AppInterN

ANALYSIS FOR THE DESIGN
OF THE VET STUDENT AND GRADUATE DATABASE

Project title:	**Apprenticeship Inter-network: Bringing together VET institutions and enterprises through a Network of Career Hubs**
Project acronym:	**AppInterN**
Project No:	**2020-1-EL01-KA202-079076**
Intellectual Output:	**IO2: Analysis for the design of the VET Student and Graduate Database**
Drafted by:	**DYPA (GR)**

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1. INTRODUCTION

The present document has been drafted by the AppInterN project's lead partner, the Greek Public Employment Service, DYPA (formerly, OAED). The analysis for the design of the VET Student and Graduate Database principally aims at determining what the database is to be used for. It precedes the actual designing, coding, testing and implementation of the Career Hub databases. Moreover, it provides important preliminary information to the database designer in order to design an effective digital solution. A detailed Requirement Analysis report, covering all structural, technical and functional aspects, will ultimately be delivered by the database designer, as part of the designing process.

2. APPINTERN PROJECT CONCEPT AND OBJECTIVES

Youth unemployment is one of the primary economic and social challenges for many EU Member States, including Greece, Spain and Italy, all countries of the European South. Employers can play an active role in better preparing students and graduates for their future careers, thus contributing to a smooth transition from education to employment.

The project "Apprenticeship Inter-network: Bringing together VET institutions and enterprises through a Network of Career Hubs" (AppInternN) aims to strengthen the links between VET and corporate responsibility, inviting employers to offer apprenticeships and jobs to VET students and graduates, and share information about the labour market state-of-play, current skill requirements and occupational/sectoral developments (including such key issues as reskilling and upskilling).

The AppInterN Project is focused on the creation of an online platform titled "Apprenticeship Inter-Network" (AppInterN), which will host three national Career Hubs (Greek, Italian, and Spanish).

Each Career Hub (CH) aims at bringing VET students and graduates closer to labour market stakeholders and employers. Career Hubs will help VET students enhance their competences and skills by offering career guidance and information about special events (seminars, study visits, presentations, job fairs, etc.), support their contact and

collaboration with employers and other labour market stakeholders, and facilitate schools, students and graduates' search for apprenticeship and job offers through relevant databases.

Each national CH will contain:
- a VET Student and Graduate Data Base (AppInterN IO2)
- an Employer and Business Ambassador Data Base (AppInterN IO3),
  both aimed at facilitating networking and communication of apprenticeship and job placements.
- a presentation of selected occupational specialties (AppInterN IO4) aiming at providing useful information on study content, current skill requirements and occupational/sectoral developments, so that existing and potential apprentices/VET students can be informed about and familiarized with the selected occupational specialties, thus gaining important guidance for their successful integration into the labour market.

Under the AppInterN project, VET-related institutions and associations, social partner institutes, Municipalities, and Chambers will contribute to the efficiency of CH by inviting local enterprises, employers and employer associations to join the CH databases in order to be directly connected to apprentices, graduates and future employees. All three national CH will be interconnected within the framework of the transnational online platform enabling all project partners to be informed about developments in partner countries and exchange good practices, expertise, information and knowledge.

3. VET STUDENT AND GRADUATE DATABASE: SCOPE AND MAIN OBJECTIVES

As mentioned above, each national CH will comprise a VET Student and Graduate Database, which will enable VET students and graduates, as well as VET institutions (e.g. in Greece: DYPA's Apprenticeship Vocational Schools / EPAS, Vocational Training Institutes / IEK), to join the CH and also connect to the Employer and Business Ambassador Database to obtain and exchange information about apprenticeship and labour supply and demand.

The design of the VET Student and Graduate Database will be based on requirements principally set by the project's lead partner DYPA, with the support of STEGI SA, UNITELMA SAPIENZA, IME GSEVEE, and PIMEC.

