

## ITEC - WP 6

### D6.6.2 - EXAMPLES OF SHARED PRACTICE ITEC ENVIRONMENTS

*"This document has been created in the context of the ITEC project. All information is provided "as is" and no guarantee or warranty is given that the information is fit for any particular purpose. The user thereof uses the information at its sole risk and liability. The document reflects solely the views of its authors. The European Commission is not liable for any use that may be made of the information contained therein."*

CONTRACT NO	
DATE	30/08/2013
ABSTRACT	D6.6.2 Examples of shared practice iTEC environments
AUTHOR, COMPANY	Kristian Kallesen, UNI•C
REVIEWER, COMPANY	Dai Griffiths, Bolton University Leo Højsholt-Poulsen, UNI•C
WORKPACKAGE	WP 6
CONFIDENTIALITY LEVEL <sup>1</sup>	PU
FILING CODE	ITEC-D6_6_2.DOCX
RELATED ITEMS	

#### DOCUMENT HISTORY

Version	<u>Date</u>	<u>Reason of change</u>	<u>Status</u>	<u>Distribution</u>
v1	22/8/13		Draft	Reviewers
v2	10/9/13	Incorporate suggestions for changes	Final	EC + Partners

<sup>1</sup> PU = Public

PP = Restricted to other programme participants (including the EC services);

RE = Restricted to a group specified by the Consortium (including the EC services);

CO = Confidential, only for members of the Consortium (including the EC services).

INN - Internal only, only the members of the consortium (excluding the EC services)

# Table of Contents

1	Introduction.....	5
	1.1 Reminder of the context .....	5
	1.2 Purpose and scope of the deliverable.....	5
	1.3 Relationship with other work packages.....	5
	1.4 Structure of the document .....	5
	1.5 Impacts of the deliverable.....	6
	1.5.1 iTEC project .....	6
2	Design a tourist guide to your town/city/region/country .....	7
	2.1 Introduction .....	7
	2.2 Tools and resources used .....	7
	2.2.1 Moodle .....	7
	2.2.2 Integrated web apps .....	7
	2.3 Teacher approach .....	8
3	Ideas for story – ‘Visualising the Planet’: Assessing environmental and community impact of a new development .....	9
	3.1 Introduction .....	9
	3.2 Tools and resources used .....	9
	3.2.1 Google Maps/Earth and SketchUp .....	9
	3.2.2 Promethean ActivInspire software and Activboard .....	10
	3.3 Teacher approach .....	10
4	‘Create a Game’ with Android .....	11
	4.1 Introduction .....	11
	4.2 Tools and resources used .....	11
	4.2.1 Evernote.....	11
	4.2.2 Munzee .....	11
	4.3 Teacher approach .....	12
5	SMART implementation ideas for iTEC Cycle 4.....	13

5.1 Introduction ..... 13

5.2 Tools and resources used ..... 14

    5.2.1 Widgets ..... 14

    5.2.2 XC14

5.3 Teacher approach ..... 14

6 Conclusion and future work ..... 15

# 1 Introduction

## 1.1 Reminder of the context

WP6 is responsible for training and supporting the national technical coordinators (NTCs) in the use of the technical solutions developed by iTEC. As part of that overall task WP6 will set up examples of iTEC environments (i.e. iTEC shells integrated with tools and services), investigate the training needs of national coordinators and provide training in using the different iTEC environments, and operate a technical support service for technical national coordinators.

## 1.2 Purpose and scope of the deliverable

The current deliverable covers work done in relation to *Task 6.7 Setting-up the shared iTEC and iTEC in-service training environment* and is a continuation of the work done in relation to iTEC D6.6.1 Examples of shared practice environments.

The DoW describes the purpose of the deliverable in the following way: “Examples of iTEC shells integrated with tools/services that will be used by teachers in the future classroom allowing them to experiment with and elaborate the learning scenarios. The number and variety of examples will increase during the project” (p. 67). The examples described on the following pages are thus intended to function as practice environments shared with the NTCs and teachers running pilots. They are meant to inspire and help connect visionary scenarios and the derived learning activities and stories with iTEC technology to be used in classroom practices.

