

ATS2020 - Assessment of Transversal Skills 2020**D 2.1.2: Assessment platform:
A Functional Specification**

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MODIFICATION CONTROL				
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1.2	29.02.2016	<i>Draft</i>	Mitja Čepič Vogrinčič & Reet Taimsoo	<i>Deliverable singled out of D. 2.1, v. 1.4</i>
1.2	07.11.2017	<i>Draft</i>	Mitja Čepič Vogrinčič & Reet Taimsoo	<i>No modifications, draft was passed on for review at version described above</i>
1.3	02.01.2018	<i>final</i>	Mitja Čepič Vogrinčič & Reet Taimsoo, introduction and editing by Andrea Ghoneim	<i>Introduction added; minor changes as suggested by the reviewers</i>



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Introduction

To assess the ATS2020 piloting of assessment-based learning in the classroom, an assessment platform was needed. As it was the task of WP2 (Technology and Tools) to support WP5 (Pilot Evaluation) with the technology needed to evaluate the pilot, this Functional Specification for the pilot evaluation platform is part of our deliverables, even though it is for a summative assessment platform.

A first choice of the assessment platform was made basing on the WP2 Ad Hoc Meeting in September 2015 in Ljubljana, where WP2 key partners showed which assessment tools they are using. The meeting and the presentations are documented in D 2.1.4 Tools for and Functions of Assessment within ATS2020, available for download at <https://mahara.ats2020.eu/view/view.php?id=182>.

After the meeting, Mitja Čepič Vogrinčič drafted a first version of the functional specification for the pilot evaluation/assessment platform. With October 2015, Reet Taimsoo of INNOVE, Estonia, facilitated discussions with the technical staff of INNOVE with the aim to make a copy of the Estonian Education Information System EIS and to adapt it for the needs of the ATS2020 project. Thus, she also contributed to this Functional Specification for the ATS2020 Piloting Assessment Platform.

After a tremendous amount of work for ERI (namely Mitja Čepič Vogrinčič) and even more for INNOVE (Hele Lukki-Lukin and others), the ATS2020 testing platform on the basis of EIS was adapted to the functions specified below and the testing tool was launched at <https://eis.ats2020.eu/public>. More about the work on tools development can be found via the Mahara page on tools development at <https://mahara.ats2020.eu/view/view.php?id=302>.

Introduction drafted by Andrea Ghoneim, 2018-01-02

Assessment Platform

A functional specification

Identity & role Management

This section pertains to the way the students log-in into the system. On the day of the testing they will be given the login details in the form of username and password. No anonymous logins. The usernames and passwords will be created by WP5 leaders. Bulk test-taker creation and grouping needed

FUNCTIONS	URGENCY	AVAILABILITY	DEVELOPER COMMENTS
Login by student/teacher ID and password (No anonymous logins, no names)	Required	<input type="checkbox"/>	
Bulk user creation by list imports (i.e. csv, excel)	Required	<input type="checkbox"/>	
Grouping of test-takers: <ul style="list-style-type: none"> – Country – School – Programme – Grade – Class 	Nice-to-have <i>(this can make following the progress easier but can be achieved by other means)</i>	<input type="checkbox"/>	
Role management (administration) <ul style="list-style-type: none"> – WP5 leader (full ATS2020 data access, test-taker creation, full ATS2020 test authoring access – all national versions, ability to manage access to lower levels) – Country test/data managers (country data access, local versions test authoring, ability to manage access to lower levels) – Test / survey takers – Scoring leader – Scorers 	Required	<input type="checkbox"/>	
Role management (teachers, test-takers) <ul style="list-style-type: none"> – Students able to see their results – Students able to see class/grade results – Teachers able to see class/grade results 	Nice-to-have <i>(only required for the result reporting if accumulations available, can be done by other means)</i>	<input type="checkbox"/>	
		<input type="checkbox"/>	

Assignment properties

FUNCTIONS	URGENCY	AVAILABILITY	DEVELOPER COMMENTS
Multi-language support: both test environment and test need to be translated into 10 languages. Variants in order of preference: <ul style="list-style-type: none"> – Built-in translation facility (preferable) – Translation editors (i.e. gettext system – .po editor – wordpress as an example) – Separate environment translations with individual language version authoring (worst option) 	Required	<input type="checkbox"/>	
Stimulus authoring: <ul style="list-style-type: none"> – Stimulus will be combination of text and most probably still images only (availability to show video would be nice) – Some interaction with the stimulus (i.e. sorting of the table, filtering) 	Required	<input type="checkbox"/>	
Response types: <ul style="list-style-type: none"> – Closed type (radio buttons, drop down menus, drag-and-drop) 	Required	<input type="checkbox"/>	
<ul style="list-style-type: none"> – Open type – simple text field 	Required	<input type="checkbox"/>	
<ul style="list-style-type: none"> – Closed type – hotspot clicking or links clicking (environment emulating the look of operating systems or software)¹ 	Required	<input type="checkbox"/>	
<ul style="list-style-type: none"> – Ability to author a digital artefact within the assignment.² The functions of this tool will be modelled on the basic functions of presentation software (i.e. PowerPoint)³ Variants in order of preference: <ul style="list-style-type: none"> – Build-in-digital tool (WYSIWYG editor) – Embedding of the cloud based authoring tools (i.e. Google Slides). The response is stored as a link. – Students use any tool available, the artefact is uploaded (would like to avoid that, too many unknowns) 	Required	<input type="checkbox"/>	

¹ This is aimed at investigating the ability of the student to perform certain operation within the software environment.