DYPA is both a public organization responsible for employment and a VET provider. Thanks to its close links to the Greek VET sector, DYPA can ensure that the database design will best respond to the specific needs and requirements of the VET sector, thus guaranteeing the database's functionality and effective main features. Furthermore, DYPA will invite and encourage Students and Graduates to participate in the project, post their CVs and Profiles and actively respond to job offers or Apprenticeship opportunities provided by Employers, as well as accept and duly benefit from the Business Ambassadors' support. In addition, DYPA's Career Offices and Apprenticeship Vocational Schools (EPAS) will be supporting them throughout the whole process, providing information and acting as a link between Students/Graduates and Employers/Business Ambassadors.

DYPA drafted the present document setting the basic requirements for the design of the VET Student and Graduate Database. In order to be truly efficient, a database application should result from a good interaction and continuous communication between owners, developers and users. This deliverable indeed reflects both the partnership's vision of enhancing the efficiency of Apprenticeship and VET, as learning pathways for securing good employment, and employers' specific needs, limitations and expectations from the CH. In order to address the latter, DYPA held an online Workshop via the Google WorkSpace Platform on November 9, 2021, which brought together Apprenticeship Vocational Schools/EPAS, Professional Development and Career Offices, Students, Graduates, Project Partners, and several other stakeholders.

4. BUSINESS FEEDBACK ON DATABASE NEEDS ANALYSIS

As stated, DYPA's online workshop (November 9, 2021) brought together AppInterN project partners and representatives of Greek professional associations, federations, and several other stakeholders, including the following:

- United Federation of Craftsmen Repairers of Automobiles and Motorcycles
- Hellenic Plumbing Federation
- Greek Federation of Hairdressers
- German-Hellenic Chamber of Commerce and Industry, Training Department
- Federation of Greek Refrigerationists
- Panhellenic Federation of Electricians Contractors Associations
- OTS Open Technology Services SA
- IBM, HR Department
- Hellenic-American Chamber of Commerce, Employment Committee
- Federation of Hellenic Technology & Communications Enterprises
- Panhellenic Federation of Associations of Private Kindergartens
- Trainers Federation, DYPA
- German-Hellenic Chamber of Commerce and Industry
- Attica and Islands Teaching Staff Association, DYPA.

At the beginning of the event, a brief presentation of the AppInterN project's scope was given by DYPA, particularly focusing on the creation of the AppInterN online portal. DYPA representatives also presented the main features of the Student and Graduate Database, as per the initial phase of the design process. Subsequently, participants engaged in a fruitful discussion which dealt with the following key issues concerning not only the Employer and Business Ambassador Database, but the CH to be hosted in the AppInerN online-portal as a whole:

1. Future developments such as electric cars and green energy bring new challenges and there is a great interest in the sector for training and education.

2. Businesses asked about the financial cost for those wishing to participate in the Career Hub.

3. It would be very useful for DYPA's schools and IT companies (members of SEPE) to collaborate, so that DYPA can be aware of what knowledge/skills/programming languages the IT companies need.

4. There should also be a campaign in high schools, informing students and parents that vocational training can also lead to a satisfactory and financially rewarding job. It is not necessary for everyone to go to university. It is an excellent opportunity for companies to participate in career coaching events, where students can hear about the actual jobs IT professionals do.

5. The sector of Electricians actively participates in DYPA's Apprenticeship programme. In order for the Career Hub to succeed, it was suggested that DYPA schools should be established in several parts of Greece, to facilitate students' access to the labour market. Otherwise, it may be hard for a student to travel to an area offering a job opportunity far away from his/her school. Also, all enterprises must be made aware of this new platform – a good information dissemination campaign was thus deemed essential.

6. Given that it is impossible for VET training schools to be established everywhere, online training is extremely important, and should be available permanently, not only during the Covid-19 pandemic.

7. The AppInterN portal was generally viewed as an innovative idea that will benefit VET students/graduates and enterprises.

8. The AppInterN portal will be an excellent resource, especially for graduate students. The role of social partners should be upgraded and improved, as in other EU countries. Vocational guidance about the various occupational specialties should be further promoted, for school-goers and their parents.

9. Apprenticeship schemes leading to accredited certification would be highly appreciated. VET schools should also include soft skills in their curricula.

