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INTRODUCTION

Within this deliverable we present, based on the feedback received from the process of D.3.3 development, the two concrete action plans describing the specific tools needed to be developed for

1. The Region of Western Greece
2. The Apuglia Region

PLAN FOR THE DEVELOPMENT OF G2B e-services in Western Greece

The steps for the creation of the action plan for the development of G2B services in Western Greece, following the leads from the needs analysis carried out in the previous period and presented in D3.3 deliverable, were as follows:

1. Create an initial set of tools selected as useful for the region
2. Retain those which are:
    a. (or are easy to turn into) G2B e-tools,
    b. not offered in the region.
3. Group similar elements/features.
4. Consider the views & preferences of local entrepreneurs.
5. Consider the views of civil servants who interact with local entrepreneurs.
6. Consider the views of e-tool developers (software, time needed, budget).
7. Ponder the methods to develop e-tools.
8. Formulate the action plan.

Within this chapter we present the methodology and planning for the last point (the previous ones were presented within the 3.3 deliverable).

To maximize the long-term value of each proposed service, a software development methodology should be adopted for addressing both business and software development requirements. The ultimate aim of a selected project management methodology is to structure, plan and control the process of software development, establish active collaboration among the project stakeholders, and develop a viable software solution.

Contrary to traditional methodologies such as the Waterfall model, an Agile methodology is proposed for running the software development project based on the services described in previous chapters. A typical Waterfall model consists of five phases: (a) system and software requirements, (b) analysis and design, (c) implementation/development, (d) testing, and (e) maintenance. Progress flows from the top to the bottom (like a cascading waterfall) in a purely sequential manner supposing that one should move to a next phase (e.g., implementation) only when an immediately preceding phase (e.g., analysis and design) is reviewed and verified. (See Figure 2). In addition to this, the model puts much emphasis on documentation. Particularly, a feasibility study takes

place in order to examine whether the software can be implemented using the current technology within the specified budget and schedule, while the system and software requirements are captured in a product requirement document (PRD).