## 1.3 Relationship with other work packages

From a pedagogical viewpoint the examples of the deliverable are based on the work done in work packages 2 and 3 on learning scenarios and learning activities.

WP3 has provided an analysis and a breakdown of the scenarios provided by WP2 into activities upon which any number of concrete lesson plans and learning stories may be based. Some of the activities are essential to a certain scenario, whereas others are optional, i.e. activities you may decide to integrate into your concrete lesson plan depending on your requirements or your specific objectives with the learning activities. To show how a collection of learning activities would fall taken into the classroom WP3 also delivers example narratives in the form of learning stories.

From a technical viewpoint the examples of the deliverable are based on the work done in work packages 7 and 8 on shell technologies and widgets. IWB software, Moodle and dotLRN are in play at this stage as well as the Widget Store. The technology makes it possible to add the specific functionality to an environment needed to run a set of learning activities.

This deliverable tries to combine the pedagogical and the technical approach. The scenarios and the learning activities and stories are created to be independent of iTEC technology. They can however be “brought to life” by the use of iTEC technology. In order to help combine the two approaches relevant feedback has been given from the pre-pilots and taken into account when creating the examples.

## 1.4 Structure of the document

The deliverable describes four different approaches to deliver examples of iTEC environments:

- *Design a tourist guide to your town/city/region/country*

- *Ideas for story – ‘Visualising the Planet’: Assessing environmental and community impact of a new development*
- *‘Create a Game’ with Android*
- *SMART implementation ideas for iTEC Cycle 4*

The four examples have been selected for this deliverable to show the variety of the total amount of examples and to give examples of learning stories and activities supported by all the iTEC shells as well as a non-iTEC but possible and widespread shell more suitable for mobile phones and tablets:

- Moodle (and dotLRN – the example is similar)
- The two IWB shells delivered by Promethean and SMART
- Android (non-iTEC shell)

The examples are available from the iTEC Technologies site <http://itec.eun.org/web/quest/activities-and-tools>, where NTCs and teachers also find further implementations of learning stories from cycle 2-4 and can see suggestions to applications and widgets that support the learning activities from all cycles.

The examples for the first cycle described in D6.6.1 are not available from the site since they were based on Liferay – an early shell candidate no longer supported. They can still be found on <http://itec.eun.org/web/liferay-shell> however. Another early example can be found on <https://sites.google.com/site/outdoorstudyproject/home>. It was made in the very beginning of iTEC using Google sites to demonstrate an application that can work as a shell and be configured to display only those tools that are needed and relevant to the actual project.

The descriptions provided in this deliverable are intended as supplementary descriptions to the actual ‘live’ examples and are meant to give an idea of the character of the total amount of examples.

As we are primarily trying to show how different technological tools may be integrated into a tailored learning environment to support specific learning activities, we are not outlining specific learning objectives in connection with the examples. The activities may be used in connection with a large number of different learning objectives.

## **1.5 Impacts of the deliverable**

The work that forms the basis for the deliverable plays a central role in establishing the connection between pedagogical requirements and technical functionalities. NTCs and pilot teachers are provided with examples that can serve as entry points to experiment with and elaborate how the learning activities/stories for a specific cycle can be supported by iTEC technology.

### **1.5.1 iTEC project**

The current deliverable is work in progress, and more examples will be developed to reflect the changes in technologies and the developments of the project.

The further development of examples of iTEC environments depends on the work done in the technical work packages, primarily the work on the iTEC Composer, the People and Events Directory and the Widget Store. It looks promising for cycle 5 with the iTEC technologies reaching a mature state and becoming part of well-developed toolkits.

## 2 Design a tourist guide to your town/city/region/country

### 2.1 Introduction

“Design a tourist guide to your town/city/region/country” is an example of how a learning story based on the design activities of Cycle 3 can be implemented in an iTEC shell. The example has been made within both Moodle and dotLRN and can be found here <http://itec.eun.org/web/guest/activities-and-tools> under “Cycle 3: ideas for learning stories” (the iTEC Technologies site offers five different Moodle examples). To present the example in this document screen shot have been taken from the Moodle version.