10. It is important to create VET schools in more locations, to provide training for students in all regions of Greece. Distance learning could be utilised. It is desirable for a trainee to work in all departments/sections of an enterprise, and this is why students sometimes undertake apprenticeships with more than one employer.

11. Additional occupational specialties should be included in future stages of the AppInterN initiative.

12. Soft skills have been in demand for many decades now and continue to be important for the workplace.

13. The Career Hub clearly has the potential to cover all the points/issues mentioned by the speakers.

During the needs analysis process most of the above issues were taken into due account. Specific recommendations that could further enhance the effectiveness of the AppInterN portal have also been taken into consideration.

5. BASIC VET STUDENT AND GRADUATE DATABASE ENTITIES AND USER GROUPS

The main entities and user groups that are principally intended to use the Greek VET Student and Graduate Database, either to contribute to its content or to benefit from its services and functions, are the following:

➢ Students and graduates of DYPA VET Institutions (i.e. Vocational Upper Secondary Schools and Post-secondary Vocational Training Institutes)

➢ Administrative and educational staff of the aforementioned DYPA VET Institutions

➢ DYPA relevant departments and services

➢ AppInterN project partners.

6. DATABASE MAIN FUNCTIONAL REQUIREMENTS

The VET Student and Graduate Database is to become a structural element of the Apprenticeship Inter-Network online portal. The portal will comprise the following databases:

1. VET Student and Graduate Database (DYPA)

2. Employer and Business Ambassador Database (STEGI SA)

3. Presentation of selected Occupational Specialties (IME GSEVEE)

The following diagram reflects the main system features of the AppInterN online portal:
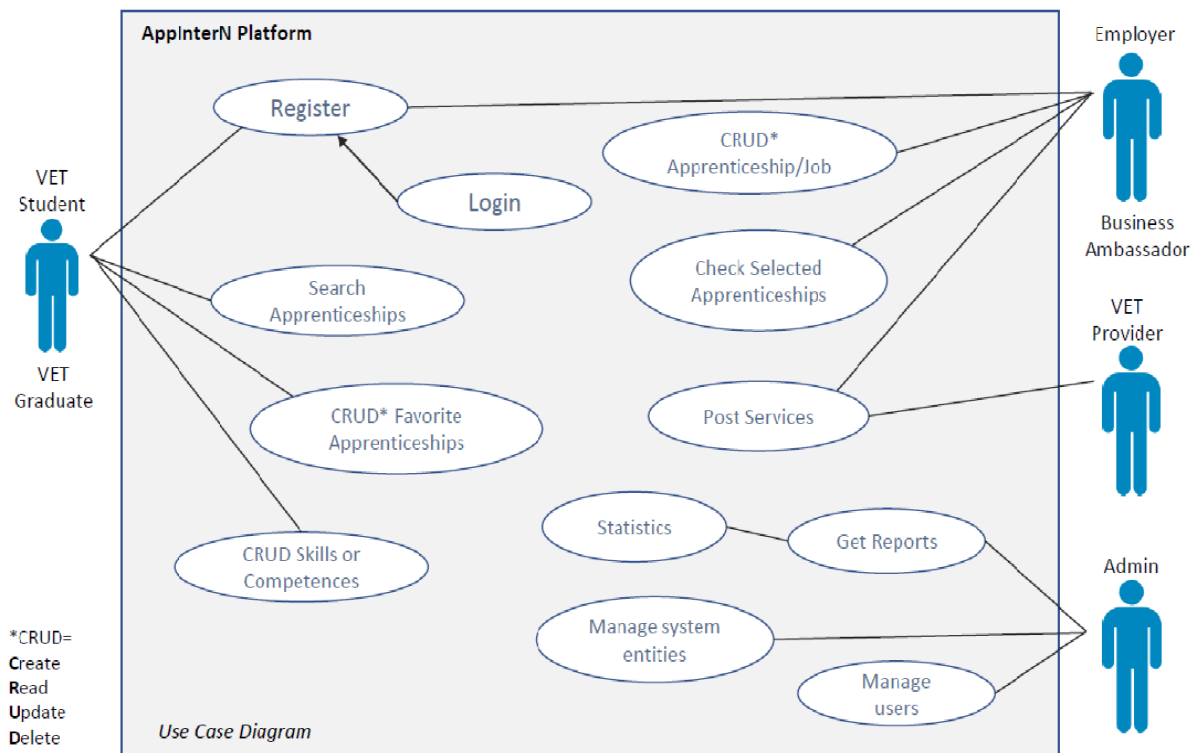
Source: *Preliminary Analysis of Basic Features* (DYPA Presentation, AppInterN Kick-off Meeting 22.12.2020)

