PlaDat: a Software Development Process assignment 2

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Introduction to PlaDat and goal

PlaDat was born out of a **common need** of university and non-university students.

Often, for reasons related to the curriculum of the course of study, for work requirements and/or for the desire you to put into practice the knowledge acquired and experiment, during the course of study students decide to **enter the world of work**. However, **school knowledge is not sufficient** to churn out professionally prepared workers, remaining at a higher level of **abstraction** than actually required, eclipsing **practice** behind theory. Although the latter is extremely important for an innovation-driven world such as ours, teenagers, with little experience, must be able to tiptoe into the market, without pressure, and, above all, must have the opportunity to be able to show their skills in concrete, incremental steps. To ensure what has just been enunciated there are **internships**, which, as Wikipedia (<https://en.wikipedia.org/wiki/Internship>) points out, are ad-hoc paths at an institution, public or private, of very variable duration, for the main purpose of learning and training, generally finalized in the entry of the job market.

The difficulty, however, lies in **finding jobs that meet the expectations** of the young people and match with their school and/or university career. There are too many cases of **internships unrelated** to the real will of the intern himself, making an important opportunity for professional and personal growth in vain, which risks, even more, to confuse the young person's ideas. Too many, moreover, are the **difficulties of accessing** a congruent, single list of proposals that is not redundant and/or scattered among heterogeneous channels. We, the creators of PlaDat, were the first to encounter these difficulties during our university studies and were the first to see **a concrete need** for them, a need confirmed by our fellow students and by students from different faculties. In this context **we would like the** **Bicocca University of Milan** (<https://www.unimib.it/>), as a young university attentive to the needs of its members, to **fund our project**, which is why in our study we will consider it as the one commissioning the project.

This is where PlaDat comes in: a **facilitator for bringing the two worlds together**. There are a number of platforms with similar purpose to PlaDat, but they are often outdated, complex, difficult to use or have little educational offerings. Often, moreover, these web apps encapsulate only **corporate** internships, excluding the whole slice of the market related to **teaching and research at public institutions**, an aspect that is often underestimated, but of fundamental importance for a growing country and for young people who want to approach this reality.

PlaDat, therefore, proposes itself as a **single point of access for students of various levels to the world of work**, a platform that sees on one side students and on the other HR, for selection by private companies, and professors, for selection by research canters and universities. In Pladat:

* **Institutions** will, therefore, have the chance to make themselves known, showcase their opportunities and attract the brightest students by viewing applications and updating their status.
* **Students**, on the other hand, will be able to find offers that best suit their needs, train, grow and take their first steps into an unfamiliar world, all through a platform that highlights the key lines of their profile. They will, in addition, be able to make themselves known, showcase their skills and, why not, find future work.

Finally, the platform will make it possible to **keep track of the evolution of applications,** taking users all the way to the first contact; after the latter, it will be up to the interested parties to do their best to convince themselves and begin a joint path.

Pladat was created by **students for students**.

Stakeholder identification

A crucial and **preliminary** aspect to any **elicitation plan** (set of knowledge extraction techniques) is the **identification of stakeholders**. The stakeholder, according to the Project Management Institute (PMI - <https://www.pmi.org/>) is an individual, group, or organization, who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project. In PlaDat we identify **eight stakeholders**, starting from funders to users down to those who have minimal interest with the platform. We go, then, to define stakeholders based on their interest, role, skills, and power over the project, remembering that if successful, **it will be the Bicocca University, through its organs, that will commission and manage the project**:

* **Internship Office**

The **internship office** is the body within the university that is **responsible for the regulation and management of curricular and extracurricular internships** within the university. It communicates with:

* + **Students** for bureaucratic management of the relationship and to resolve issues as first-level Help Desk in the use of PlaDat.
  + **Lecturers** for the bureaucratic management of the relationship in case of research internships and to resolve issues as first-level Help Desk in the use of PlaDat.
  + **HR recruiters** for the bureaucratic management of the relationship in case of in-house internships and to resolve issues as first-level Help Desk in the use of PlaDat.
  + **Student Services staff** for coordination related only to internship aspects.
  + **Development Team** for coordination in the implementation of the platform.
  + **Data Protection Authority** in case of problems with the processing of users' personal data.