The example revolves around the learners having to consider how they would present a chosen area or attraction to achieve the ultimate goal of getting more tourists to visit the area/attraction, or getting a better experience while doing so. In order to qualify those thoughts a number of learning activities and the use of it-tools are part of the learning process.

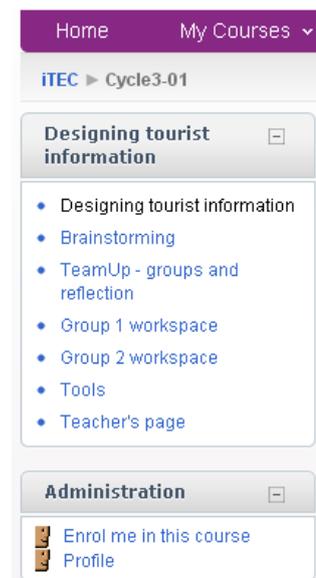
### 2.2 Tools and resources used

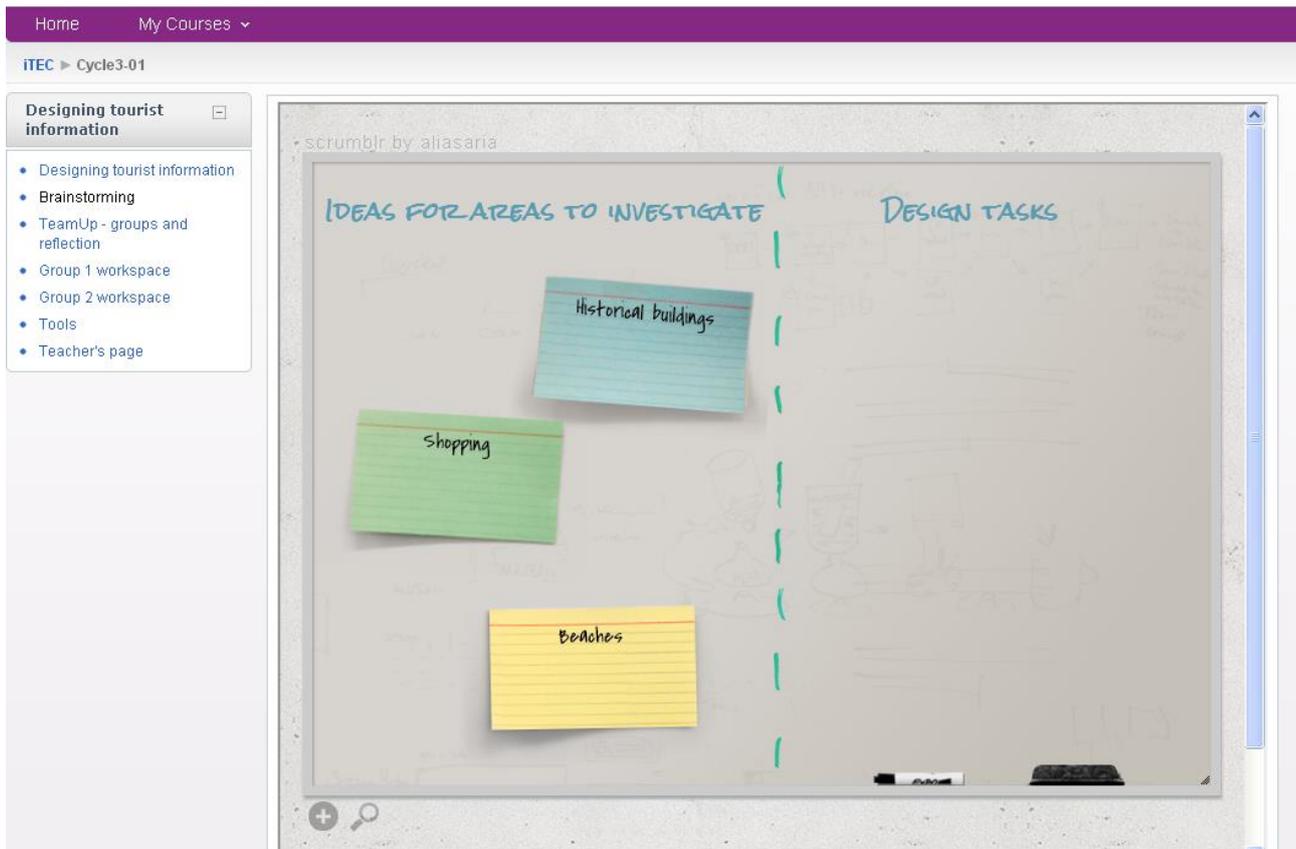
#### 2.2.1 Moodle

Moodle (or dotLRN) is used as an iTEC shell. A course in Moodle has been prepared and configured with learning tools to meet the educational objectives, and the teacher can authorize user access. The learners can find information (initial design brief) and relevant tools for the various learning activities through the left hand side menu shown in the picture:

#### 2.2.2 Integrated web apps

To get started and prepare a contextual inquiry (learning activity) the brainstorming tool *Scrumblr* is integrated in the shell. It provides a board where the learners can share post-it notes (in individual colours if desired). The teacher makes the board ready for the learners and in this example the teacher wants them to think about ideas for areas to investigate as well as more concrete design tasks:





The screenshot displays a Moodle course interface. At the top, there is a purple navigation bar with 'Home' and 'My Courses' options. Below this, the course title 'iTEC > Cycle3-01' is visible. On the left side, there is a sidebar titled 'Designing tourist information' with a list of links: 'Designing tourist information', 'Brainstorming', 'TeamUp - groups and reflection', 'Group 1 workspace', 'Group 2 workspace', 'Tools', and 'Teacher's page'. The main content area features a digital whiteboard titled 'scrumbjr by aliasaria'. The whiteboard is divided into two sections by a vertical dashed line: 'IDEAS FOR AREAS TO INVESTIGATE' on the left and 'DESIGN TASKS' on the right. Three sticky notes are placed on the left side: a green one labeled 'Shopping', a blue one labeled 'Historical buildings', and a yellow one labeled 'Beaches'. The whiteboard also shows faint sketches of buildings and a map.

