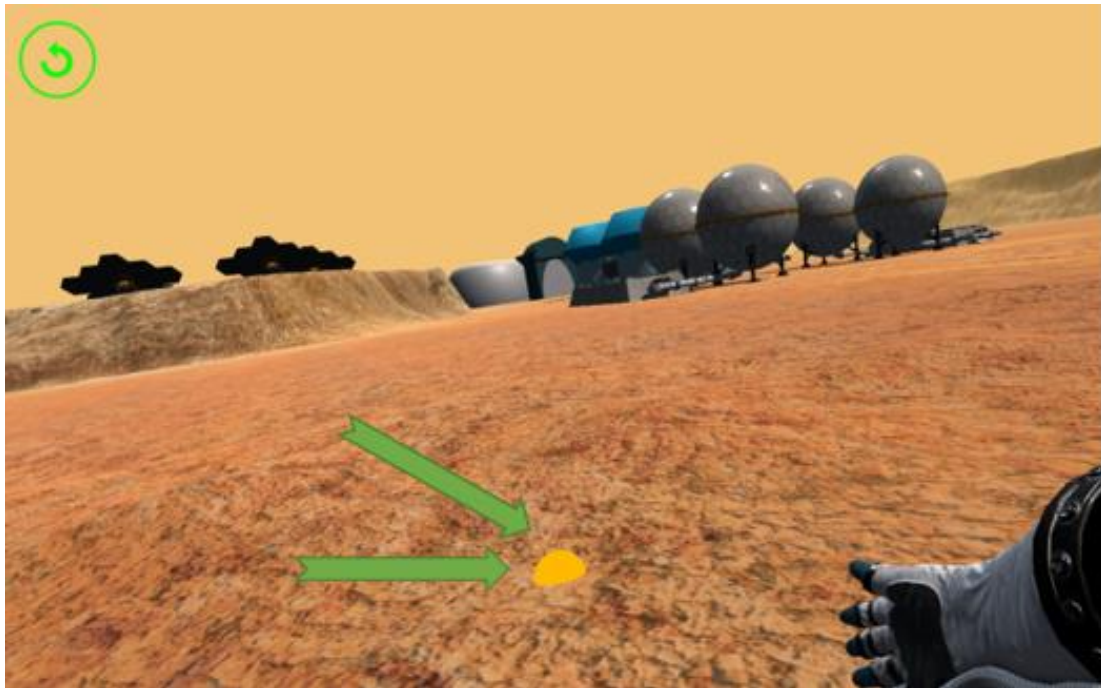


Figure 96: Moving inside the colony

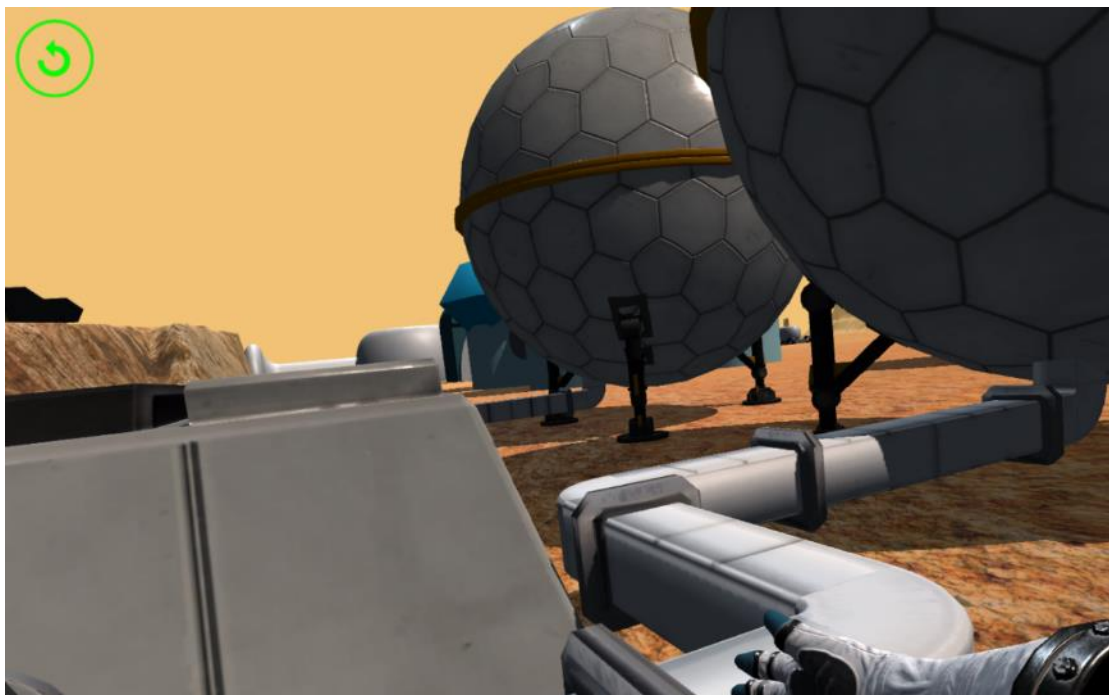


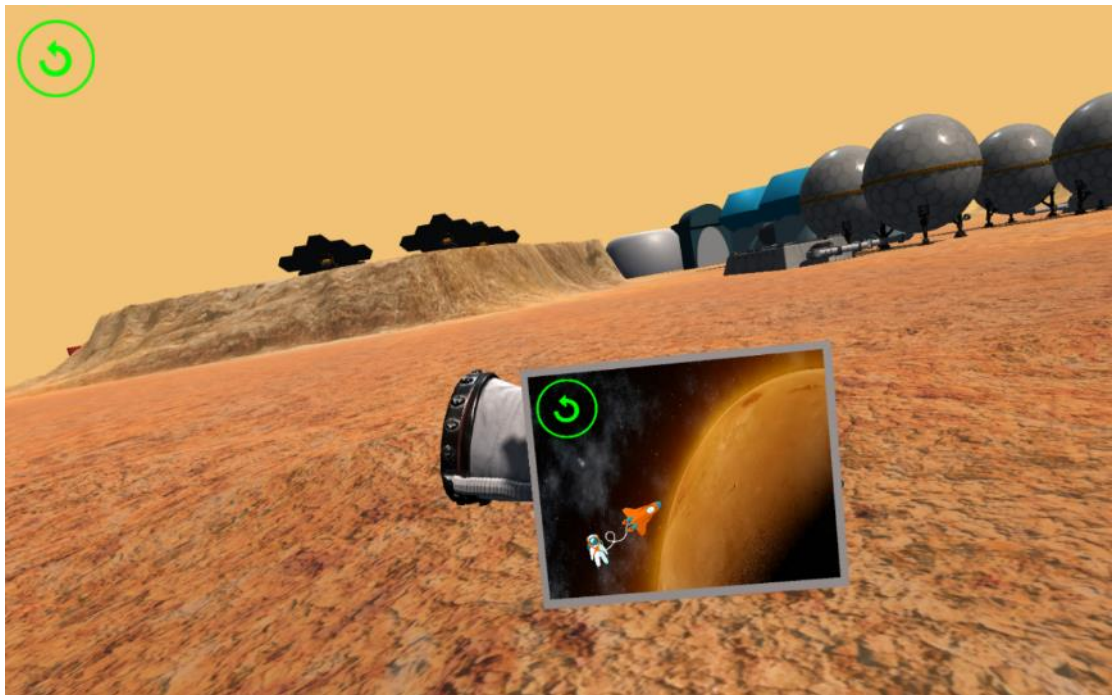
Figure 97: Approaching Objects





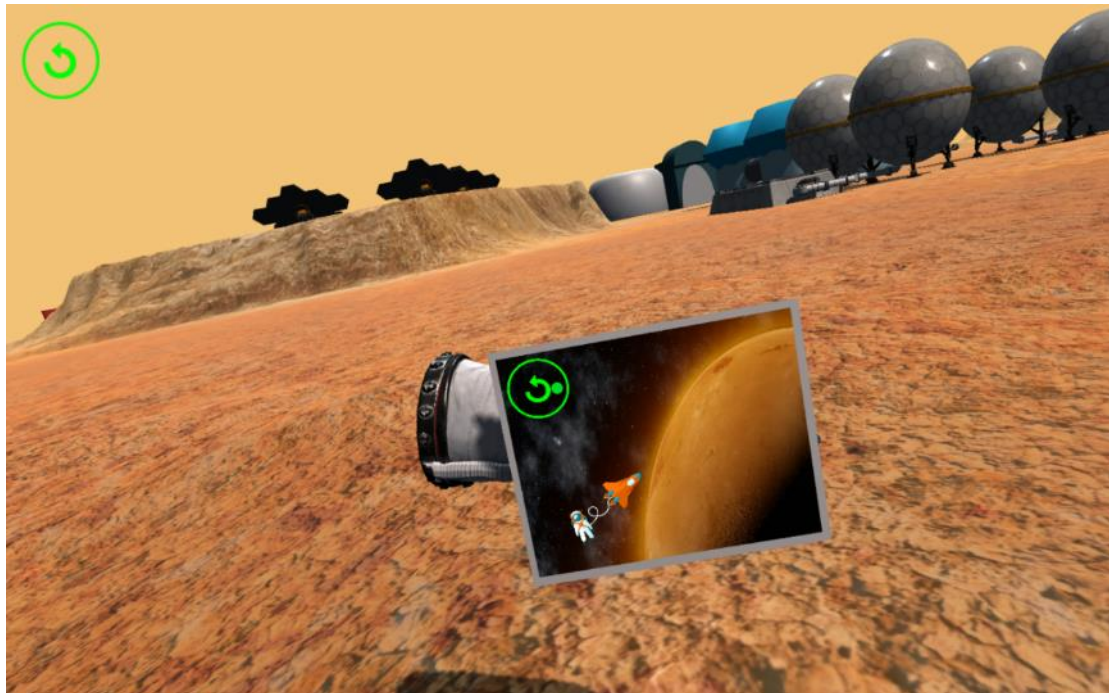
*Figure 98: Climbing in the mountains to see the colony from above*

Finally, you can return back to the book, by clicking on the “go back arrow” on the tablet that you are holding at your left hand.



*Figure 99: Using the tablet to return to the story*

When the dot is pointed over the green arrow (it becomes green also), the “A” button on the right-hand side VR controller initiates the transfer back to the story.



*Figure 100: Returning back to the story*