The Greek VET Student and Graduate Database's main function is **to inform** Businesses / Employers / Business Ambassadors / Professional Development and Career Offices about DYPA's Apprenticeship Vocational Schools (EPAS) and Vocational Training Institutes (IEK), particularly about:

- **Specialties / Fields of Study provided per year / semester** → Open System (Web Site)

- **Knowledge**, **Skills and Competencies acquired per specialty, Curricula** → Open System (Web Site)

- **Student and Graduate Profiles** → Open System (Web Site) – Students Profile (Basic Information)

- **Students / Graduates Availability** → Login required – Descriptive text of restrictions / availability

- **Claims, Restrictions and Preferences about a job / Apprenticeship position,** → Login required – Descriptive text
- **On-site visits by trainers in the workplace etc.** → Login required **–** Supervisor visits – entry of notes by a teacher about the apprenticeship / internship / work of each EPAS-IEK student graduate.

The Database's main structure shall comply with the basic approach described hereunder and includes:

A. FILES → Table/List of (data entry by DYPA)

- Apprentices (EPAS) / Students (IEK) (per year specialty and educational level)

- Graduates (per year specialty and educational level)

- Specialties (all specialties of DYPA EPAS and IEK) / Jobs / Occupations (by sector of economic activity)

B. PROFILES → Finalized users data, inserted by the user or by the Career Office.

- Apprentices (EPAS) / Students (IEK) (searches by criteria) → End User Profile – Student Profile to enter the main data.

- Graduates (searches by criteria) → As above concerning the graduates

- Specialties / Professions (searches by criteria) → Form with the basic characteristics of the specialty. E.g. name, who can be employed, who can be involved in it, occupational characteristics (open system).

C. SUPPORT SERVICES → Active Functions

- for Apprentices (EPAS) / Students (IEK) and Graduates
  - Jobs Offered (Apprenticeship, Internship, Job)

- Labour Market Interface (who: Career Offices) → Possibility of the Career Office to place a job, to put or approve the allocation of an internship or apprenticeship or job to a student / graduate / graduate. Student placement.

• for Businesses / Companies / Employers

- Apprentice (EPAS) / Student (IEK) and Graduate availability for Apprenticeship, Internship or Job (who: Career Offices) → They can post jobs either directly or through Career Offices.

- Matching position offers to Apprentices, Students and Graduates (who: Career Offices) → Companies will be able to search for available candidates (simple search / simple filters for short list) – They will not see CVs, only basic student data (can see only general data other than personal data).

• for Ambassadors

- Jobs Offered by Employers (Apprenticeship, Internship, Job)

- Student Profiles for Apprenticeship, Internship, Job (who: Career Offices)

- Moreover, according to IO3.

D. INFORMATION (drawn and presented from all 3 databases) for:

• Students

• Graduates

• Career Offices

• Employment Counsellors

• Business / Companies / Employers

• Business Ambassadors

• Third parties (national and European bodies and institutions) and

• All other interested stakeholders.

The main function of the VET Student and Graduate Database is information handling about apprentices (EPAS), students (IEK) and graduates of DYPA's VET schools; in particular, information regarding:

a) the basic identification information of students and graduates

b) contact details of apprentices / students / graduates

c) data about the specialty (-ies) of students or graduates (name, school, etc.)

d) data about studying and graduation (School, Year, Semester, Duration of Studies, Graduation)

e) skills / competences acquired during their studies as well as those acquired after graduation

f) additional knowledge and student skills that enrich their CVs (i.e. foreign languages)

g) possible work experience in the occupational specialty and/or non-related to the specialty of the student or the graduate.

h) claims / requirements of the student / graduate from the internship / job

i) student / graduate's restrictions on his / her availability for apprenticeship or work

j) other information and personal interests of the student that enhance his/her competitiveness in the labour market.

