

We can find a huge assortment of the memory cards to choose on the market ranged from personal memory units to storage devices for huge enterprises. There is a few commonly types: secure digital card and its alternative, the microSD card; Secure Digital High Capacity card; CompactFlash card; Memory StickxD-Picture card; USB card and some others. Most of this types of cards are used for consumer devices, for example: portable digital cameras, mobile phones or tablets. Price of the cards depends on how much memory they can contain.

Everyday we use memory cards, but what do you know about their history? The first removable memory unit, such as the PC card or smart card used in video games area it is also memory cards. But today the modern memory cards are much more comfortable to use because they are smaller, require less energy and have larger amount of available. Therefore, flash cards have a great impact on the production of an increasing amount of pocket devices.

Portable memory storages have few pluses over a hard disk drive (HDD): they are much more smaller and lighter what allows to transport them easy, silent and allow to have urgent access to the memory. That is out of question, that HDD also have advantage: HDD have larger amount of storing memory and it is cheaper than flash cards with same storage.

The biggest amount of portable memory units are able to continuously work and nonvolatile. The values of nonvolatile cards that they can save data in the case of turning off the powering, software bug or other disruption, and also prevents the need of update information on the storage from time to time. Memory cards use solid-state media and have not removable parts, they are less vulnerable to damage.

A specific chip refers to EEPROM it is a chip which consist of a numbers of columns and rows with a cell that has two transistors at each section. Both transistors have a huge role in a work of chip: one of them links to the row through the control gate and because of that the cell has a value of 1. To change this value to a 0 need specific action named tunneling. Using this two values chip writes the data to the flash card in a sequence of 1 and 0. The process of storing data requires balance between two transistors so they are separated from each other by thin oxide layer.

Memory flash cards become better and better so have a huge prospects to develop new technologies for storing the information.

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## **ESSENTIAL ASPECTS OF ALPHA AND BETA TESTING**

The most time-consuming part of the work during the creation of new

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software is a process of debugging and error correction – not writing a code. People write codes, so they cannot be always right. According to statistics, the number of errors varies from 5 to 25 per thousand lines of the code, and searching these flaws takes the greater part of software design. Therefore, debugging exists exactly for this particular purpose. Alpha and Beta testing are important testing phases for success of any software release.

Initial code debugging starts in parallel with its writing by programmers. Test engineers of the developer company receive separate software modules as soon as they are done. Usually, the specific set of parameters is defined at the input of software module, and the correct operation of the program should be at the output as well. Testers begin searching errors using bug trackers and some kinds of debuggers if at the output of a program the results are unexpected. After separate software modules are ready, they will be combined into a single unit. The resulting application is not full-featured yet, but it is already able to work and execute, at least, its main tasks. This version of the program is called an alpha version.

Afterwards, Alpha testing is simulated by future customers at the developers' site. Alpha testing is mainly aimed at performing functions and operations which a typical user might execute. This kind of testing is typically carried out in a lab environment near the end of the software development and, as a rule, the testers are internal employees of the company. The testing procedures at this stage may require long execution cycle, though critical issues can be addressed by developers immediately. Additionally, Alpha testing is responsible for providing the quality of the product before moving to Beta testing. Aside from giving better view about software reliability at an early stage, Alpha testing ensures detection of errors with regard to design and functionality. Alpha testing is the last testing done by test teams at development site after the acceptance testing and before releasing the software for beta test. It can also be done by potential users or customers of the application.

Then the beta version can be released to crackers attempting to break it. This is a testing stage followed by internal full alpha test cycle. It is a fully working software version with required functionality. And the essential task of Beta testing is to assess the opportunities and stability of the program in terms of its future users. Thus, people who have experience with programs of this type or the previous version of the same program are invited as beta testers. Generally, companies already have a certain circle of people with whom they intend to cooperate.

Respectively, Beta testing is the stage of debugging and testing a beta version of the program, which can be seen by the end-users in prospect. Consequently, beta software versions are distributed to a wide audience on the Internet to provide the program with a «real-world» test enabling a preview of the next release. The main goal concerning the beta testing lies in obtaining the feedback from various types of consumers and checking compatibility of the product in a range of networks and hardware. Beta testing is performed at client location or

end user of the product and requires only a few weeks of execution. Such features as robustness, security and reliability are traditionally examined during Beta testing. While concentrating on the product's quality, Beta testing also gathers users opinions on the product and confirms that it is ready for real time customers. Moreover, Beta testing decreases product failure risk due to user validation and enhances product quality via customer feedback.

Summarizing the report, it can be emphasized that both types of testing are vital in testing life cycle and provide manufacturing of high-profile, advanced and efficient products.

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## **AIRPORT SPECIAL PURPOSE VEHICLES**

For transportation of passengers between the terminal building and remote stands on the apron or between individual buildings at the airport it is possible to use regular buses or special buses. The special airport buses used for the operation on the apron usually have a bigger capacity than regular buses. Because they have not been designed for regular operation on public services, they can be wider and have lower clearance. This makes it easier for the passengers to get in and out. In spite of the fact that special buses have higher capacity, sometimes the capacity of one bus is not sufficient. Therefore the system of "bus train" is used, which consists of several units with a drive and semitrailers. Some airports use mobile lounges to transport passengers between aircraft or a remote terminal and the central-processing terminal. The advantage of the mobile lounge is simplification of the passengers' movements. The passengers do not have to change level as when using buses. If all the stands on the apron have been designed as remote and mobile lounges are used for transportation to them, there are advantages of a quieter and less polluted environment in the terminal building as aircraft are usually parked on remote stand positions. The vehicle can be used as a holding lounge while it is docked at the terminal frontage. For connecting a central terminal with a remote pier, which does not involve people movers or vehicles, is to bridge the taxiways.

The simplest and also the most widely used types of people movers within terminal building are escalators for overcoming changes in level and moving walkways for near-horizontal transport. Moving walkways are mostly used for distances up to 200 m. They usually do not significantly shorten the time taken to