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| **3.2 Practical problem solving**  An information system of e-government is based on distributed databases of agencies.  E-Government Database  Agencies Databases  Figure 3.6 Architecture of information system in E-government  As known one of major function of e-government is registration of various documents about ( diploma, vehicle , mobile device and others). In this research we consider problem of mobile devices registration. Every day mobile devise have brought and were registered in database of communication agency. E-government system has access to any agency databases. Our problem develop prediction system for amount of registration by year on base of neural network technology.  After summarization we have following dataset (Table 5.)  Table 3.1 . Dataset   |  |  |  | | --- | --- | --- | | **N** | **Year** | **Registr** | | 1 | 2003 | 50456 | | 2 | 2004 | 67907 | | 3 | 2005 | 78564 | | 4 | 2006 | 65098 | | 5 | 2007 | 82346 | | 6 | 2008 | 78905 | | 7 | 2009 | 88657 | | 8 | 2010 | 80675 | | 9 | 2011 | 93289 | | 10 | 2012 | 98087 | | 11 | 2013 | 90432 | | 12 | 2014 | 95400 | | 13 | 2015 | 110654 | | 14 | 2016 | 102500 | | 15 | 2017 | 120677 | | 16 | 2018 | 118980 | | 17 | 2019 | 134568 | | 18 | 2020 | 123456 | | 19 | 2021 | 136765 | | 20 | 2022 |  |   Figure 3.7 Mobile devices registration graph  Before we transform our dataset transform in format according following structure  y(t-2) y(t-1) y(t)  and we have  Table 3.2 Transformed dataset   |  |  |  | | --- | --- | --- | | **x1** | **x2** | **y** | | 50456 | 67907 | 78564 | | 67907 | 78564 | 65098 | | 78564 | 65098 | 82346 | | 65098 | 82346 | 78905 | | 82346 | 78905 | 88657 | | 78905 | 88657 | 80675 | | 88657 | 80675 | 93289 | | 80675 | 93289 | 98087 | | 93289 | 98087 | 90432 | | 98087 | 90432 | 95400 | | 90432 | 95400 | 110654 | | 95400 | 110654 | 102500 | | 110654 | 102500 | 120677 | | 102500 | 120677 | 118980 | | 120677 | 118980 | 134568 | | 118980 | 134568 | 123456 | | 134568 | 123456 | 136765 |   For solving this problem we will use **Nntool** from **Matlab 2014**  Below is presented code of Matlab script      First given data are presented as matrix **learn**  In next step we separate this matrix to input **X** and output **Y** matrix  Function **newfit(x',y',10)** create neural network with 10 neurons in hidden layer (Figure 3.3)    Figure 3.8 Custom Neural Network  Function **train(prognoz,x',y');** trains this network  (Figure 3. )    Figure 3.9 Neural network training  Quality of training process are presented in Figures 3.-3.    Figure 3.10 Neural network performance    Figure 3.11 Neural network training state    Figure 3.7 Neural network training targets  Comparative graph of initial and model’s data is presented in Figure 3.    Figure 3.12 Neural network comparative graphs    Figure 3.13 Command Window with results  Amount of registration for 2022 year will be **12370**  **CONCLUSİON**  Master’s thesis is dedicated to application of neural network prediction methods in e-government area. As it is mentioned above purpose of the thesis is to clarify neural network on basis of e-government with previous researchers on the topic and analyze the methods of applications of neural network models in the information systems of the e-government. To sum up, objective is to identify the importance of the neural network in e-government.  The thesis contains introduction, chapters of literature review and methodology, conclusions and references. Initially, in the introduction general importance of the topic is discussed from general to specific areas of research and specific features are mentioned.  In chapter 1 general overview of e-government technologies and several projects that are already applied are discussed together with the formulation of the problem definitions.  In Chapter 2 functions of the prediction models of the e-governance are depicted together with the examinations of the functions of these models. Development process of the e-governance systems is not free of limitations. Data mining area have been investigated and prediction technology was choice as method for data analysis.  The neural network prediction methods has been analyzed and Matlab Nntool system l have been choose  In chapter 3 forecasting models are finally determined the predictions for upcoming years. As the Finding of the these, it can be mentioned that neural network can be beneficial in the development of the e-government system In chapter 3 data mining software have been analyzed. As software was used Matlab package  As practical problem prediction system for amount of mobile devices registration by year on base of neural network technology Results of this scientific work can be used to enhance e- government systems, business and also support many future researches. |  |