The VET Student and Graduate Database (IO2) will also be interconnected with:

• Employer & Business Ambassador Database (IO3) in terms of the Apprenticeships available for the students of EPAS, Internships for the students of IEK, and Job Offers for Graduates → Basically, it belongs to the system requiring login.

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• Content analysis of the Occupational Specialties (IO4), with information about labour market demand, occupational specialty title, description, required skills, required certification, license to practice, etc. → IO4 is in the open Web Site.

From all the above information depending on the "User" and the level of access to the database, all or part of the data of the database will be provided, taking into account the relevant restrictions and conditions of storage and management of personal data. The above database content was also included in the brief presentation of IO2 by DYPA during the 2nd day of the AppInterN project's Kick-off Meeting:

Users enter the database after registration (sign-up procedure, password creation, captcha and acceptance of terms), providing basic identification data (e.g. fiscal number). Alternatively, identification data could be checked out after interconnection with the existing computer applications PLATONAS (for EPAS) and PROTEUS for (IEK) → after the initial phase of S/W development.

Registered Students and Graduates can post and update information about their CV, their PROFILE (occupational specialty, skills acquired, competencies etc.) or their claims and

expectations in terms of internship and/or job offers; also, about other services they expect to have from this Hub by filling-in a special form.

This procedure is entirely handled by the Career Office of the Apprenticeship Vocational School where a student studies or has graduated from. Student data / student profiles will be provided either by students (if allowed) or by Career Offices, or by both of them.

As there will be a **search function** for available CVs / Profiles of Students and Graduates, end users shall be able to start a search by setting personalized criteria from a drop-down list. Therefore, Students/Graduates supported by Professional Development and Career Offices shall fill in a standardized form including the necessary information (for instance, specialty, capacity [apprentice / student / graduate], time availability, duration of study, level of education, skills and competencies, work experience, any other qualifications etc.). This will guarantee a minimum homogeneity of content amongst placement offers, thus facilitating the search. Apart from the standardized form, employers will be able to draft a free (non-standardized) presentation of their offer(s), which will appear next to the standard advertisement.

In addition to the form, the Head of the Professional Development and Career Office will have the opportunity to co-configure his / her profile with the student and will also be responsible for his / her final submission to the database. Search functions: It can be done by Career Offices or businesses only for graduates and/or students – Sees general information only but not personal information. To be able to declare what he/she is interested in.

- Students will be able to update the information themselves with or without approval of the Career Office.

- Normally, the Database will not be functioning as a demand-supply matching tool between DYPA students and Employers.

- Students and VET Graduates will have to pass through the Professional Development and Career Offices (or other competent service) of the educational body in order to finalize the selection and placement process.

Information on any other kind of services and support actions for students, graduates, schools and Career Offices provided either by companies or by other bodies and persons registered as Business Ambassadors will appear in a separate section (e.g. Other, as suggested above).

The Database will be provided with a communication function so as to enable end users to interact. → Closed System.

The Students and VET Graduates will be provided with a **reporting function**, so as to enable the project partners to assess the quality and impact of the database (e.g. Statistics). → System evaluation (logon users).

The end user can assess the quality and usefulness of the system. Project partners can take statistics from this assessment. (only for the closed system) → Questionnaire that is fulfilled by the end user → Once per Year.

Indicator statistics (how many entered, how many positions there are, how many were filled) – System usage statistics.

- Per School and specialty how many apprenticeships / internships / jobs were offered and / or covered and the number of graduates per school.
- Average duration of the period each student remains in a job.
- List of Students with number of contracts per student (per specialty).
- Register of Contracts

All the above:

Analysis by specialty, by gender and by geographical area.

