# ICT APPLICATION - VIRTUAL ASSISTANT ALGORITHM

Petra Nevrivova, Martina Berankova

ABSTRACT
The ICT application will cultivate new methods, with a possibility to be used in all subjects. It will contain influences from inside and outside the faculty or university. The scheme for the application ICT is in the form of a global decision procedure and for the selected neighbourhood. One part of this application is the creation of the Virtual personality. This Virtual personality is able to quickly correct and accurately specify types of exercises at any time. It can also recommend further literature to the user who wants to improve his results.
The ICT application within education has shown changes in communication among teachers, student and education institution administrations. There is an influence of quality and form in every part of the educational process by ICT. It is going to be supported and the leap component on the free market within education.

KEYWORDS
Virtual assistant, ICT application algorithm, virtual university, Internet, information technology

## INTRODUCTION

The new information technologies and their development will allow the remodelling the educational system in all of types of schools (universities, high schools, grammar schools, etc.). The ICT applications are developed at the universities. The education system will be changed by the virtual technologies. The Internet and other computer technologies permit the universities and education institutions to intensify the quality of education and raise the number of students.

The experiences of authors in marking the exercises of the students of the Czech Agricultural University in Prague (CUA) in the Department of Operational and Systems Analysis were one of the inputs to construct this ICT application. It was in the form of the global decision procedure and for the selected neighbourhood.

## METHODICS

Analysis of today's level of communication between teacher and students, especially its effectiveness at the Czech University of Agriculture in Prague, Faculty of Economy and Management.
1. Communication changes requirements based on previous analysis conclusions, key factors formulations, principles of communication between teacher and students formulation.
2. The solution in the Virtual assistant algorithm form, on a common level.
3. Effectiveness of the algorithm.

## VIRTUAL ASSISTANT ALGORITHM

The current state in setting up and correcting the cases for the distance learning students at the department of operation and system analysis is the departing point for using the virtual assistant application.

The students have to obtain a certain number of marks to pass the subject. They get marks for the correct solution. The tutorial is only via telephone or via e-mail. The educational institution administration is very complicated, thus this is the reason to construct the Virtual assistant application. The Virtual assistant application is the right "personality" to solve the current situation. At first, the students get a user name and a password for the application. After that, they communicate with their own virtual box, where they find the examples set for each of them. There is only one co-ordinator needed as an operating personnel of the Virtual assistant. The solution for the examples the students save to the virtual box and corresponding software are corrected and it marks the solution. The correct solution is praised and the students can continue with another theme. On the other hand, the Virtual assistant is described in Fig.2 ICT application – Virtual assistant.

Virtual assistant algorithm is based on these conditions:

- It can be possible to put the whole principle into the input form for the solution (for example in the simplex method there is a need to put all of the variables, number of lines, all conditions, etc.) The student should be guided by the Virtual assistant when he fills the form.
- The setting should be integral and also the solution should also be integral, without an alternative solution.
- The generation of the settings: the text is conceived the same as the others examples or else it will be conceived very similarly as the others, the number of variables remain the same. Only the numerical data is generated.
- Students can load all the examples for themselves in the beginning of the term.

Point system of homework evaluation:
- It is useful to establish an integrated type of marks for the concrete example.
- Different levels of difficulty can be found for subjects needs, points should change in
- Every student can do only two examples of each type. The second one is proposed to him only if he cannot pass through the first example.

The implementation of the Virtual assistant is considered in several phases. At first it will divide the correct and wrong solutions. And afterwards the whole functionality of the Virtual assistant will be implemented. The Virtual assistant has to be involved into, the right communication environment, using all of the all-available technologies. It is necessary to keep all pedagogical standards and principles of qualitative teaching and learning processes of the study programmes. The solution in the algorithm form is on common level and it is meant for a special environment, WebCT. The algorithm is placed on the next page.