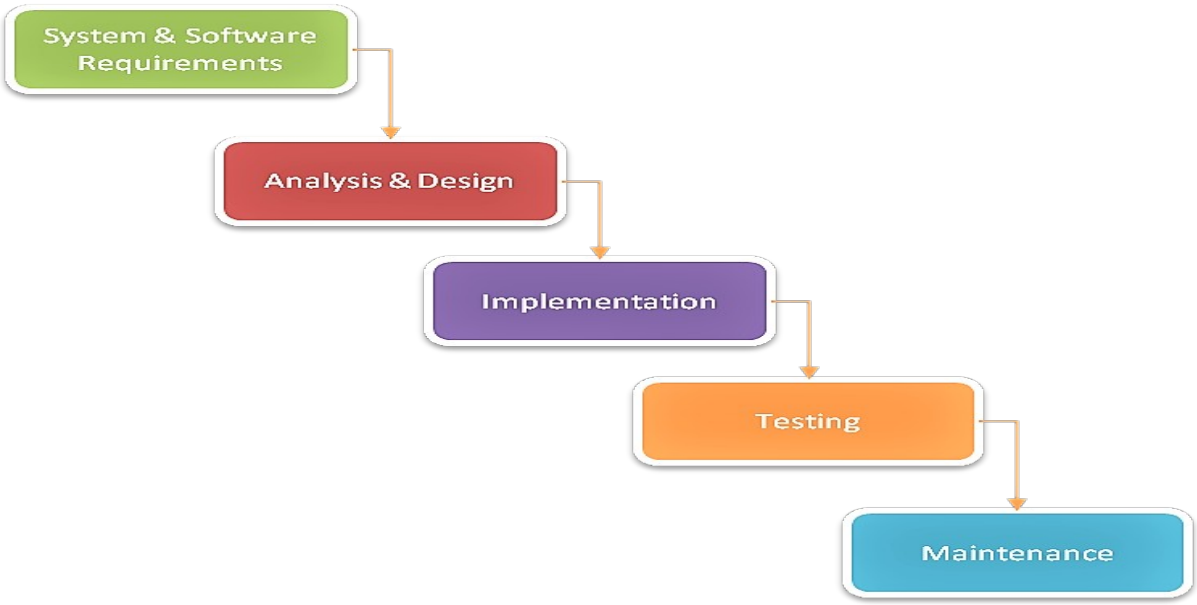


Figure 1: Waterfall Model

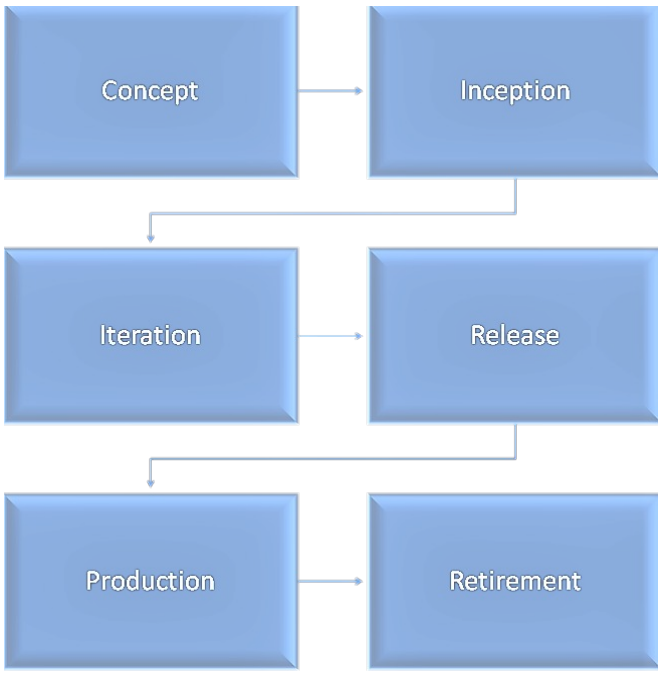
The Waterfall model is characterized by some limitations. To begin with, if the requirement is not clear at the beginning, it is a less effective method. Moreover, it is very difficult to move back in order to make changes in the previous phases. The testing phase starts once implementation is over. Therefore, there is a high probability of finding *bugs* later in development where they are expensive to fix. It should be mentioned that to reduce risk in the development phase, a well prepared PRD should be written. However, this means that if emphasis is placed on documentation, it may not be feasible to implement the service in the plan's time-horizon due to the time limitations.

Taking into account the above limitations, an Agile methodology is proposed so as to help via continuous iterations of developing and testing

in the software development process. In this model, development and testing activities are concurrent (unlike the Waterfall model), while more communication between stakeholders, developers and testers is allowed. Agile ensures that the quality of the development is maintained since it is completely based on an incremental progress through which developers and testers know exactly what is complete and what is not.

There exist a number of Agile software development methodologies, such as Crystal methods, the Dynamic Systems Development Model, Extreme Programming, Feature Driven Development, Joint Application Deve-lopment, Lean Development, Systems Development Lifecycle, Scrum, and so on. The central idea is to minimize risk by developing software in short time-boxes called *iterations* which typically last one to four weeks. Each iteration (or *sprint*) is like a miniature software project on its own and consists of all the tasks necessary to release the mini-increment of a new functionality: planning, requirement analysis, deve-lopment and testing. At the end of each iteration, the team reassesses the project's priorities.

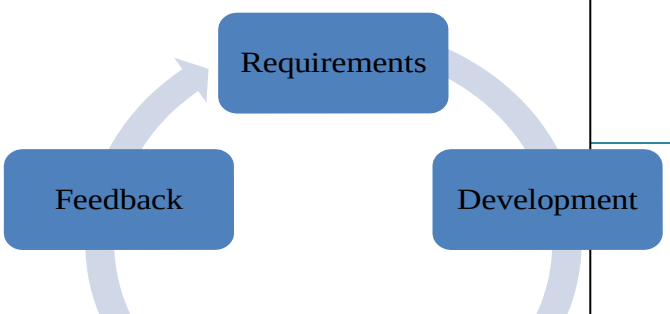
Figure 2: Agile Process Flow



The general Agile process flow consists of the following six phases (see Figure 2):

- Concept: Projects are envisioned and prioritized.
- Inception: Team members are identified, funding is put in place, and initial environments and requirements are discussed.
- Iteration/Construction: The development team works to deliver working software based on iteration requirements and feedback.
- Release: It involves quality assurance (QA) testing, internal and external

Figure 3: Agile Iteration Workflow



training, documen-tation development, and final release of the iteration into production.