² The transversal skills are typically not measurable in the Q&A format but the evidence of the skills can be found in the student's produced artefacts. For the purpose of evaluation those artefacts will be in the digital format as one of the main foci of the ATS 2020 project are the digital skills (but not exclusively).

³ The features include: ability to change background colour or insert background image or pattern, creation and editing of textboxes, basic font and paragraph controls – font size, font, colour, bold, italics, underline, justification, ability to insert, re-size and crop images, optionally simple line & drawing tool.

Test Administration

FUNCTIONS	URGENCY	AVAILABILITY	DEVELOPER COMMENTS
Web delivery via a secure protocol	Required	<input type="checkbox"/>	
Administration on desktop or laptop computers	Required	<input type="checkbox"/>	
Administration on tablets or smartphones	Nice-to-have	<input type="checkbox"/>	
Minimal requirements for test takers computers (most operations on the server?) ⁴	Required	<input type="checkbox"/>	
Progress saving – in case of a crash student should be able to continue at the same place by logging in again.	Required	<input type="checkbox"/>	

⁴ Determine the minimal working setup/requirements (in terms of devices, such as notebooks). In case the schools do not meet these requirements, equipment has to be provided for the testing.

Scoring

FUNCTIONS	URGENCY	AVAILABILITY	DEVELOPER COMMENTS
An on-line system for human based scoring: <ul style="list-style-type: none"> – Random assignment to scorers – Many scores per item possible (i.e. up to 10) – Scorers have same “view” as students⁵ 	Required	<input type="checkbox"/>	
Automated reliability scoring – customisable (i.e. the proportion of items scored twice).	Required	<input type="checkbox"/>	
Automated reliability reporting	Nice-to-have	<input type="checkbox"/>	

⁵ This holds for »artefacts«, not necessary for simple text responses.

Data and reporting

FUNCTIONS	URGENCY	AVAILABILITY	DEVELOPER COMMENTS
Raw data exports for WP5 leader and country data manager	Required	<input type="checkbox"/>	
Scheduled raw data backups to ATS 2020 owned storage	Required	<input type="checkbox"/>	
Automated response lookup ⁶	Nice-to-have	<input type="checkbox"/>	
Reports on achievement for different levels of users	Nice-to-have	<input type="checkbox"/>	
<ul style="list-style-type: none"> – Students – Teachers – School 			

⁶ Important for teacher and school questionnaire as this will not be scheduled administration. Respondents will be free to decide when to respond but within a given timespan.

Self-evaluation Platform

A functional specification

FUNCTIONS	URGENCY	AVAILABILITY	DEVELOPER COMMENTS
Item pool ⁷	Required	<input type="checkbox"/>	
Self-evaluation questionnaires for each of the ATS cycles – combined from the Item pool	Required	<input type="checkbox"/>	
Language versions (for 10 partners)	Required	<input type="checkbox"/>	
– Items			
– platform			
<i>Reports & comparisons:</i>		<input type="checkbox"/>	
– progress report for the student (on the item pool) ⁸ – before after comparison	Required	<input type="checkbox"/>	
– student compared to the class & grade average	Required	<input type="checkbox"/>	
– students compared to the country averages	Required	<input type="checkbox"/>	
– students compared to ATS 2020 averages	Nice-to-have	<input type="checkbox"/>	
– classes compared within schools	Nice-to-have	<input type="checkbox"/>	
– classes compared to national averages	Nice-to-have	<input type="checkbox"/>	
– etc. ⁹	Nice-to-have	<input type="checkbox"/>	
Ability to embed Oppika reports in the e-portfolio – i.e. as a showcase	Nice-to-have	<input type="checkbox"/>	
<i>Research requirements</i>		<input type="checkbox"/>	
– export of raw data with identifiable country, school, grade and class (experimental vs. control)	Required	<input type="checkbox"/>	
– ID matching for the integration of evaluation and questionnaire data	Required	<input type="checkbox"/>	
<i>Going beyond self-evaluation</i>	Nice-to-have	<input type="checkbox"/>	
– teachers evaluating student's skills ¹⁰	Nice-to-have	<input type="checkbox"/>	
– comparing teachers and students evaluation	Nice-to-have	<input type="checkbox"/>	



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⁷ For ATS 2020 the item pool consists of skills descriptions in line with the ATS 2020 model.

⁸ This means that the comparison spans more »modules« or self-evaluation questionnaires.

⁹ The question is which comparisons on which level of aggregations can be enabled. Let's see what's possible.

¹⁰ Basically answering the same questionnaire as students.