**CONCLUSIONS**

The goal of the research was to analyse communication between teachers and students, and find a solution to improve the algorithm form. Virtual assistant is a virtual personality, which is able to quickly correct and accurately specify types of exercises at any time or recommend literature to improve the student's result. ICT application is a system application of the system, it means, that it uses new methods and improves them in all subjects and conditions that exist in/out the university or the faculty involved. ICT application in education is shown to change communication among teachers, students and education institution administrations. There is an influence of quality and form in every part of the educational process by ICT.
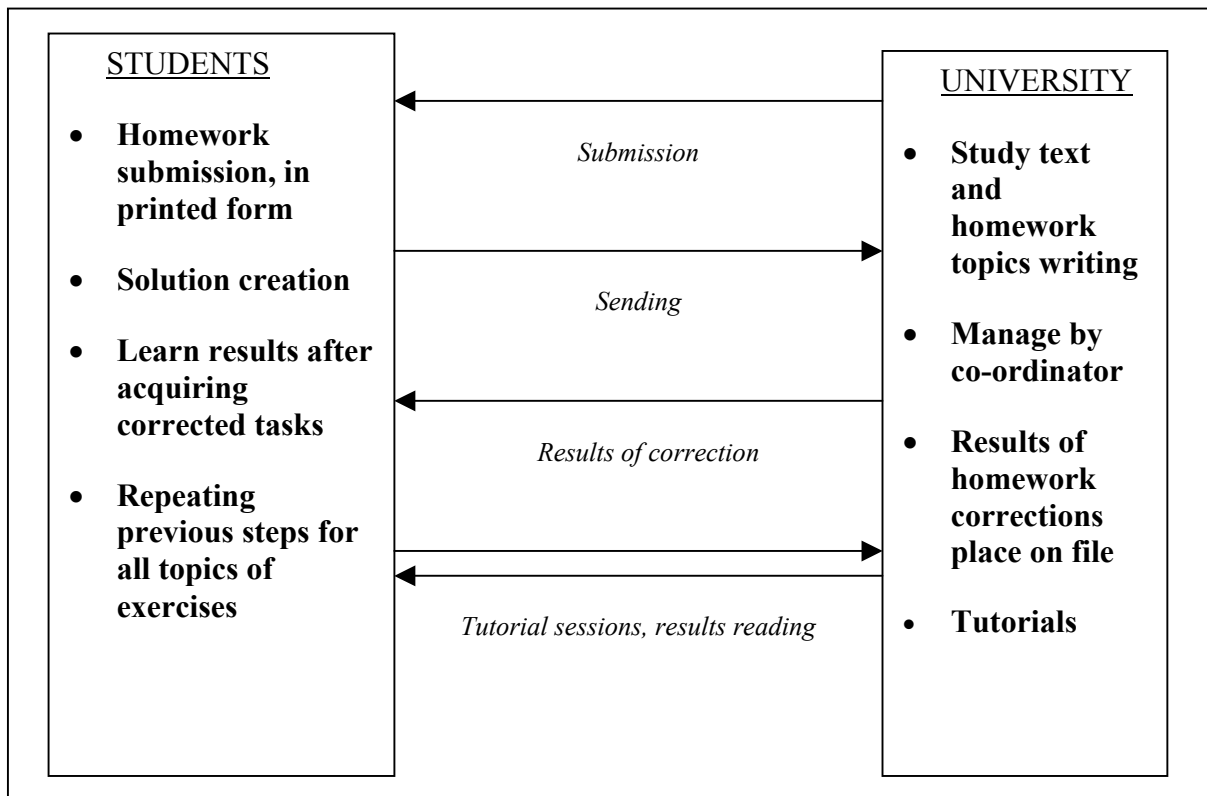
Figure 1. Previous system characteristics

**SW Analysis** (Strength/Weakness characteristics) of today's level of communication between teacher and students, its effectiveness:

Strength characteristics:

- Individual approach to corrections

Weakness characteristics:

- The number of the correctors increase with number of the students
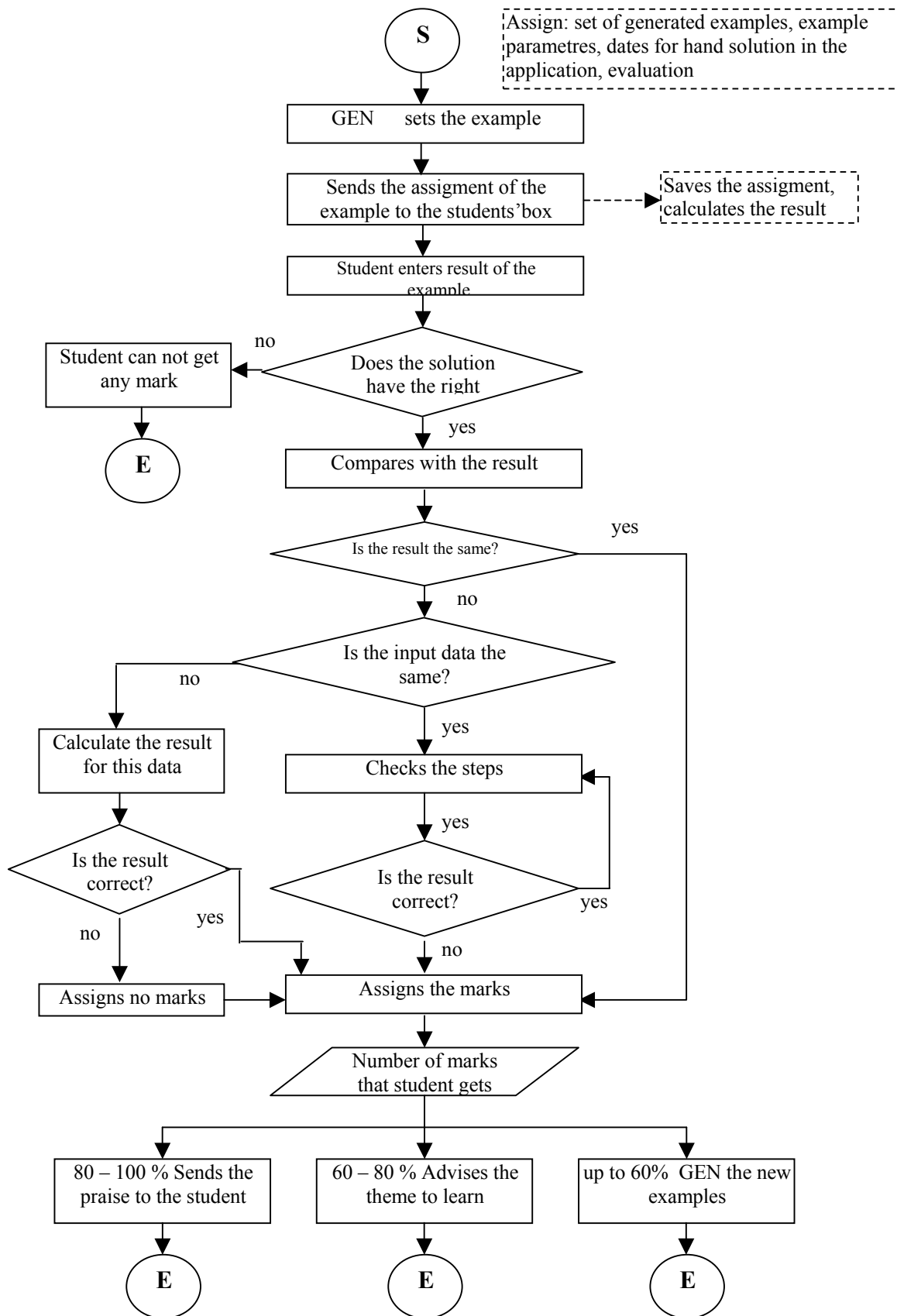- The difficulty of the administrative system
- The copy down risks

