Method of involvement Rapid Application Development into ITIL® method

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Abstract— This paper brings recommendation for faster development of it services using ITIL® methodology. There are a big amount of offered tools, which very often leads to poor implementation of ITIL® because of badly chosen tools. This article aims to consider using Rapid application development tools for creating a service desk. It is the important part of ITIL methodology. In this case end-users can be connected to development. This way can effectively implemented involvement service desk to operation very fast.

Keywords— ITIL®, ITIL® implementation, Service Design, Rapid Application Development, Service Desk.

I. INTRODUCTION

IN this paper a possible way of connection two methods is described. First of them is based on the set of practices for better planning and using IT technologies. Second method allows shortening of time for developing of IT services as a Service Desk, Help Desk or other. Time saving is very important for greater efficiency. In the paper each of this methods and the possibility of their connection will be described.

II. ITIL®

ITIL® is the most widely accepted approach to IT service management. It provides a set of practices, proven concepts and procedures that serve for better planning and improve the usage of information technology (IT) [1]. Abbreviation IT is defined as technologies for storage, communication and processing of information, which typically includes computers, telecommunications, Applications and other software, according to ITIL® [2]. The ITIL® best practices are currently based on five core publications which provide a systematic and professional approach to the management of IT services. This allows to the organization to provide appropriate services and professional approach [1]. In 2007, extended third version (ITIL® V3), was created which is composed from five parts. They omitted some of processes and add others. One of five publications a Service Strategy was reworked in a large way. This publication has been criticized for lack of clarity and difficult applicability.

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The Five Volumes:
- – ITIL Service Strategy: understands organizational objectives and customer need [3],
- – ITIL Service Design: turns the service strategy into a plan for delivering the business objectives [4],
- – ITIL Service Transition: develops and improves capabilities for introducing new services into supported environments [5],
- – ITIL Service Operation: manages services in supported environments [6],
- – ITIL Continual Service Improvement: achieves services incremental and large-scale improvements [7].

A. The Lifecycle of IT services

Each service is based on the Service Strategy, which defines the reasons for service creation by ITIL. The next step is a Service Design which is the creation of proposal. Service Transition develops service and put it into operation. Service Operation makes sure that IT services are delivered effectively and efficiently of fulfilling user requests, resolving service failures, fixing problems, as well as carrying out routine operational tasks. In all phases of the service lifecycle all aspects of the service are continuously improved (Continual Service Improvement) [8], see Figure 1.
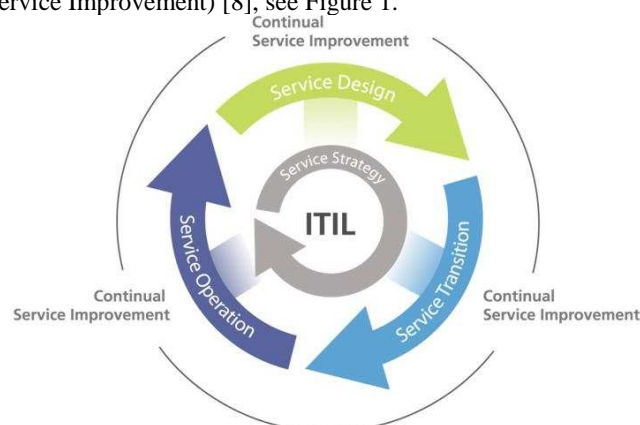

Figure 1. Lifecycle of ITIL [9]

B. Service design

Service design is one phase of ITILs® life cycle. It provides manuals for design and development of services and processes.

It also presents design methods and principles which can help to transfer strategic objectives into the portfolio of the services and service assets. Service design responds to the needs of business user or targeted client and it is based round defined strategy of the company (Service Strategy). So it includes many functions processes and procedures, not only service design itself [10].

–   Design coordination

–   Management of the services catalogue

–   Management services layers

–   Capacity management

–   Availability management

–   IT service community management

–   Information security management

–   Supplier management

–   Metrics definition

Whole process of design and deployment of the new service consists of few partial phases [11] (see Figure 1.)

–   Strategy

–   Design

–   Transaction

–   Operation

However all these phases are solved complexly because Service Design does not focused on each individual parts. Thats the reason why the ITIL® (mean Service Design) should be completed with other techniques and practices. In this case is appropriet to use AGIL techniques or even better choice a RAD (Rappid Application Development) [12].

C.   Rapid Application Development

It is methodology oriented to objects themselves and it is able to simplify software development. The RAD includes some tools and procedures which are based on AGILE methodology. Those tools and procedures can be used to software development, which is their primary objective also can be used to development of systems products and processes [13]. The RAD reduces the time for planning and focuses its potential into the development itself. The methodology consists of four basic aspects – methods tools management and people. If there is something wrong with one part it has influence on the development speed and quality. The method has a list of tasks and particular structure of work progress (workflow). This procedure is designed to achieve the highest possible speed of development. Functional prototype can be designed very quickly by using these procedures. Also there is still possibility to do any changes in the prototype. The prototype is used very often for software development also for development of new systems products web pages etc. More

precisely it's used in every case where it is needed to see a basic structure of application and its mode of operation. If it's already able to meet our requirements or some changes have to be done. The prototype also allows the cooperation of more developers and involves the client into the development process and product testing [14].

