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Capacity-Building in the Field of Higher Education

Project acronym: ECOIMPACT

Project full title: Adaptive learning environment for competence in economic and societal impacts of local weather, air quality and climate

Grant agreement: 561975-EPP-1-2015-1-FI-EPPKA2-CBHE-JP (2015-3320)

WORKSHOP 1

DEVELOPMENT OF EDUCATIONAL MATERIALS: STRUCTURE

AGENDA

29 May – 3 June 2016

Venue:

Hyytiälä Forestry Field Station, Finland

<http://www.helsinki.fi/hyytiala/>

Working languages:

Russian and English

About the Workshop

This workshop finalises the project Task 2.1 - *To develop an internal system of categories - a system of meta-information tags for organising educational materials in structured knowledge bases*, and links it to Task 2.2 - *To develop short-term “sectoral” courses for customers in weather-sensitive sectors – agriculture, transport, energy, healthcare (biometeorology), and city management*.

The Workshop gets together the courses’ developers.

Its four full working days comprise the following activities:

- Acquainting with Station for Measuring Ecosystem-Atmosphere Relations ([SMEAR II](#)) – organisation (architecture), measurements, scientific results (1.5 hours)
- **Lectures** on key general aspects of creating the content for personal learning environment (PLE) and on accounting for weather in economic activities (total of 6 lectures, or 7.25 hours)
- **Master-class** including a demonstration of example Arduino-based laboratory works and brainstorming on labs for the developed courses (2.5 hours)
- **Coaching sessions**: proceeding from the project plan, and based on the lectures and master-class, Dr Alexey Umnov (University of Nizhny Novgorod) assisted by Dr Anna Fokicheva (Roshydromet Advanced Training Institute) give concrete tasks to the Workshop participants; the completed tasks lead to the anticipated Workshop results (see Annex, total of 10 hours)
- Self-organised discussions and joint work (minimum 3.5 hours)
- Finalising and approving the resulting documents (see Annex): by the end of Day 3, drafts of the documents are ready; the Workshop coaches analyse the drafts and at the opening of Day 4 present their recommendations to developers, who take them into account (7-9 hours)

Access to buildings and Internet connection

- The door codes are **2248** (for A- and B-buildings) and **9621** (for the Institute)
- WLAN (HUPnet) guest account
Username: **6k102503**, password: **kj2VW4cz95**
- **The computer room at the institute must not be used in the night between 23:00 and 7:00 because of an automated alarm system**
- The computer class in the A-building can be used 24h a day

29 May, Sunday - Arrival

Morning-afternoon	Arrival of the Workshop participants to Helsinki
17:00	Departure from Helsinki to Hyytiälä by VENTONIEMI bus <u>Pick-up point:</u> Railway Square (Rautatientori), Mikonkatu Charter bus stop http://g.co/maps/f9vpx
20:30	Arrival to Hyytiälä Evening snacks

30 May, Monday – Day 1

7:00 – 8:00	Breakfast
8:00 – 8:05	Opening of the Workshop <i>Svyatoslav Tyuryakov, University of Helsinki</i>
<i>Lectures 1 - 3 by Alexey Umnov, University of Nizhny Novgorod</i>	
8:05 – 9:30	L1: The concept of personal learning environment (PLE). <u>Programmed learning</u> and <u>microlearning</u>. Role of educational materials in PLE.
9:30 – 10:15	L2: Structuring of information - modern approaches
10:15 – 11:00	L3: Organisation of educational material in ECOIMPACT personal learning environment - a macroscale perspective
11:00 – 12:00	Lunch
12:00 – 13:30	Tour around SMEAR II station <i>Janne Levula, University of Helsinki</i>
13:30 – 14:00	Afternoon coffee
<i>Lectures 4 - 5 by Anna Fokicheva, Roshydromet Advanced Training Institute</i>	
14:00 – 15:15	L4: Introduction to economic meteorology
15:15 – 16:30	L5: Weather sensitivity of the production cycles (on examples of selected economic sectors)
16:30 – 17:30	Dinner
18:00 – 18:30	Organisation of further work: Coaching sessions towards the anticipated Workshop results <i>Alexey Umnov</i>
18:30 – 20:00	Open discussions, joint work (self-organised)
20:00 – 21:00	Evening snacks