Being the main coordinating body of the internship**, it is the funder**, on behalf of the university, of PlaDat and must be treated with an eye to it since, a lack of funding, would lead to the **failure of the project**: **economic decisions** with respect to the platform fall to him.

* **Student Services staff**

The **student services staff** are the organs of the university that **deal with issues that occur during students' university journey**. They communicate with:

* + **Students** for first-level Help Desk aspects related to the use of PlaDat and to assist them in organizing the internship.
  + **Internship Office** for coordination related only to internship aspects.

Being a student support organization, they oversee communications with students and are, for this reason, one of the **main promoters of the platform**; however, they cannot be considered a stakeholder that could make the project fail, but it could slow down its dissemination.

* **Students**

The **students** are those **who will use PlaDat** to search for curricular and extracurricular internships. They communicate with:

* + **Internship office** for internship-related bureaucratic purposes and to solve simple problems in using PlaDat.
  + **Student service staff** for help in organizing the internship and solving simple problems of using PlaDat.
  + **HR recruiters** for recruitment purposes in case of internships in companies.
  + **Lecturers** for recruiting purposes in case of search routes and to agree on an appropriate training plan.
  + **Development team** to solve complex problems of using PlaDat.

Since they, along with Lecturers and HR recruiters, they constitute the **end users of the platform**, they are to be **consulted and kept informed** as the project evolves to gather feedback and incrementally improve it according to their needs. Failure to pay adequate attention to their tastes and needs could result in the **later failure of PlaDat**: their non-use of the web application would imply its futility. In fact, PlaDat was created precisely around their needs, to support them in choosing an internship that is stimulating and in line with their expectations.

* **Lecturers**

The **lecturers** are those who represent **research institutions and universities in the selection** of students; the use of PlaDat would facilitate, to them, the initial aspects of selecting good candidates. They communicate with:

* + **Students** for recruiting purposes in case of search routes and to agree on the training plan.
  + **Office stage** for the bureaucratic management of the relationship in case of in-house internships and to resolve simple problems in using PlaDat.
  + **HR recruiters** to collaborate in choosing the teen's educational plan during the internship period and to receive description of some opportunities to be exhibited during classes related to the content of the proposal.
  + **Development team** to solve complex problems of using PlaDat.

Since they, along with HR recruiters and students, are the **end users of the platform**, they are to be **consulted and keep informed** during the evolution of the project to gather feedback and improve it incrementally according to their needs. Failure to pay adequate attention to their tastes and needs could lead to a **subsequent failure of PlaDat**: their non-use of the web application would imply a scarce amount of proposals for students to submit, which would reduce the variety of choice and, cascadingly, dissatisfaction on the part of students with internship proposals, an aspect that should counteract PlaDat. In addition, faculty, **represent the part of educational offerings related to public research**, a lack of them would restrict the part of the market chosen by students whose interest is to make a career in that field. Lecturers, moreover, are strong promoters for PlaDat as they will **often be the promoters** of the same to the parties.

* **HR recruiters**

The **HR recruiters** are responsible for **hiring new candidates for companies**, representing the company within PlaDat. Using PlaDat allows recruiters an easier selection of good candidates. They communicate with:

* + **Students** for recruitment purposes.
  + **Lecturers** to collaborate in choosing the teenager’s educational plan during the internship period and to ask for "sponsorship" of the opportunity during classes related to the content of the proposal.
  + **Internship Office** for bureaucratic purposes and in case of simple problems in using PlaDat.
  + **Development Team** in case of problems with using PlaDat.

Since they, along with Lecturers and students, are **the end users of the platform**, they are to be **consulted and kept informed** as the project evolves to gather feedback and incrementally improve it according to their needs. Failure to pay adequate attention to the tastes of HR recruiters and their needs could result in a **subsequent failure of PlaDat**: their non-use of the web application would imply a scarce amount of proposals for students to submit, which would reduce the variety of choice and, cascadingly, dissatisfaction on the part of students with internship proposals, an aspect that should counteract PlaDat. Moreover, HR recruiters, represent **the part of the educational offerings related to private companies**, a lack of them would restrict the part of the market chosen by students whose interest is to make a career in that sector.