Dominant tools supporting Rapid Application Development methodology are tools generating application code. These are mostly the tools supporting teamwork development called CASE. The tools selected by developing team should be able to process the system requirements and creates functional database and most of the application code.

This leads to the following requirements:

–   The tool must produce a code which has multilayer structure.

–   It generates prototype without the need of direct typing of the code.

–   It allows modifying the generated code.

–   It can be used in whole development.

–   It must not cause more troubles than benefits.

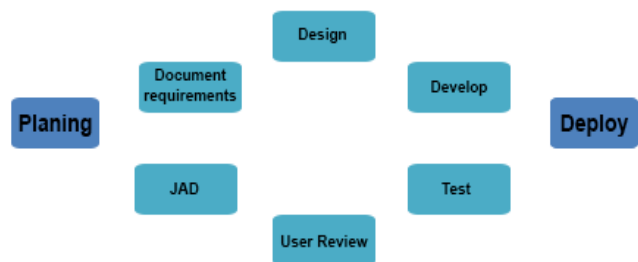Figure 2. Traditional Development Process

Figure 3. Rapid Application Development

1)   Advantages and disadvantages of Rapid Application Development

Advantages of the RAD method:

–   Shorter developing time

–   Creation of the functional prototype which can be easily modified

–   Feedback of the final user and cooperation with him

–   There is possibility of creation of powerful developers team

Disadvantages of the RAD method:

–   It needs very experienced developers

- Lack of know ledges and use of the RADs tools and procedures
- Incorrectly chosen tools

III. SERVICE DESK

In this chapter the example for development Service Desk using by method Rapid Application development will be described. Service Desk is a primary IT service within the method of ITIL®. It is intended to provide the communication between users and IT employees. The definition of Service Desk is a center that provides a Single Point of Contact (SPOC) between a company's customers, employees and business partners [5]. Service Desk should be a first contact in an organization for solving all IT questions. The primary functions of the Service Desk are life cycle management of all service requests, incident control and communicating with the customer. Service Desk manages each layer of service from beginning to end [16]. These layers are classified by:

- **Network Operations** is function for monitoring of all network devices and remote connections, trafic on network, incident reports, implements backups and manages change on the network. Main function is optimalized to network for business needs.
- **Systems Operations** is function for carrying out core systems management tasks. This includes installation of patches, change management, account management and support for platforms as Linux or Unix.
- **Database Operations** is function for optimizing and maintaining database task. Main functions are fault monitoring, access management and change control for database software as Oracle, DB2, etc.
- **Security Management** is function to protect system from threats. It performs a monitoring of IP protocol, scans vulnerability and creating maps from this entry.
- All of these functions must work together and the Service Desk will manage them.

A good Service Desk improves a company's IT costs managing while using the lifecycles of the IT processes and by utilizing ITIL® best practices. Service Desk communicates effectively and efficiently with each end user [16], [17].

IV. DEVELOPMENT OF IT SERVICE USING ITIL AND RAD METHOD

In the previous text Rapid Application Development is specified. This process are accelerating and simplifying development. Some of these procedures are based on Agil methodologies. Some steps can be used to develop software and also to developing of systems and processes.

ITIL is very extensive as one part of the development of IT solutions and services. In the phase of design and development services is a place where RAD can be used. With using this designing and developing of IT service in a very short timeframe is possible.

In the first phase users requirements are dealt. These requirements can be combined with real facts that can be achieved. The next need is a team of experienced developers. In the next phase brainstorming and consultation with method JAD is held. This consultation is based on consecutive meetings between developers, users and management of the organization. These meetings are mainly determined to consultation and defining of process, using data and design. The result of this analysis is depending mostly on the progress of implementation consultation. After the creation of a functional prototype the testing comes. After testing and errors repair the most important phase of developing comes. It is put the services into operation [14], [15].
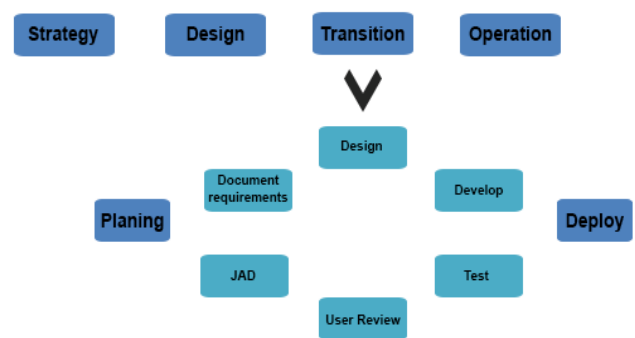

Figure. 4 Including of RAD to ITIL

In the RAD developing a working prototype is ready very soon after the start but is still developed. There is possibility to find better connection with users during developing. User has feeling of involving into development. This cooperation is based on principles of agile methodology.

V. CONCLUSION

In this paper connecting with two methodologies ITIL and RAD was described. The best advantage of combination of both methodologies is reduction of time for developing of some parts. In this case it is used for developing of service. Due to Rapid application development the functional prototype of the application is created quite soon and it is constantly improved. Another important advantage is communication with the final user and his involvement into the developing process. Every error is quickly corrected and final users can have notes through the whole developing time. The cooperation is based on AGIL methodology. It can be possible way to fast creating of service in ITIL methodology.

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