31 May, Tuesday – Day 2

7:00 – 8:00	Breakfast
8:00 – 9:00	L6: Types of mashup content within specific educational courses <i>Alexey Umnov</i>
9:00 – 11:00	Coaching session <i>Alexey Umnov, Anna Fokicheva</i>
11:00 – 12:00	Lunch
12:00 – 13:30	Coaching session <i>Alexey Umnov, Anna Fokicheva</i>
13:30 – 14:00	Afternoon coffee
Master-class by <i>Alexey Umnov and Alexey Kiryushin, University of Nizhny Novgorod</i>	
14:00 – 14:40	Part 1: Demonstration of possible options for Arduino-based laboratory works
14:40 – 15:10	Part 2: Brainstorming to determine appropriate labs for each consortium member in Russia and Ukraine
15:10 – 16:30	Part 3: Presentations of labs' ideas and plans followed by the exchange of views
16:30 – 17:30	Dinner
18:00 – 20:00	Open discussions, joint work (self-organised)
20:00 – 22:00	BBQ (grill-house between the lakeshore saunas)

1 June, Wednesday – Day 3

7:00 – 8:00	Breakfast
8:00 – 11:00	Coaching session <i>Alexey Umnov, Anna Fokicheva</i>
11:00 – 12:00	Lunch
12:00 – 13:30	Coaching session <i>Alexey Umnov, Anna Fokicheva</i>
13:30 – 14:00	Afternoon coffee
14:00 – 16:00	Coaching session <i>Alexey Umnov, Anna Fokicheva</i>
16:00 – 16:30	Delivery of draft documents comprising the Workshop results (see Annex) to the Workshop coaches, Alexey Umnov and Anna Fokicheva

	<i>All developers</i>
16:30 – 17:30	Dinner
17:30 –	Free time, sauna
20:00 – 21:00	Evening snacks

2 June, Thursday – Day 4

7:00 – 8:00	Breakfast
8:00 – 9:00	Recommendations to developers <i>Alexey Umnov, Anna Fokicheva</i>
9:00 – 11:00	Finalising the documents <i>All developers</i>
11:00 – 12:00	Lunch
12:00 – 13:30	Finalising the documents <i>All developers</i>
13:30 – 14:00	Afternoon coffee
14:00 – 16:30	Approving the documents <i>Coaches and all developers</i>
16:30 – 17:30	Dinner
18:00 – 20:00	Approving the documents (continued if needed) Closing of the Workshop
20:00 –	BBQ (grill-house or campfire place Makkarakallio)

3 June, Friday – Departure

7:00 – 8:00	Breakfast
8:00	Departure from Hyytiälä to Helsinki by bus
11:30 (approx.)	Drop-off at Vantaa airport (by request)
12:00 – 13:00	Lunch at Finnish Meteorological Institute (at own expense)
13:00 – 14:00	Tour around the Finnish Meteorological Institute
Afternoon-evening	Departure of participants

Results anticipated by the end of the Workshop 1

1. A formal document "Structure of the ECOIMPACT educational materials" containing:

- Preamble (general for the entire document)
- A description of each individual course - All courses must be similar in size and level of detail (number of sections and subsections). All courses (or elements thereof) must have counterparts at high-ranked universities, either in the form of the classic courses or as MOOCs
 - Aims and objectives of a course
 - Basic (entry) competences and skills required for completing the course
 - List of questions for testing the basic competences
 - The course sections and subsections
 - Description of lab works for the course (by section)
 - List of literature for the course (by section)
 - List of scientific fields related to the course, with indication of the top high impact journals in those fields (including the journals' website links)
 - List of industries and businesses interested in specialists with the knowledge provided by the developed course
 - List of Internet sources on the course-related topics (by section)
 - List of high-ranked universities, providing similar courses (full courses or parts)
 - List of sections from other courses developed in ECOIMPACT project, which can be useful for learners while completing the course
- Description of sources of additional reference and educational information

2. List of keywords (vocabulary) binding all the developed educational materials to top-level categories (for positioning of the courses in relation to fields of knowledge)

3. Working documentation on the course content, containing for each course:

- Linked (linear) list of the course sections (categories)
- The following meta information assigned to each (sub)section:
 - Keywords describing a (sub)section, both in correct spelling, and in a possible erroneous spelling - for effective use by search engines
 - Abstract, allowing a learner rapidly assess the material
 - Geographical tag, if necessary