* **Data Protection Authority**

The **Data Protection Authority** is an independent Italian administrative authority established to ensure the **protection** of fundamental rights and freedoms and respect for dignity in the processing of **personal data**. It communicates, where appropriate, with:

* + **Internship Office** in case of problems with the processing of users' personal data.
  + **Development** **team** in case of problems with the processing of users' personal data.

Since it is a guarantor body and external to the reality in question, it **has no interest in either the failure or success of the project**, it simply ensures that the personal data of users (faculty, hr recruiters and students) are respected. As a result of what has been pointed out, it is not to be consulted for application implementation aspects, but it is to be taken into consideration: should any regulations related to its perimeter be violated, it **could intervene, causing PlaDat to fail**.

* **Development Team**

The **development team** (we) is the stakeholder that provides the **skills for the implementation** of PlaDat. It is responsible for the proper implementation of the application requirements and for meeting all the heterogeneous needs of the stakeholders, however difficult it may be. It communicates with:

* + **Students** to resolve issues as a second-level Help Desk.
  + **Lecturers** to resolve issues as a first and second-level Help Desk.
  + **HR recruiters** to resolve issues as a second-level Help Desk.
  + **Data Protection Authority** in case of issues with users' personal data management.
  + **Office stage** for coordination in the implementation of the platform.

Being the stakeholder who designs the application, **it is the basis of its success**, his knowledge and ability to pander to the needs and meet the standards will ensure, or not, its growth. A team composed of junior, creative and innovative, and senior, experienced and meticulous figures could be a good compromise to ensure the success of the application.

* **Competitors**

The **competitors** are **the rivals of our application**, entities that develop competing platforms or that, for some disparate reason, hold back the success of the project. By this term, then, we group all stakeholders who have a stake in the failure of PlaDat. They are neither developers, nor funders, nor users of our project, so, certainly, they are of marginal importance, but they are to be considered: analysing their products or their criticisms **could help PlaDat to grow** and stay ahead of the curve. Importantly, observing their platforms allows us to gain useful information to improve our web app: in the background study of the elicitation plan, some of them will be analysed.

Importantly, at this stage of identifying stakeholders, we did not simply want to highlight their role within PlaDat, but also their **relationship** and the **iteration** they have, which can also positively or negatively influence PlaDat's growth.

Diagram

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Let us go, finally, to analyze stakeholders from a point of view of **importance in the elicitation plan**, going to personalize the **strategy**: considering the interests of stakeholders is onerous, consequently it is good to understand towards which to direct more energy. To **classify** stakeholders, we consider:

* Their **power** they have in the project.
* Their **interest** in the success of PlaDat.

|  |  |  |
| --- | --- | --- |
| **Power** | **Interest** | **Strategy** |
| **High** | **High** | They are the **most important** and must be highly satisfied. |
| **High** | **Low** | They are to **be kept satisfied** without filling them with information about operation. |
| **Low** | **High** | They are to be **kept informed and need to be consulted** regularly to understand how to make the system work. |
| **Low** | **Low** | He will be given **general information**. |

Let us **summarize**, then, in a table the importance of stakeholders extrapolated from the analysis done earlier:

|  |  |  |
| --- | --- | --- |
| **Power/Interest** | **High** | **Low** |
| **High** | Internship Office e Development Team. | Data Protection Authority. |
| **Low** | Students, Lecturers e HR recruiters. | Student Services staff. |

Competitors are not summarized in this table because they are marginal to the pure interests of the project. We can, therefore, move on to the information elicitation stage.

A short introduction to Requirements Engineer and Elicitation process

**Requirements engineering** is the process of **defining, documenting and maintaining** **requirements** in engineering design processes (<https://en.wikipedia.org/wiki/Requirements_engineering>), processes that attempt to solve **real-world problems**. Engineers examine a range of data about the goals and objectives of the software: how it will work and what qualities of properties it must have to achieve the design goals. Importantly, much of requirements engineering deals with the **stakeholders** or parties involved in the process, i.e., the (previously identified) stakeholders, precisely to design the system based on their needs, ensuring its success.