- Production: I.e., ongoing support of the soft-ware.
- Retirement: I.e., end-of-life activities, including *customer* notification and migration.

It is worth mentioning that the most critical phase is the phase regarding the Agile iteration workflow. (See Figure 3).

While a plethora of Agile methodologies exists, the Agile-scrum development methodo-logy (https://www.scrum.org) is probably the most suitable project management approach to be followed here for delivering the proposed e-tools.[1] The Agile-scrum consists of set of tools, roles, and activities that form a holistic approach to deliver software. (See Figure 5).

To begin with, the Agile-scrum has three roles with specific properties and responsibilities: (a) the scum master, (b) the product owner, and the (c) scrum team. The scrum master facilitates the adoption of scrum through continuous coaching and guidance, leading the scrum team to high-performance. The product owner is typically a project's key stakeholder who has a vision of what he wishes to build, and conveys that vision to the scrum team. This is achieved through the *scrum product backlog*, which is a prioritized features-list containing short descriptions of all functionalities desired in the software. The scrum team includes people with traditional software engineering titles, such as analyst, programmer, designer, tester or architect. On a scrum team everyone on the project works together to complete the set of work they have committed to complete within a pre-defined time period (the so-called, *sprint*). A typical scrum team comprises three to nine people. However, this need not be the case here.

[1] *Scrum* is a term
play, with players
the ball.

Vectorized from Schwaber and

Typically, a scrum team and the product owner begin by writing down everything they can think of for product backlog prioritization. The product backlog is allowed to grow and change as more is learned about the desired software. The scrum team articulates features on the scrum product backlog in the form of user stories, which are short, simple descriptions of the desired functionality. Due to the fact that there is no difference between a bug and a new feature, bugs are also put on the scrum product backlog.

As mentioned above, development time is divided into sprints with the duration of no more than one month. Each sprint starts with a planning exercise, named *sprint planning*, which determines the set of user stories that the scrum team is likely to realize in a collaborative manner. The list of user stories which have been identified by the scrum team to be completed during the sprint depicts the current *sprint backlog*. During the sprint planning, the scrum team identifies the tasks necessary to complete each user story. Most teams also estimate how many hours each task will take someone on the team to complete. It should be noticed that the scrum team selects the user stories and the size of the sprint backlog. The size of a sprint backlog is based on an estimation of each user story in terms of story points (e.g., man-days, man-hours, etc.). The estimation of user stories in story points takes place in a specific scrum ceremony called *grooming* which is repeated, usually, every sprint, and aims at growing the scrum product backlog with ready user stories.

The most important scrum ceremonies are (a) the daily scrum meeting, (b) the aforementioned grooming, (c) the sprint retrospective and (d) the sprint review. The daily scrum meeting is a face-to-face daily communication and synchronization meeting which is strictly time-boxed to fifteen minutes. The daily scrum is typically held in the same location and at the same time each day of the sprint (usually in the morning). The

standard agenda of a daily scrum, which is facilitated by the scrum master, includes three straightforward questions, which are answered by each participant: (i) “What did I do yesterday?”, (ii) “What I plan to do today?” and (iii) “Are there any impediments in your way?”. At the end of each sprint, a sprint review meeting is held where the scrum team shows what they accomplished during the sprint. Typically, this takes the form of a demo of the new features. The sprint retrospective is usually the last thing done in a sprint. The entire team (scrum master, product owner, scrum team) identify opportunities for performance and collaboration improvements, decide on adjustments of the current delivery approach and try to recognize any knowledge and skill-set gaps.