- Time stamp (or time interval), if necessary
- Formal list of competencies (both basic and obtained during the course)
- Keywords from the approved vocabulary (Item 2), binding a section (category) to top-level categories
- Mind-map of the course (graphical representation of the course structure)
- Thesaurus of the course
- For each category (section) of the course - a list of documents (lectures, meta-documents)
- For each category - a meta-document (if necessary, several meta-documents), serving as a guide to the category (section)
- The following meta-information assigned to each document (such as a lecture, or a meta-document):
 - Keywords characterizing the document (in both correct spelling, and in possibly erroneous spelling - for effective use by search engines)
 - Abstract, allowing a learner rapidly assess the material
 - Geographical tag, if necessary/possible
 - Time stamp (or time interval), if necessary/possible
 - An index of material's complexity (based on 5-point scale)
 - Formal list of competencies (both basic and obtained during the course)
- For each document - a set of information blocks (e.g., in the form of multimedia documents and / or in short videos) in order to organise the procedure of programmed learning, comprising:
 - The very information blocks (information blocks are mapped with meta-information in the same way as source documents – meta-information of a block is a subset of meta-information of a document to which the block is assigned)
 - Test questions to information blocks with answers (it is desirable to have several alternative formulations of same questions)
 - For incorrect answers, there must be an indication, which topics (basic or topics of the course) are not mastered properly
 - Scheme of possible routes (sequence) of work with information blocks
- For each document - a mind map describing the document

List of participants

No	Name	Organisation	Position	E-mail
1	KADANTSEV Evgeny	University of Helsinki	Doctoral student, Division of Atmospheric Sciences	evgeny.kadantsev@helsinki.fi
2	LEVULA Janne	University of Helsinki	Research technician, Department of Physics, SMEAR II	janne.levula@helsinki.fi
3	TYURYAKOV Svyatoslav	University of Helsinki	University Researcher, Division of Atmospheric Sciences	svyatoslav.tyuryakov@fmi.fi
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14	SNIZHKO Sergiy	Taras Shevchenko National University of Kyiv	Head, Meteorology and Climatology Department	tempo2007@meta.ua

No	Name	Organisation	Position	E-mail
15	FOKICHEVA Anna	ROSHYDROMET Advanced Training Institute	Associate Professor, Department of Hydrometeorology	vents-pils@yandex.ru
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18	CHUKIN Vladimir	Russian State Hydrometeorological University	Associate Professor, Department of Experimental Physics of Atmosphere	chukin@meteolab.ru
19	GOLOVINA Elena	Russian State Hydrometeorological University	Associate Professor, Department of Meteorology, Climatology and Atmosphere Protection	golovina@rshu.ru
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Ожидаемые результаты Практического семинара 1

1. Формальный документ “Структура образовательных материалов проекта”, содержащий:

- Преамбулу (общую для всего документа)
- Описание отдельных курсов (по каждому курсу) - у всех курсов должен быть приблизительно одинаковый объем и детализация (число разделов и подразделов); все курсы (или их элементы) должны иметь аналоги в университетах с высоким рейтингом или в виде классических курсов или в виде МООС
 - Цели и задачи курса
 - Необходимые для освоения курса знания (компетенции и навыки)
 - Список вопросов, проверяющих базовые компетенции, необходимые для освоения данного курса
 - Разделы курса с подразделами
 - Описание лабораторных работ к разделам курса
 - Список учебной литературы по курсу (с указанием разделов)
 - Список научных направлений, связанных с учебным курсом с указанием высокорейтинговых журналов, посвященных этим направлениям (с указанием сайта журнала)
 - Список отраслей промышленности и бизнес-направлений так или иначе заинтересованных в специалистах, обладающих знаниями, полученными в ходе освоения курса
 - Список интернет-источников, посвященных различным аспектам тем, близким к темам курса (с указанием разделов)
 - Список университетов с высоким рейтингом, в которых читаются аналогичные курсы или элементы курсов
 - Список разделов других курсов, разрабатываемых в рамках проекта, которые могут быть полезны при освоении данного курса
- Описание источников дополнительной справочно-образовательной информации

2. Ключевые слова (фиксированный словарь), привязывающие разрабатываемые материалы к категориям верхнего уровня (для позиционирования курсов относительно областей знаний)