Per student and contract

By business and contracts

The Database administrator shall be able to control and manage the Database users and content (e.g. introduction and/or removal of topics, content updates, etc.), while end users (Career offices, schools e.t.c) will have the right to intervene in the content they have posted themselves (i.e. CRUD: **C**reate, **R**ead, **U**pdate, **D**elete).

Students and VET Graduates will post their CVs, Profiles etc. only through the Professional Development and Career Office Staff, but the system must also support the ability to intervene in the content they have posted themselves (on demand for some of the partners' hub).

In order to become the common basis upon which the Italian and Spanish CH shall rely, the main structure and content of the Student and VET Graduate Database (e.g. overview, topics, introductory presentation) shall be bilingual: Greek and English.

7. DATA ELEMENTS AND DATA PROCESSING

7.1. SIGN-IN ELEMENTS

In order to register as Database users and, subsequently, make use of the CH offers and/or other services, Students and VET Graduates must enter the following sets of data:

A. <u>Student registration data</u>

• Student / Graduate Name

• Current Status (EPAS Student / IEK Student / EPAS Graduate, IEK Graduate)

• Age Indicator: Adult / Minor (Check Box) → Birthdate + Age of Coming → s/w will automatically indicate adults

  • Info about the Student Guardian in case he / she is a minor (Name of the Guardian, Id Number, VAT Number, Full Address, Postal Code, Relationship with the student (Mother / Father / Sister / Grandmother, Grandfather / Other), email, telephone numbers etc.) → One Guardian

  • Student / Graduate Home Address (incl. Postcode)

  • Contact details (email, telephones, social media, etc.)

  • Occupational Specialty / Field of Study (s)he is studying or has graduated from (selection via scroll down, based on a two-digit code where occupational specialties provided are displayed depending on the educational level). If (s)he

has graduated from more than one specialty, (s)he declares the specialty under which (s)he is searching for an Apprenticeship / internship / job.

• Possibly necessary to enter other identification data (e.g. VAT / Social Security Number)

The above data will be **Verified** by the Professional Development and Career Office Staff (for graduates) or by the **School** (for students), **Confirmed** and **Submitted**.

The data are inserted by the student or by the School. Confirmation is made by the School.

It is planned to connect to an external system (DYPA applications), through the APIs.

B. <u>Other Users (Schools, Career Offices etc.) registration data:</u>

When registering in the Database, Users will be asked to submit the following information:

When registering in the Database, the other users will be certified through TaxisNet codes, and they will enter any of the following items that TaxisNet does not automatically return:

• VAT Identification Number

• Full Name

• Organizational Unit (i.e. Apprenticeship Vocational School (EPAS), Vocational Training Institute (IEK), local PES)

• Contact details (address, website, email, telephones, social media, etc.)

• Job Title (e.g. Head of Career Office, Head of Education of Municipality X, Employment Counsellor, etc.)

Employees will be added by the schools but they must be connected via TaxisNet.

7.2. PROFILES OF STUDENTS AND GRADUATES

7.2.1. POSTING DETAILS OF CANDIDATES FOR APPRENTICESHIPS, INTERNSHIPS OR JOBS

Posting the students / graduates profile or CV info, a pre-designed form is required which will be filled-in (if needed after close collaboration of the student / graduate with the employment counsellor of the Professional Development and Career Office) and will be submitted by the latter. Specifically, it will include the following sections:

a. Student / Graduate Identification Data

- Status (EPAS Student / IEK Student / EPAS Graduate, / IEK Graduate)

- Student / Graduate Number (Registration Number) → Per student by specialty – The Office will fill it.

- Student / Graduate Full Name

- Father's name

- Date of Birth. An Indication will be displayed automatically: Adult / Minor in a corresponding Check Box which will be automatically updated when it becomes an adult.