After presenting the basic components of the Agile-scrum approach, the typical agile iteration workflow, showed in Figure 3, can be visualized as follows:

- Requirements: Define the requirements for the iteration (sprint) based on scrum product backlog, sprint backlog, and product owner feedback.
- Development: Design and develop software based on defined requirements.
- Testing: Engage in QA testing, internal and external training, documentation development.
- Delivery: Integrate and deliver the working iteration into production.
- Feedback: Accept product owner feedback and work it into the requirements of the next iteration (sprint review).

In order to achieve the desired goals of the project, a high level design of an action plan is proposed with a product owner from KEPE, a scrum master from the Computer Technology Institute and Press *Diophantus*, a scrum team of developers, and testers from both, from the RDF and from likely contributors identified in the consultation process.

As given in deliverable 3.3 the following set of e-tools have been identified as useful and feasible for RWG:

1. An e-tool that fosters innovation using ideas put forward by the general public.
2. An on-line business plan builder.
3. An on-line set of courses.
4. An on-line directory of useful links and services.
5. A smart e-tool matching employers and prospective employees.

6. A smart e-tool matching businesses seeking funding with potential investors/sponsors.
7. A smart e-tool matching people interesting in selling and buying ready-made businesses.
8. A smart e-tool matching businesses seeking expert advice and experts, consultants, mentors.
9. A smart e-tool matching businesses interested in research and development collaboration.
10. A smart e-tool matching businesses interested sharing working spaces.
11. An on-line forum.

In this setting, e-tool 3 (on-line set of business-related courses) can be developed in 1-6 such months, e-tool 11 (on-line business forum) in 2-7 months, e-tool 8 (matching businesses seeking expert advice and experts/ consultants/mentors) in 4-6 months, e-tool 9 (matching businesses interested in R&D collaboration) in 5-8 months, e-tool 6 (matching businesses seeking funding with potential investors/sponsors) in 6-10 months, e-tool 4 (on-line directory of useful links) in 1-2 man-months, a rough timetable might be as follows.

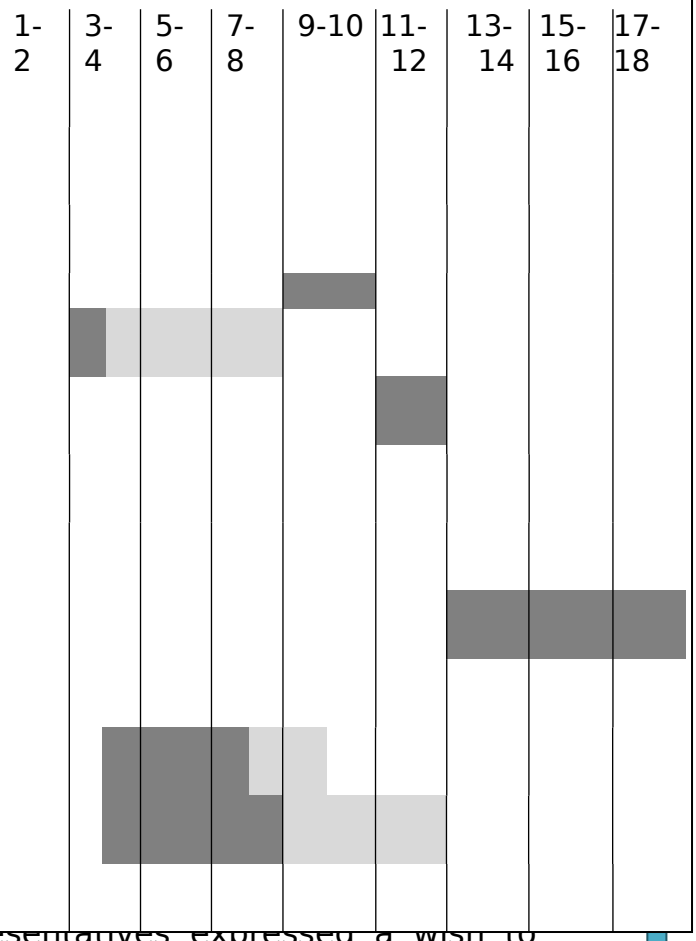
It should be noted that none of the above e-services is a prerequisite for another. To the extent the Barometer and an e-tool needed (preferred) by businesses will be developed in the context of the present Interreg Program, the other e-tools may have to be funded with other means. The resources required by e-tool developers that the authors contacted, suggest a budget between 50 and 87 thousand euro for all six e-tools. In so far as the e-tools promote EU's SME policy, they may be eligible for EU funding from the Structural Funds. Additional support for development and maintenance could be provided (a) on a voluntary basis from local chambers and associations; and/or (b) by advertisement -preferably advertisement promoting local businesses or associations of businesses. Likewise, Actions II and IV (involving *e-tools 2-4* and *11*) may be partially self-funded if a small fee were paid by users, and Action III (involving *e-tools 5-10*) may be partially self-funded if a small brokerage fee were paid by either or all parties matched.[2] However, in line with the conditions set