Diagram, schematic

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The **elicitation process** is the **first step** when engineering requirements, which can be defined as the **practice of researching and discovering the requirements of a system** from users, customers, and other stakeholders (<https://en.wikipedia.org/wiki/Requirements_elicitation>). An effective elicitation process is important for product teams to realize the following **benefits**:

* **Lower project costs** by catching requirements problems before development begins,
* **Increase the likelihood** that users and customers get what they want,
* **Reduce the risk of project failure**,
* ...

It is important, in any case, to **preliminarily analyze** stakeholders, objectives, competitors, and the application domain, all to engage stakeholders only after they are properly prepared and thoroughly understand how to interact with them to **properly elicit information** from them. We will enter, next, into the details of what processes and elicitation methods we used for PlaDat.

Our workflow

Giunti a questo punto, avendo analizzato gli stackholder ed avendo contestualizzato il significato di elicitazione, possiamo passare a descrivere il workflow do PlaDat:

1. Il primo step che svolgeremo sarà un background study per comprendere il contesto in cui si inserisce PlaDat. Questo è preliminare all’interazione vera e propria con gli stakeholders per garantirci una conoscenza utile, come precedentemente spiegato, a raccogliere feedback contestualizzati dagli stakeholder e delineare un primo set di requisiti. In questa sezione, infatti, analizzeremo i principali competitors di PlaDat, tentando di estrapolare i requisiti che meglio si rifanno al nostro sistema. Inoltre, visto che PlaDat ha la necessità di essere finanziato dall’università Bicocca di Milano, tenteremo di ricavare informazioni preliminari sull’organizzazione. In breve:
   1. Analizzeremo i competitors e l’organizzazione (Università Bicocca di Milano);
   2. Stileremo un primo set di requisiti funzionali e non.

Dall’analisi degli stakeholders, inoltre, oltre ad averli estratti dal dominio, gli abbiamo assegnato una priorità che, in questo secondo step, ci risulta utile. Interagire con essi, infatti, è molto oneroso e complesso; di conseguenza, andremo ad interfacciarci solo con quelli con priorità più elevata ed, in particolare, per l’analisi di PlaDat, per questioni legate alle tempistiche, ci interfacceremo solo con gli HR recruiters e gli studenti universitari. In questo modo, inoltre, limiteremo le informazioni contraddittorie e gli ostacoli comunicativi che potrebbero sorgere dall’ascolto di stakeholders anche con bassa priorità.

1. Il secondo step che svolgeremo sarà a creazione, somministrazione ed analisi di un’intervista ad un HR recruiter, una tecnica stakeholder-driven che utilizza l’iterazione con gli stakeholders come principale strumento di elicitazione. L’idea è quella di poter, tramite in una riunione, nel nostro caso, semi-formale, confermare ed estrarre informazioni necessarie a creare un’applicazione utile a raccogliere dati contestualizzati dei candidati, col fine di valutarne il profilo. Siccome saranno i recruiters, per quanto appena evidenziato, a richiedere informazioni degli studenti per avviare il percorso formativo, abbiamo pensato di sottoporre l’intervista prima della generazione del questionario da sottoporre studenti, in modo da personalizzare quest’ultimo in base alle necessità delle risorse umane. Le funzionalità core di PlaDat saranno, infatti, fortemente dettate dalle necessità di quest’ultimi, mentre dagli studenti estrapoleremo informazioni maggiormente legate alla user-experience.

La motivazione dell’utilizzo dell’intervista come tecnica di elicitazione per questa attività risiede nella necessità di garantire una maggiore discussione sul dominio di PlaDat, grazie ad un mix di intervista strutturata, in cui sottoporremo domande specifiche generate dal background study, e non strutturata, per raccogliere spunti da noi non valutati, cosa che non potremmo svolgere con un questionario. In breve:

* 1. Creeremo la parte di intervista strutturata sulla base del background study;
  2. Somministreremo l’intervista (non svolto in quanto gruppo composto da due persone);
  3. Analizzeremo i risultati dell’intervista per trarne dei requisiti (non svolto in quanto gruppo composto da due persone).