The post-it notes can be moved around by anyone with access to the course.

*TeamUp* is integrated as the tool to use for the reflection learning activity. It enables the learners to record and share periodic audio updates about their project progression, perceived challenges, changes to the design brief and future plans.

*Etherpad* is found in two workspaces: One for general group communication, and one to develop ideas further and keep track of them. Etherpad is an online editor providing collaborative editing in real-time and a chat option.

## 2.3 Teacher approach

“Design a tourist guide to your town/city/region/country” can serve merely as an example to demonstrate that Moodle (+ dotLRN) can work as a tailored learning environment to support specific learning activities or a learning story. Furthermore it allows for a teacher to restore a backup as a new course. That way any teacher has the possibility to either just play with and alter the course to get a hang of Moodle or to adapt the course to his or her own teaching. It can easily be adjusted to match other needs and/or possibilities.

The amount of useful widgets in the Widget Store has grown, and by now it would be a smoother solution for a teacher to use widgets than to use integrated web apps.

### 3 Ideas for story – ‘Visualising the Planet’: Assessing environmental and community impact of a new development

#### 3.1 Introduction

“Ideas for story – [‘Visualising the Planet’](http://itec.eun.org/web/guest/activities-and-tools): Assessing environmental and community impact of a new development” is the second of two ideas from Promethean to implement the specific learning story mentioned in the title. It can be found here <http://itec.eun.org/web/guest/activities-and-tools> under “Cycle 3: ideas for learning stories”.

The scope is to have the learners consider and form an opinion about a real or hypothetical development that might divide public opinion. For example this could be a proposed wind farm, a new hotel or shopping complex, a dam and reservoir or a new road development.

