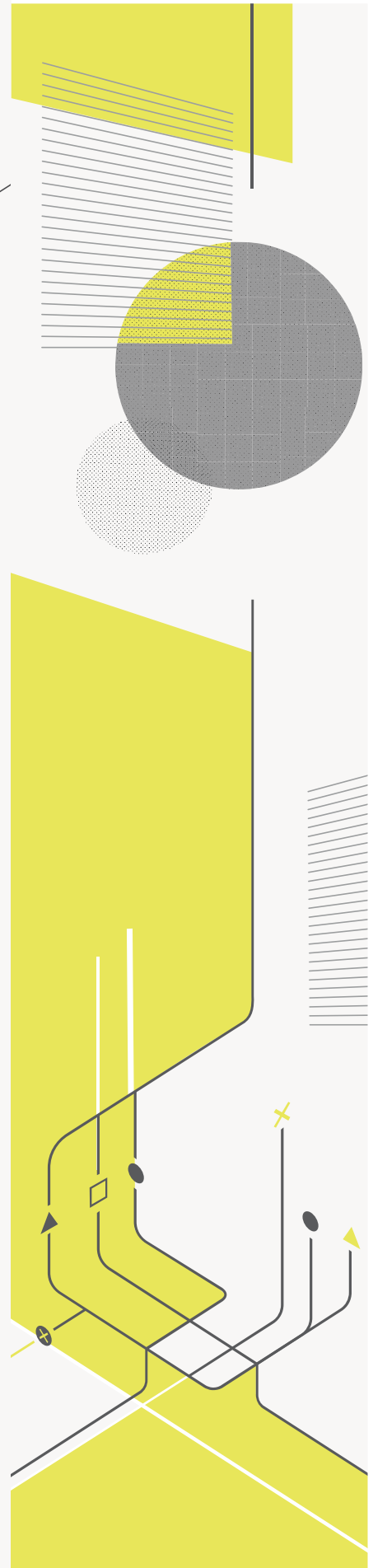


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**CONNECTING  
THE  
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# CONNECTING THE FUTURE

TORINO, 4-6 GIUGNO 2019

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## Start@unito underground map for an e-learning trip

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**Abstract.** Start@unito is a project of the University of Turin, born to help students get a head start in their university studies, orientate themselves, and have an overview of university courses. Beyond these objectives, the project aims at reducing the drop-out rate and disseminate the use of digital technologies in didactics. In this paper, we provide a guidance system designed as an "underground map", discussing different possible paths according to the kind of user: students, professors, staff,... and the various kind of tickets that allow local transport in this city

**Keywords.** Digital Education, Online platform, Start@unito, Underground map, Tertiary Education

### Introduction

E-learning is widely spreading, providing fertile ground for research (Duval, Sharples, & Sutherland, 2017). The way people interact with their education is significantly changing too: the learners are more involved and more aware of their study, fitting study with their everyday's life (Norman, 2016). The University of Turin has been working on this topic since the beginning of the e-learning era. Many current projects are centred around this topic, like Orient@mente (Barana, Marchisio, et al., 2017), helping students to prepare for admission tests, Scuola dei Compiti (Barana, Fioravera, Marchisio, & Rabellino, 2017), supporting 8th and 9th grade students with low marks on important disciplines, Problem Posing and Solving (Barana et al., 2018), assisting high school teachers in using technology in their class. In this frame, start@unito is a project created to boost careers in university programs, by accompanying students before and during their studies. It offers several open and free online courses, which can be used for different goals, such as taking exams in advance, for student orientation purposes, finding support materials or even simply just studying online, in particular for students with special needs or people interested in broadening their knowledge. After attending the online courses, students can obtain a certificate, with which they can obtain corresponding ECTS after sitting an in-person exam, which is compulsory for Italian universities.

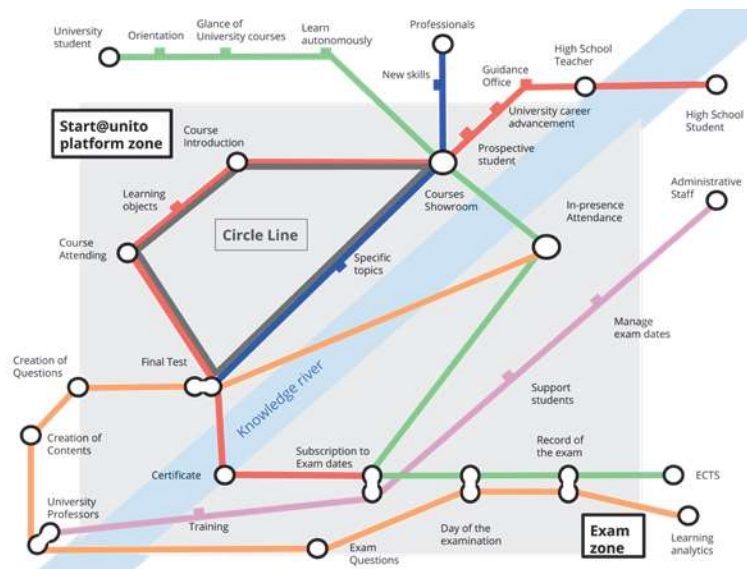
The correct functioning of the project requires a connection between many actors: platform providers, university offices, professors, tutors, users, students. Using a metaphor, each of these actors/citizens has a precise path to follow in start@unito city. When you