[2] Likewise, e-tool 1 might be partially self-funded if a small fee were paid for ideas used.

for using EU funds, both advertisement and user-charges cannot be applied immediately, but later on.

Table 1: A timetable for developing the preferred e-tools for businesses

The proposed e-services by type of action	months:	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18
I. E-tool fostering innovation										
1. Helping consumer ideas reach product developers										
II. E-tools that provide information & help plan										
2. On-line business plan builder										
3. On-line set of business-related courses										
4. On-line directory of useful links and services										
III. Smart matchmaking for businesses										
5. Employers with prospective employees										
6. Businesses with potential investors/sponsors										
7. People selling/buying ready-made businesses										
8. Businesses with experts/consultants/mentors										
9. Businesses interested in R&D collaboration										
10. Businesses interested sharing working spaces										



fiela, in which the chamber representatives expressed a wish to develop the on-line forum (e-tool 11) and the matching tools (e-tools 6, 8-9) using their own resources and secured EU funding, perhaps the best course of action is:

- The number of model lectures (topics) for the on-line set of business-related courses (e-tool 3) to be developed in the course of the present Interreg Program.
- Additional lectures to be developed by the RDF of Western Greece at a later date (thus, incorporating any user feedback) with the aid of academics from local universities or mentors or the authors of the present report.

- E-tools 6, 8-9, to be developed by the local chambers between the fall of 2019 and the end of 2020. (This is the time-frame that suits the local chambers.)
- The on-line directory of useful links and services (e-tool 4) to be developed by the RDF of Western Greece and/or the local chambers between the fall of 2019 and the end of 2020.

PLAN FOR THE DEVELOPMENT OF G2B e-services in Apuglia

On April 18, 2019, in the headquarters of the Apulia Region, a Focus Group was convened with the reference stakeholders, to select the 15 most significant practices and most responsive to the needs of the Apulia Region's companies. During the Focus Group meeting some aspects of the project and methodology were shared and some practices for each axis were illustrated and discussed.

At the end of the meeting, all participants filled in a questionnaire, indicating the most important topics for developing G2B services in support of businesses in the Apulia Region. A further investigation carried out by means of one2one contact strategy with other relevant stakeholders has been also launched with the aim of complement the collected results during the Focus Group meeting.

In the questionnaire, four topics were listed for each axis, selected from 86 good practices identified in the previous project phases. All the stakeholders were asked to select the relevance (from 1 to 4) of each topic.

Finally, based on their experience, stakeholders were asked what needs of the companies should be mainly considered for development of Government2Business services in favor of companies in the Apulia Region.

Below we present the proposed topics.

Axis 1

a) Facilitating cross-border activities and attracting foreign direct investments

b) Support financing dedicated to innovative products and services

c) Centralize the processes of management and monitoring of funding programs

d) Promote young entrepreneurs and start-ups

Axis 2

a) Promote the support of specialized consultancy

b) Services for reducing the regulatory burden on businesses

c) Support the development of tax incentives for start-ups

d) Facilitate the relationship with non-EU-Schenghen start-ups

Axis 3

a) Support development of laboratory networks and co-working spaces

b) Develop services for the transfer of skills, access to good practices and sponsorship tools

c) Encourage the development of community of entrepreneurs

d) Facilitate information on funding programs (Regional, National, EU, International)