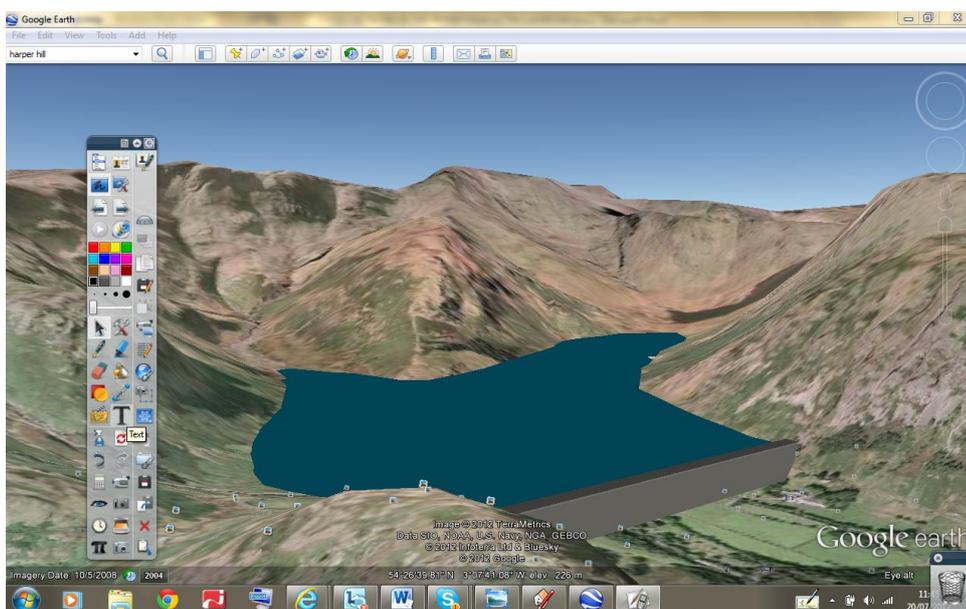
#### 3.2 Tools and resources used

##### 3.2.1 Google Maps/Earth and SketchUp

Google Maps or Google Earth is used to provide the learners with an experience of applications that visualise the surface of a planet. Both work extremely well on an Activboard where the size and the touch functionality provide easy navigation. SketchUp gives access to objects that can be visualised in Google Earth and makes it possible to create your own models. An example can be seen in this video: <http://dl.dropbox.com/u/20497347/DigitalWorld.m4v?dl=1> that shows a simulation of a proposed local wind farm in Google Earth on a Promethean Activboard.



Another example is this Sketchup model of a dam viewed in Google Earth where it can be viewed from various locations and used to generate simulated images for posters and animations for presentations and online viewing, etc.:



### 3.2.2 Promethean ActivInspire software and Activboard

The ActivInspire software and Activboard can be used in various ways in relation to the learning story and enhance the learning. The example gives numerous ideas to the various phases (learning activities). E.g.:

- Teacher prepares a lesson intro in a flipchart outlining objective and introducing the opportunity. They may want to include links to famous projects that have divided opinion such as the Three Gorges Dam in China [http://en.wikipedia.org/wiki/Three\\_Gorges\\_Dam](http://en.wikipedia.org/wiki/Three_Gorges_Dam) which offered many commercial infrastructure and renewable power generation advantages but displaced over 1.3 million people and flooded thousands of square kilometres of natural habitat.
- Use text response to ActivInspire or the Promethean Noteboard Application with ActivExpression or ActivEngage to quickly brainstorm ideas and problem areas from all.

### 3.3 Teacher approach

“Ideas for story – ‘Visualising the Planet’: Assessing environmental and community impact of a new development” focuses on how powerful tools like Google Earth and SketchUp can be enhanced with the use of Promethean ActivInspire software and Activboard, and how the interaction improves the possibilities for Cycle 3. It is up to the teachers to pick and choose between the many ideas and find an approach that is suitable for their own educational context. The IWB works as a training environment where all the tools and resources used are easily accessible.

From [Promethean Planet](#) “Ideas for story – ‘Visualising the Planet’: Assessing environmental and community impact of a new development” has been downloaded 90 times at the time of writing.