1. Il terzo step che svolgeremo sarà la creazione, somministrazione ed analisi di un questionario da sottoporre agli studenti, una tecnica artifact-driven che utilizza gli artefatti come principale strumento di elicitazione. L’idea è quella di poter, tramite domande a risposta chiusa, confermare ed estrarre informazioni necessarie a creare un’applicazione a misura di studente. Siccome saranno quest’ultimi ad utilizzare attivamente la piattaforma che è, tra le altre cose, costruita attorno alle loro necessità, abbiamo pensato di personalizzare la user-experience proprio in base a loro. Inoltre, saranno sempre gli studenti a dover fornire i dati necessari alla selezione, motivo per il quale gli saranno sottoposte domande riguardo al come reperire quest’ultimo (da notare il “come reperire”, non cosa reperire, che è, invece, stato già selezionato dall’intervista all’HR recruiter).

La motivazione dell'utilizzo del questionario come tecnica di elicitazione risiede nella necessità di indirizzare le domande ad un pool ampio di studenti, per riuscire ad avere un feedback per la personalizzazione di PlaDat che sia generato dall'opinione di un grande numero di studenti, cosa non possibile con l'intervista. Inoltre, utilizzando questa tecnica abbiamo la possibilità di sottoporre domande le quali risposte non lasciano spazio all'interpretazione, per via dell’oggettività intrinseca al questionario, permettendoci di trarre informazioni più concrete e contestualizzate visto l’eterogeneità degli studenti. In breve:

* 1. Creeremo il questionario sulla base del background study e dell’intervista;
  2. Somministreremo il questionario (nonostante siamo un gruppo da due persone);
  3. Analizzeremo i risultati dell’intervista per trarne dei requisiti (nonostante siamo un gruppo da due persone).

Riassumiamo in un diagramma le fasi appena descritte:

Diagram

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NB: abbiamo, nonostante non fosse richiesto, preferito preparare sia un’intervista che un questionario in quanto maggiormente realistico e vicino alla realtà rispetto al problema in esame.

Background study

Come già precedentemente evidenziato, il background study ci permette di comprendere il dominio nel quale opera PlaDat, per garantirci la conoscenza utile ad interfacciarci con gli stakeholders, a comprendere gli obiettivi dell’applicazione ed estrarre i primi requisiti. Inoltre, lo utilizziamo per andare a conoscere la realtà che dovrebbe, se tutto procede come previsto, finanziare il nostro progetto, ovvero l’università di Milano Bicocca.

Iniziamo ri-evidenziando le caratteristiche basilari e lo scopo di PlaDat. PlaDat nasce come facilitatore per unire il mondo aziendale ed il mondo studentesco, un punto di accesso per gli studenti alla realtà lavorativa. La web app vede da una parte gli studenti e dall’altra gli HR recruiters, in rappresentanza delle aziende private, ed i docenti, in rappresentanza dei centri di ricerca, che dovranno offrire tirocini formativi ai ragazzi. Come evidenziato negli obiettivi, in PlaDat:

* Le istituzioni avranno la possibilità di farsi conoscere, mostrare le proprie opportunità e di attrarre gli studenti, visualizzando le candidature ed aggiornandone lo stato;
* Gli studenti potranno trovare le offerte più adatte alle loro esigenze, formarsi, crescere e muovere i primi passi in un mondo sconosciuto, il tutto attraverso una piattaforma che evidenzia le linee chiave del loro profilo.

Infine, la piattaforma permetterà di seguire l'evoluzione delle candidature, accompagnando gli utenti fino al primo contatto. Il campo degli studenti che possono usufruire della piattaforma, tuttavia, benché idealmente sia molto ampio, in questa prima release l'applicazione verrà ristretto, come già evidenziato, ai soli studenti della Bicocca, in quanto finanziatrice eventuale di PlaDat.