- Sex (MEN / WOMEN)

- VAT NUMBER,

- Identity Number

- AMKA

- Tax Office (ΔΟΥ)

- Other

b. Contact info

- email

- telephones (home, mobile)

- social media

• Student / Graduate Home Address that will include: Street, Number, Post Code, Municipal Area

c. Studies – Education

Student: Specialty/Field to study

Other knowledge / qualifications (repetitive module)

Level – Institution – Specialty – License → Diplomas (repetitive module)

Language, Level, Institution Name → Languages (repetitive module)

Computer Knowledge, Institution Name → Computer Knowledge

Other – Free Text (1 box)

In case of graduates → Working Experience -→

  Employer (with which employer it was acquired) (text box)

  ◦ Duration (From … to …)

  ◦ Specialty (combo box and / or text box) --> From List or puts free text

  ◦ Experience (Acquired as Apprentice / Practitioner / Employee) → Drop down with 3 choices

    ◦ and More → Comment

Fulfilled Military Obligations (YES / NO / Legal Exemption / No Obligation)

Driver License Type [Drop down multiselect]

For Jobs Only → Form of Employment [Full Time, Part Time]

Work Area Availability (Geo Area) → Multiselect of areas in a drop down

(Check box that prompts to select many of the above options)

• Workplace for the Apprenticeship / Internship / Job

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◦ Area (Municipal Unit / Municipality / Peripheral Unit / Region / Country)

(Combo Box)

◦ Clarifications – Other Notices (Text Box)

7.2.2 PRESENTATION OF OFFERED SUPPORT SERVICES FOR STUDENTS & GRADUATES FROM THE CAREER OFFICES

This concerns the Professional Development and Career Office of each school and will be on the open site. Select announcements will be open only for registered users. It will be possible to change and be open to all users.

For the posting of services offered, the requirement is to complete a pre-designed form in which the following information must be completed:

- Type of service offered (e.g. business visit, job shadowing, coaching-mentoring, career days, job search consulting, webinars, projects, etc.). It is suggested that there will be a combo box of all possible actions, including an open field (Other), which will be completed by the Career Office.

- Audience to which the service is addressed (apprentices, students, graduates). Possibility of further specialization (ie students of 3rd semester and above)

- Field of studies (i.e. IT, Graphic Arts, Accounting, Electrical Works, etc.). Possibility of further specialization (i.e. IT Application Technician), if relevance is required

- Geographical designation (Region, city, country). In case the proposed service does not require physical presence of the beneficiary (i.e. webinar), to be specified in the form

- Timing (date/s, duration)

- Deadline for submitting applications

- Date of posting an ad

- Keywords. They are introduced to facilitate the selection process of the interested candidates. Indicative keywords are the type of service (ie event, counseling, education, etc.), the group of beneficiaries (apprentices, students, graduates), the direction of studies (ie Informatics). Word limit (i.e. up to 5 keywords).

In addition to the details of the standard form, for each proposed service or other relevant content announcement, the Career Office will submit a brief presentation, listing any clarifications it deems will facilitate the users of the Database in their choice.

Optionally, the Career Office will be able to post (either as additional text or in the form of an attachment) a brief presentation of its activities, useful links for students, information material and anything else that it could support students and graduates in fulfilling their goals).

8. END REMARKS

According to the provisions of the approved project proposal, IO2 is the part of the project that concerns the creation of a database of students and graduates. This output was offered as a reference point for the contractor that was selected for the design and creation of the database in order to proceed with the development and adaptation of the necessary software to the needs of the project.

Considering that the process of developing the database is a process to which the contractor returns, and taking into account the feedback from the project partners and the members of DYPA's educational community, this output was the result of consultations, as well as a guide for the creator of the database within the context of implementing IO5 ("Creation of the AppInterN online portal"). Thus, the main user requirements and overall operational requirements were described after a series of meetings with the project partners and end users, thus ensuring complementarity with the other intellectual outputs of the AppInterN project.

The interconnection of IO1, IO2, IO3 and IO4 in a single application constitutes the first Career Hub, which gradually developed into the AppInterN online portal (IO5). The development of the three national Career Hubs was a work in constant progress. Feedback from users was regularly provided, necessary adjustments were made, the first version of the relevant software was demonstrated and tested, and the first results were duly evaluated and acted upon.