## 4 'Create a Game' with Android

### 4.1 Introduction

“Create a Game’ with Android” is a description of how Android apps can be utilized to fit the learning story [Creating a Game](#) and the corresponding learning activities. In a way you can say that Android resembles a shell where you may add small applications providing highly tailored functionality and in that way provide support for specific activities that may add depth to the learning of the students. It can be found here <http://itec.eun.org/web/guest/activities-and-tools> under “Cycle 4: ideas for learning stories”.

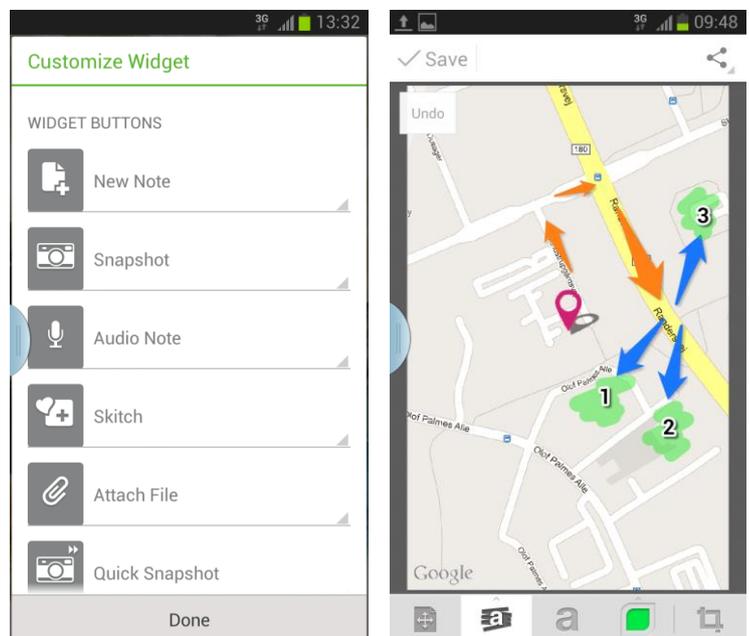
In the example the game design brief is: *Explore the environment around our school and design an engaging game that utilizes geolocation technologies. Select an audience for your game and ensure that your game presents an engaging educational experience for them.* The example explores how to meet that challenge primarily using a smartphone and free apps from Google Play.

### 4.2 Tools and resources used

#### 4.2.1 Evernote

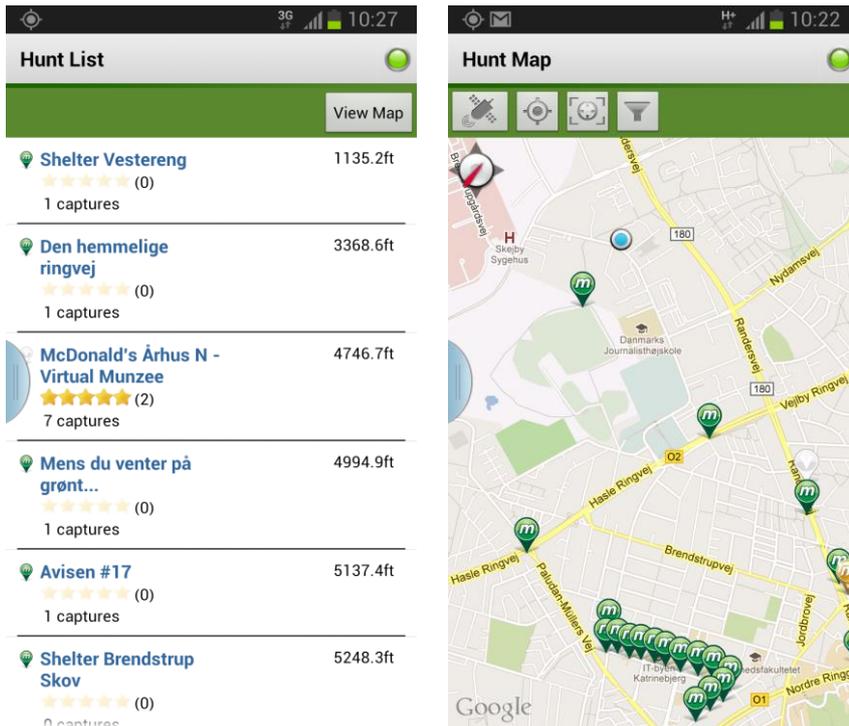
The Evernote app is a flexible tool to capture notes and is used for all the planning and reflection. You can choose to have Evernote as a Widget on your phone, and as shown in the first picture to the right, you can customize the widget so only the most important buttons are displayed.