Dopo aver ri-contestualizzato PlaDat, passiamo ad un'analisi dei Competitors. Durante il background study abbiamo trovato due principali competitors di PlaDat: Tutored (<https://www.tutored.me/>) ed il portale stage dell’università Bicocca di Milano ([https: https://s3w.si.unimib.it/](https://s3w.si.unimib.it/auth/studente/tirocini/RicercaOpportunita.do?menu_opened_cod=menu_link-navbox_studenti_Tirocini_e_stage)).

* Tutored è il punto d'incontro digitale tra studenti universitari, neolaureati e aziende. La community è composta da giovani che entrano in contatto con le realtà aziendali attive sulla piattaforma e iniziano la propria carriera professionale. Annunci per posizioni entry level e stage, smart webinar, challenges e coding battles sono i contenuti che le aziende creano su Tutored per attrarre e assumere i migliori talenti universitari. Ad oggi, Tutored è soprattutto un’app di spicco per il recruiting e l’employer branding, che collabora con oltre 250 aziende; ma non supporta solo l’inserimento nel mondo del lavoro di studenti e neolaureati: offre anche numerosi webinar informativi, organizzati in collaborazione con aziende e professionisti del mondo del lavoro, e masterclass formativi, utili per acquisire competenze e conoscenze basiche richieste dal mercato lavorativo. Informazioni prese da:
  + <https://opportunita.tutored.me/tutored-come-funziona>;
  + <https://www.linkedin.com/company/tutored/>;
  + <https://www.luniversitario.it/2021/05/07/tutored-al-passo-coi-tempi01/>.



* Portale stage è un portale tramite il quale l’Università Bicocca di Miano fornisce supporto agli studenti iscritti che vogliono attivare uno stage curriculare. Questa piattaforma permette la ricerca delle offerte delle aziende registrate e convenzionate con l’università e la candidatura ed esse da parte dello studente. Informazioni prese da:
  + <https://www.unimib.it/servizi/stage-e-tirocini/stage-e-tirocini-curriculari>;
  + <https://www.unimib.it/servizi/bicocca-orienta/servizi-orientamento/stage-e-tirocini/studenti/ricercacandidatura-offerte-stagetirocinio>.

A picture containing text

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Pladat avrà un ruolo che si colloca a metà tra le due piattaforme: funzionale come Tutored, ma semplice come il Portale Stage. Come già evidenziato:

* Permetterà la ricerca e la candidatura a tirocini curriculari ed extracurriculari;
* Avrà un’interfaccia semplice funzionale a misura di studente;
* Sarà accessibile tramite account universitario;
* Gestirà tirocini di ricerca ed esterni in azienda.

Andiamo, a questo punto, a stilare un primo elenco di requisiti funzionali tratti dal background study, ovvero requisiti indicanti le funzionalità o i servizi di PlaDat, ovvero gli input e gli output del sistema.

Per documentare i requisiti utilizzeremo il linguaggio naturale, che permette di definire infinite espressioni, ma ristretto per ridurne l’ambiguità usando regole locali. In quest’ottica abbiamo creato un template per i requisiti ad-hoc per il nostro documento.

|  |  |
| --- | --- |
| **ID** | Unique requirement identifier consisting of typeRequirement-functionality-typeUser. |
| **Type** | Functional requirement/Non-functional requirement. |
| **Description** | Description of the requirement. |
| **Priority** | Priority in implementation (High/Medium/Low). |
| **To Verify** | Indicates whether an aspect or the requirement in its interest are to be subjected to direct elicitation with stakeholders (Yes/No). |

Elenco dei requisiti funzionali:

Andiamo, a questo punto, a stilare un primo elenco di requisiti non funzionali tratti dal background study, ovvero requisiti indicanti le i vincoli e le proprietà caratteristiche di PlaDat.

Per farlo utilizziamo, ancora una volta, il template precedentemente introdotto.

* Disponibilità
* Scalabilità
* Accessibilità
* Sicurezza
* Performance
* Compliance

Stakeholder-driven elicitation: the interview

Artifact-driven elicitation: the questionnaire

Dire

* Anonimo ma email
* Scadenza 26/11/2022 00:00
* Perch ms form
* Domande contrarie
* Data possibilità scaricare risposte
* 4 risposte perdoman
* Che fatto domande per fare vedere all’università l’interesse degli studenti in un nuovo portale