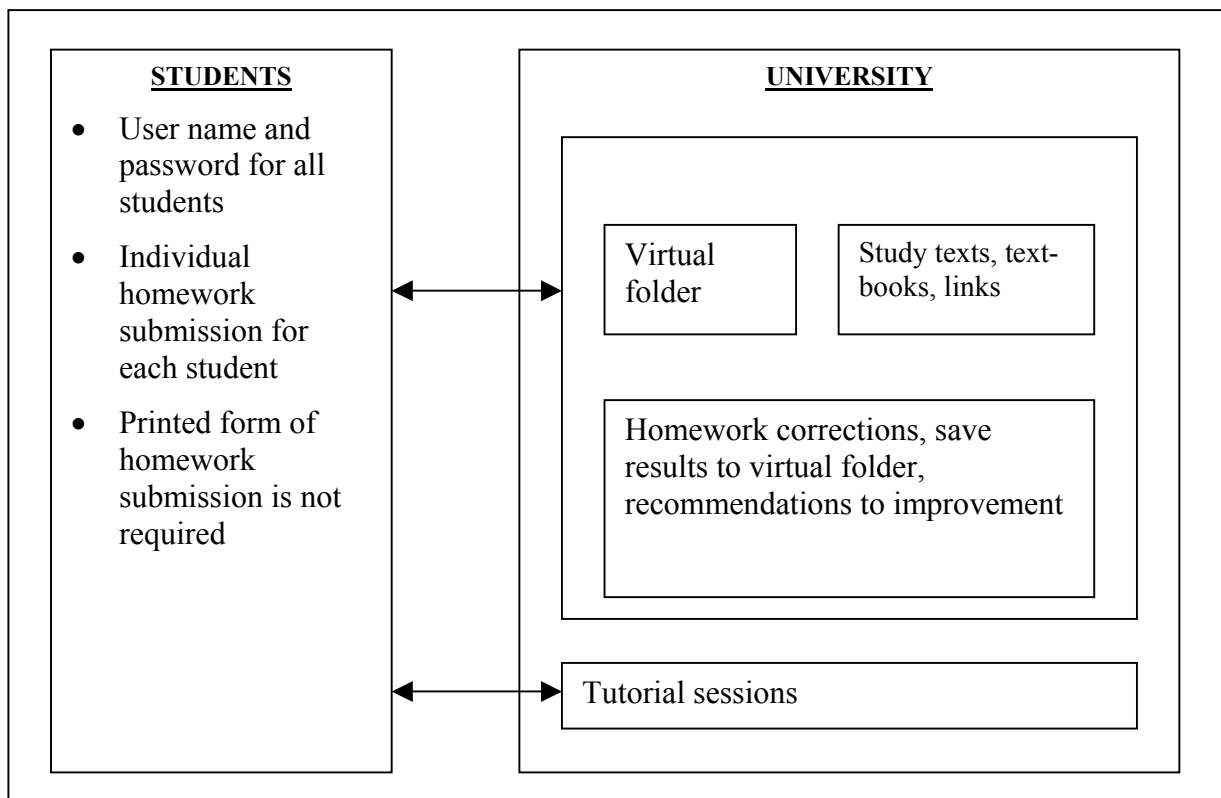Figure 2. ICT application-Virtual assistant

Figure 3. The scheme of communication between the teacher and the student – suggestion of improvement

**Effectiveness of the suggestion – the Virtual assistant**
Strength characteristics:
- No limits in number of students per coordinator
- No ineffective administration
- Individual homework submission for each student
- Can be used for training of student's knowledge

Weakness characteristics:
- Access to internet required
- Risk of fault/defect of technologies
- "Hard" point system of homework evaluation

Even partial implementation of Virtual assistant leads to time savings. The character of communication between the corrector and the student will change.

The ICT application for example marking used for distance students' homework can also be used for examination and knowledge testifying. The algorithm for the virtual examination and testing is based on the same principals.

The virtual study programmes and virtual elements in the classical study programmes are more than a commercial part of universities. Virtual environment is a new dimension in education and it changes and will change the typical clime of „stone" universities and education institutions.

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Petra Nevrivova, Martina Berankova
Czech Agricultural University in Prague
Faculty Economics and Management
Department of Operational and Systems Analysis
Kamycka 129
165 21  Praha 6 – Suchdol
Email : nevrivova@pef.czu.cz, berankova@pef.czu.cz