3. Рабочая документация по контенту курсов, содержащая по каждому курсу:

- Линейный список разделов (категорий) курса
- Следующая метаинформация, приписанная к каждому разделу (подразделу):
 - Ключевые слова, характеризующие раздел (как в правильном написании, так и в возможном ошибочном написании – для эффективного использования поисковыми машинами)
 - Аннотация, ориентированная на быструю оценку материала обучающимся
 - Географическая метка (если необходимо)
 - Временная метка (или временной интервал), если необходима
 - Формальный список компетенций, необходимых для освоения раздела (как базовых, так и компетенций, получаемых в ходе прохождения данного курса)
 - Ключевые слова из фиксированного словаря, привязывающие раздел (категию) к утвержденным публичным категориям верхнего уровня
- Интеллект-карту (mind map) курса (графическое представление структуры курса)
- Тезаурус курса
- По каждой категории (разделу) курса - список документов (лекций, метадокументов)
- К каждой категории - метадокумент (если необходимо, то несколько метадокументов), являющийся путеводителем по категории (курсу)
- Следующая метаинформация, приписанная к каждому документу (как к лекции, так и к метадокументу):
 - Ключевые слова, характеризующие документ (как в правильном написании, так и в возможном ошибочном написании – для эффективного использования поисковыми машинами)
 - Аннотация, ориентированная на быструю оценку материала обучающимся
 - Географическая метка (если возможно)
 - Временная метка (или временной интервал), если возможна
 - Индекс сложности материала (по 5-ти балльной шкале)
 - Формальный список компетенций, необходимых для освоения документа (как базовых, так и компетенций, получаемых в ходе прохождения данного курса)

- К каждому документу – набор информационных блоков (инфо-блоки могут быть оформлены в мультимедийные документы или/и в короткие видеоролики) для организации процедуры программируемого обучения, содержащий:
 - Сами информационные блоки (информационные блоки размечаются метаинформацией по аналогии с разметкой метаинформацией исходных документов – метаинформация блока является подмножеством метаинформации документа, к которому блок приписан)
 - Контрольные вопросы к информационным блокам с ответами на них (желательно иметь варианты вопросов, задаваемых разным образом)
 - Для неправильных ответов необходимо указать, какие разделы (базовые или курса) усвоены плохо
 - Схемы возможных маршрутов (последовательность) работы с информационными блоками
- К каждому документу - ментальная карта, описывающая документ



Hyytiälä guide map



Office, Institute
 (opening hours c. 8 - 16
 - information desk
 - p. +358 50 576 2938



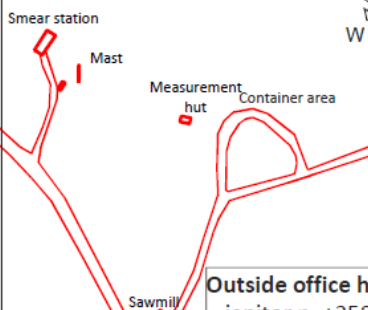
Meeting facilities
 Building A, downstairs:
 - large seminar room
 - small seminar room
 (computer class)
 - gym
 Instituutti:
 - auditorium
 - meeting room
 - computer class
 Old dining room



Dining place, building A
 (old dining room during parties)



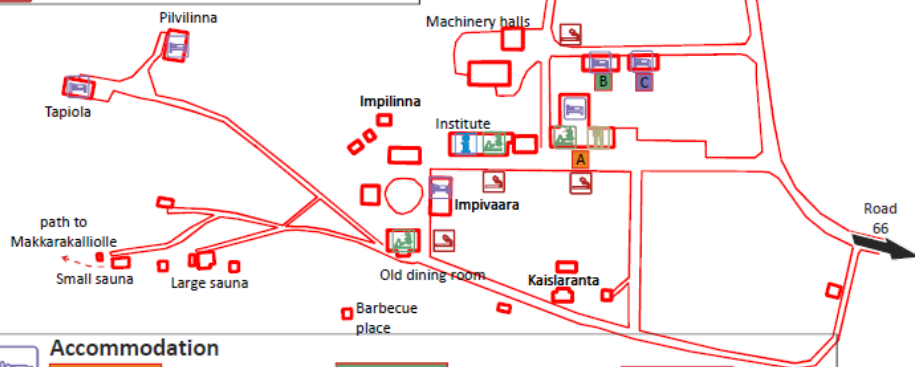
Smoking area



Outside office hours

- janitor p. +358 50 576 2939
 - fee for unlocking doors

50m



Accommodation

Building A:

- Solu 1, rooms 201 - 206
- Solu 2, rooms 225 - 230
- Solu 3, rooms 257 - 262
- Solu 4, rooms 301 - 306
- Solu 5, rooms 327 - 332
- Solu 6, rooms 359 - 364
- Sairashuone 1, room 320
- Sairashuone 2, room 319

Building B:

- Solu 1, rooms 111 - 115
- Solu 2, rooms 307 - 311
- Solu 3, rooms 303 - 305
- Yksiö, room 110
- Kaksio, room 106

Building C:

- apartments C1 - C3
- Impivaara
- Tapiola
- Pilvilinna

List of rooms, ECOIMPACT 29.5.-3.6.

Building A	
Solu 2 / 225	Olena Voloshyna
Solu 2 / 226	Galyna Katerusha
Solu 2 / 227	Olga Shevchenko
Solu 2 / 228	Alla Krukivska
Solu 2 / 229	Iana Skorik
Solu 2 / 230	Valentina Strokina
Solu 4 / 301	Svyatoslav Tyuryakov
Solu 4 / 302	Evgeny Kadantsev
Solu 4 / 303	Alexey Kiryushin
Solu 4 / 304	Vladimir Chukin
Solu 4 / 305	Nikolai Grigorov
Solu 4 / 306	Suleiman Mostamandi
Solu 6 / 359	Natalia Nezhlukchenko
Solu 6 / 360	▪
Solu 6 / 361	Vladyslav Kushnerenko
Solu 6 / 362	▪
Solu 6 / 363	Elena Golovina
Solu 6 / 364	Olga Tenilova
SH 1 / 320	Kalinka Kuzmova
SH 2 / 319	Desislava Slavcheva-Sirakova
Building B	
Solu 1 / 111	Tetiana Nezhlukchenko
Solu 1 / 112	Anatolii Polovyi
Solu 1 / 113	Sergiy Snizhko
Solu 1 / 114	Eduard Podgaiskii
KAKSIO 106	Alexey Umnov
Building C	
C 1	Anna Fokicheva

Instructions for accommodation

1. The door codes are **2248** (for A- and B-buildings) and **9621** (for the Institute)
2. Check your room number on the ground level noticeboard of building A. Keys can be found placed in your room lock, or inside. The key fits also in the entrance located on the first floor of building A.
3. FILL in the accommodation form. Leave the form on the table at your room or return it to the office.
4. Please vacate your room before 12am on the day of departure and pay in the office (if applicable). Other arrangements can be negotiated at the office. When departing, please leave your keys on the table or the door at your room. If you happen to take any keys with you, please return them by mail.
5. Dining times can be checked on the cafeteria door. Occasional meals can be paid immediately at the cafeteria. Dining fees of persons participating in meetings or courses will be collected as negotiated.
6. Sauna timetables are placed on the bulletin board of each building. If you would like to heat the small sauna by yourself, please negotiate the arrangements at the office.
7. Laundry can be washed and dried close to the side entrance on the second floor of building A.
8. An extra fee will be charged for cleaning exceptionally dirty rooms (50 €).
9. There will be an extra charge if you need janitor to unlock doors outside office hours: Mon-Thu evening **25€** (from 13.45 to 21.00) and **50€** both at night (from 21.00 to 06.00) and weekends (from Fri 13.45 to Mon 06.00). The charge can be paid in cash for the person unlocking the door.

Facilities for leisure

- Four saunas, two of which are traditional wood-warmed lakeshore saunas
- A grill house for rent between the lakeshore saunas
- Football and (beach)volley field, tennis field
- A table tennis board and a couple of weight-lifting equipment on the ground floor of building A
- Maps for orienteering available in the office
- A barbecue place in the vicinity of old courtyard
- A scenic campfire place Makkarakallio about 500 m along a lakeshore track from the small sauna
- All lounges equipped with a TV, meeting rooms also have video players and computers with a DVD player
- Library with magazines, forestry literature, scientific journals and a handful of novels
- Several nature conservation and hiking areas nearby

Notes