Axis 4

a) Matchmaking platforms to encourage cooperation with university and business research institutes

b) Training and entrepreneurial mentoring services

c) Platforms for scale-up of business ideas and crowdfunding support

d) Tools for the implementation of circular economy systems

Axis 5

a) Promote open innovation processes and the circulation of information on innovative tenders (PCP, PPI, etc.)

b) Encourage access to high quality reports and statistics that are easy to understand and use

c) Encourage access to databases on commercial entities involved in specific activities, location of central offices and branches

d) Support the definition of transition indicators in the innovation processes of the socio-economic system

Following these leads the two Italian partners selected the most significant practices with highest responsivity to the expressed needs, although resulting evidence shows a spreaded interests of priorities

Aim of the planned etools development is to provide support for regional entrepreneurial and innovation capital through the creation of an **interoperable digital layer** able to interface platforms (e-tools) and DBs (Databased Datawarehouse, etc.).

The final tool will implement a specific “user query system” able to provide, as much as possible, suitable answer (in terms of data, link, demand-offer relationship, stakeholder details, product&services availability, etc.) to the expressed needs in the identified Axis.

The beneficiaries for this tool are:

- Regional Institution
- Companies
- Research Centers

The system will be open source and it will:

- collect data from the following sources:
  - Sistema Puglia (www.sistema.puglia.it)
  - MIR (mir.regione.puglia.it)
  - Empulia (www.empulia.it)
  - Living Lab (livinglabs.regione.puglia.it)
  - Apuglian Information Overview (www.arti.puglia.it/apulian-innovation-overview/)
- allow queries, visualizations and matching on the data thus collected;
- present graphical interfaces that allow data analysis and representations.

The planning for the tool's development is presented below:

				2019						2020				
		Start	End	July	August	September	October	November	December	January	February	March	April	May
Phase 1	Approval of the executive project	01/07/2019	30/07/2019											
Phase 2	System implementation	31/07/2019	6/01/2020											
Phase 3	Testing and pre-operation	7/01/2020	6/02/2020											
Phase 4	Technical assistance services, corrective and evolutionary	7/02/2020	29/05/2020											

Conclusion

Following the leads from the activities and studies carried out previously within the project, and described in detail within deliverable 3.3, the two Regions (Western Greece and Apuglia) selected the most significant practices with highest responsively to the expressed needs.

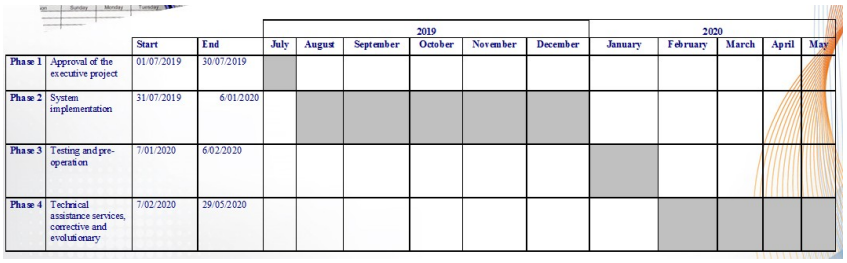
For Western Greece this includes the development of a set of tools for which the Gantt chart for development is summarized below:

Table 1: A rough timetable for developing the preferred e-tools for businesses

The proposed e-services by type of action	months: 1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18
I. E-tool fostering innovation									
1. Helping consumer ideas reach product developers									
II. E-tools that provide information & help plan									
2. On-line business plan builder									
3. On-line set of business-related courses									
4. On-line directory of useful links and services									
III. Smart matchmaking for businesses									
5. Employers with prospective employees									
6. Businesses with potential investors/sponsors									
7. People selling/buying ready-made businesses									
8. Businesses with experts/consultants/mentors									
9. Businesses interested in R&D collaboration									
10. Businesses interested sharing working spaces									
IV. E-tools facilitating info. exchange & networking									
11. On-line forum for businesses									

For Apuglia, a specific “user query system” able to provide, as much as possible, suitable answer (in terms of data, link, demand-offer relationship, stakeholder details, product&services availability, etc.) to the expressed

needs, will be developed. The Gantt chart for its development is also summarized as follows:



				2019						2020				
		Start	End	July	August	September	October	November	December	January	February	March	April	May
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