For this learning story ‘New Note’, ‘Snapshot’, ‘Audio Note’ and ‘Skitch’ come in handy. Most of them are self-explanatory. Skitch is a drawing program that offers various opportunities like annotating a photo or drawing on a sample from Google Maps (second picture to the right).



#### 4.2.2 Munzee

The Munzee app is used for the game design. A munzee is a printed QR code to be placed where you want a control in your game. They are made online, printed and deployed using the smartphone once you are at the right location - that way the right geolocations are applied automatically. The Munzee app is also used to play the game - to direct the players to the right places and give them instructions (see images below - Danish munzees).



In the example it is suggested to create a game where participants follow a route to interesting buildings, statues etc. where they have to make qualified assumptions about volume (based on improvised measuring and using known algorithms).

### 4.3 Teacher approach

“Create a Game’ with Android” is meant as an alternative. Some of the pilot teachers find that the iTEC shells require too much time and skill to get acquainted with. As a result of that some use blogs or wikies instead to have technology that resembles a shell and allows for widget integration. Some also wish to use tablets and smartphones to try out the learning stories and activities. This was made to demonstrate that it is a viable solution and give inspiration to suitable application to experiment with. Though it is an example for math it can easily be adapted to any subject.

From the [iTEC Library](#) “Create a Game’ with Android” has been downloaded 239 times at the time of writing.

## 5 SMART implementation ideas for iTEC Cycle 4

### 5.1 Introduction

Instead of expanding on an existing learning story like in the previous examples, SMART chose to primarily focus on [the learning activities for Cycle 4](#). This contribution can be found here <http://itec.eun.org/web/guest/activities-and-tools> under “Cycle 4: ideas for learning stories”.

For each learning activity SMART suggest various SMART solutions as well as other tools to cope with a specific learning activity, and the number of technical proposals is vast, so it should be possible for any teacher to find something that would work in their context. You can get an overview in a table like the one shown below, or you can read a more thorough explanation later on in the SMART document.