visit a new city, you have to find out bus routes, timetables and figure out which way is the fastest, which is usually the underground. In the same way, in order to move around in the start@unito city, we have built an underground map to show you the connections between the nodes. In this work, we will analyze the map.

## 1. Start@unito underground map

Different kinds of people interact with the underground network provided by the start@unito project: the common goal for all users is to improve their learning and broaden their horizons. But every complex system requires a handbook to navigate it. The development of this underground net is neverending work in progress, both from the point of view of didactical contents and from the point of view of ICT. The main lines of the tube map are described in the following paragraphs.

Fig. 1  
Start@unito  
"underground map"



### 1.1 Red line

The end of the line stop is on one side High school students, who are supported by the next stop, High school teachers. These future students usually interact with orientation offices, and they will enter the platform zone with the main aim of starting university in advance. The first page they should visit is the Courses showroom, showing introductory descriptions, videos and the main details about the courses. After attending the online course, with all its learning objects, students may try a final test to evaluate their newly acquired competences and get a certificate, mandatory in order to attend the in-person exam. They need to register for the exam dates and from this point they follow the green line.

### 1.2 Green line

The end of the line stop is on one side university students. They start the trip with different motivations: orientate themselves in the university training environment, learn autonomously, start their studies in advance and follow a personalized path. After watching



the showroom, they can jump off the green line and hop on the red one and attend online courses. Alternatively, they can attend in-person lessons, taking advantage of the online contents, too. After a while, the green line intersects with the red line anyway. Thus, the stops are planned for taking the exam and, after it has been recorded, obtaining the corresponding ECTS, the last stop of their trip.

### **1.3 Blue line**

The end of the line stop is on one side professionals. They usually want to interact with university courses to develop specific skills, or to enhance the quality of personal work. Usually they need to study specific topics, that's why their path to the final test is shorter than the red line. They may even stop there, because the new skill is acquired, but in order to obtain a formal validation, they get on the red line as regular students.

### **1.4 Yellow line**

The end of the line stop is on one side university professors. They are the carriers of knowledge and are essential for the validation of contents. They are also responsible for the creation of contents, interactive materials and questions and the preparation of the final test. They connect this track with their in-person didactics. This is one possible way. On the other side, they are responsible for the examination, prepare computer-based questions, give written or oral examinations. The line ends with learning analytics, studied in order to improve learner experience. The common stations with the students' lines are separated, in the sense that they are connected but you cannot directly jump off and hop on another line, because the yellow one is a lane.

### **1.5 Purple line**

The end of the line stop is on one side the administrative staff. This is again a lane. The administrative staff support students in their career in many ways, in particular, referring to this project, by managing exam dates and support students. The administrative staff reaches also the professors stop, providing them with training on digital education.

### **1.6 Special lines**

The circle line allows user to travel around the platform multiple times and attend more than one course.

### **1.7 Tickets**

Platform managers have a free ticket for the entire "start@unito platform" zone. They can jump on and off lines in this zone whenever they want, even on and off lanes. Red and blue lines are free, while the green line is the only one for which a ticket is mandatory. Users can buy single or multiple tickets.

## **2. Conclusions**

In the present paper we outlined the intersections between the various paths in order to

guide all start@unito users (such as prospective students, teachers, and general citizens) through the necessary steps to improve learning and academic results. The University of Turin is the company that manages this network, which can be shared by other partners such as Italian and foreign universities, since the platform speaks not only Italian but also English (the start@unito city is bilingual) and it is possible to learn new languages (start@unito city is cosmopolitan). The authors invite you to visit the city “always on the move”!

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Besides his studies in Mathematics, he always showed interest in Technology Enhanced Learning, with participations in important projects, both at the local level, at the national level and at the international level. In 2017, for two years, he managed the start@unito project of the University of Turin, training university staff regarding different aspects of creating freely accessible online courses. He is now a Postdoctoral researcher in collaboration with international partners.

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