**1 slide**

Good afternoon, my name is Bulyga Artem, I’m a student of group KN-33j, supervised by Mr. Godlevsky and I would like to present you my coursework:

\*Topic\*

**2 slide**

Here is the list of abbreviations that we will use often in the next slides, listed for convenience. All other abbreviations you can find in coursework body.

**3 slide**

The problem statement is following:

**4 slide**

Problem actuality:

**5 slide**

Tasks that need to be accomplished to achieve the goal.

**6 slide**

CMMI model (Capability Maturity Model Integration) focused primarily on improving software development processes within the organization and obtaining their quality assessment. They key definition is a so called “Maturity” of organization, which is estimated by CMMI levels.

**8 slide**

Here we can see Maturity levels and Process areas which correspond to each of them. In order to company to reach some of this levels, all of the process areas of this levels, as well as previous one should reach some maturity level as well (i.e, they should be performed in a company).

**9 slide**

Unfortunately CMMI model doesn’t give any exact instructions what to, that’s why we apply sliding planning technique.

First, we take our initial profile of our SWDP(levels of our practices, which are described in terms of integer numbers), then form target profile that we want to reach.

After this, using sliding planning algorithms(finding optimal value of utility function(функция полезности) with constraints(financial and time resources) we find an optimal trajectory which shows how to improve our SWDP.

Here we can see on the X-axis: set of variables which characterize current status of SWDP on some period T(Y-axis, with subperiods)

**10 slide**

Let’s look at the use case diagram which is a part of functional requirements specification of the software. The main task is to visualize our optimal strategy of SWDP improvement.

**11 slide**

Here we see the IDEF0 diagram for main use case of the problem – visualizing an optimal strategy of SWDP improvement.

\*about diagram\*

**12 slide**

Here we can see the ontology for our domain. Category consists of FocuseAreas; FocusAreas consists of goals; To achieve some goal it is needed to transfer practice to new maturity level; We have our maturity level concept which represents maturity level of practice(e.g 0 level means that practice is not being implemented in company, while 4 level means it is formalized and automatized as consistently executing process in a company) TransferPrice is a price for transferring practice to some maturity level. It takes some resources; which can be either time or financial resources;

**13 slide**

Here we can see CMD for our domain. Relations are quite similar; we also have a Solutions concept which includes categories (in practice it will be a bunch of practices that we need to improve) with some periods and resources that are needed to perform transfer)

**14 slide**

I have chosen standard 3-layer architecture. Note that we software will use external existing API’s for solving dynamic and static tasks.