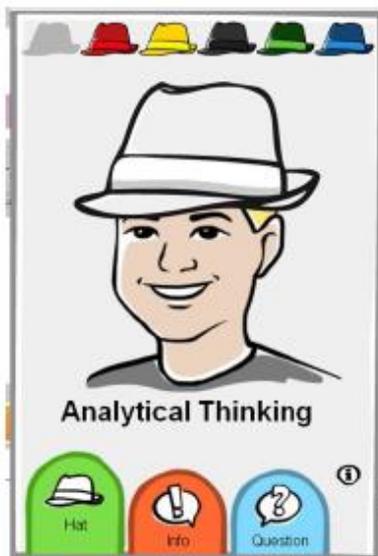
### CYCLE 4 LEARNING ACTIVITIES AND SMART SOLUTIONS SUGGESTED

LEARNING ACTIVITY	SMART SOLUTION	OTHER TOOLS
<b>1. DREAM</b>	<ul style="list-style-type: none"> <li>• SMART Board</li> <li>• SMART Notebook 11</li> <li>• XC AddOn*</li> <li>• SMART Notebook app for iPad / Notebook Interactive Viewer / SMART Notebook for Web</li> <li>• SMART Templates in SMART Exchange: Templates iTEC Cycle 4: 1. Dream</li> </ul>	<ul style="list-style-type: none"> <li>• Student devices and Internet connection</li> <li>• TeamUp, ReFlex</li> <li>• Google Sites, Blogger, Corkboard.me</li> <li>• Google drive, dropbox,...</li> </ul>
<b>2. EXPLORE:</b>  <b>OBSERVATION</b> (LS Creating an object)  <b>BENCHMARK</b>  (LS Creating a story or Creating a game)	<ul style="list-style-type: none"> <li>• SMART Board</li> <li>• SMART Notebook 11</li> <li>• XC AddOn*</li> <li>• SMART Notebook app for iPad / Notebook Interactive Viewer / SMART Notebook for Web</li> <li>• SMART Templates in SMART Exchange: Templates iTEC Cycle 4: 2. Explore</li> <li>• SMART Idea Cards Widget</li> <li>• SMART Notebook Spotlight tool</li> <li>• SMART Progressive Inquiry Widget</li> </ul>	<ul style="list-style-type: none"> <li>• Student devices and Internet connection</li> <li>• TeamUp, ReFlex</li> <li>• Google Sites, Blogger, Corkboard.me</li> <li>• Google drive, dropbox,...</li> <li>• Media recorder, camera, note taking equipment</li> <li>• <b>Bookmarking, collaborative editing.</b></li> </ul>

## 5.2 Tools and resources used

### 5.2.1 Widgets

It is evident that widgets play a more significant role as the iTEC project evolves. The Widget Store gets better features and better widgets, and both SMART and Promethean produce suitable widgets for the learning activities. An example is the 6 Thinking Hats. The reader is e.g. suggested to “Use SMART 6 Thinking Hats widget to reflect on the designs. Drag and drop the widget into a Notebook page”. Each of the 6 hats encourages different approaches and offers different questions. In the picture the boy wears the white hat for analytical thinking. The other hats are: Emotional, optimistic, critical, creative and facilitator. The info and the related questions change accordingly.



### 5.2.2 XC

The XC, Extreme Collaboration AddOn for SMART Notebook, brings student collaboration from mobile devices to a SMART Board interactive display. It enables students to contribute to class discussions by sending text and images from their mobile devices to a SMART Notebook page for the whole class to see and explore. For each learning activity it is explained how the XC can be of use. Also a separate document is available to guide teachers in the use of XC.

## 5.3 Teacher approach

“SMART implementation ideas for iTEC Cycle 4” brings a lot of ideas to pick and choose from and also related templates to download to make it easy for the teacher to try out, experiment with or use in the classroom. It should be mentioned that Promethean have taken a similar approach for Cycle 4, but keep their introduction of relevant tools to Promethean Planet where teachers also can communicate and share ideas directly on the pages: [http://community.prometheanplanet.com/en/user\\_groups/itecprom/w/wiki/itec-cycle-4.aspx](http://community.prometheanplanet.com/en/user_groups/itecprom/w/wiki/itec-cycle-4.aspx).

From the [iTEC Library](#) “SMART Implementation Ideas iTEC Cycle 4” has been downloaded 396 times at the time of writing.

## 6 Conclusion and future work

The four examples show quite well the broad variety of shared practice iTEC environments. As mentioned in the introduction further implementation ideas can found on the iTEC Technologies site. All in all we have examples on EUN's Liferay platform, the iTEC Moodle platform run by FUNDP, the dotLRN platform run by KM and IWB software from Promethean and SMART as well as alternatives using Google Sites and Android. There has been a tendency to move from providing complete examples of how a specific learning story can be supported by an iTEC platform to providing more split examples of how various learning activities can be supported by iTEC platforms and tools as well as other technology like mobile devices and browser based applications. The iTEC schools are very different. Practices that work well for one school do not necessarily yield the same positive impact in another, and the tendency described above is meant to address this.

For Cycle 5 iTEC will have the Composer and the People and Events Directory ready as well as the Edukata. Those are powerful planning tools for teachers to create engaging learning activities and find the necessary resources like widgets from the Widget Store or the right expert to interview on a particular topic. When teachers this time develop their own learning activities, we will try to produce examples of shared practice iTEC environments that have a broad focus and can support a diverse range of activities. An environment supporting creativity, collaboration and communication (or other 21<sup>st</sup> century skills) will show potential for a large number of different learning activities.