



Accompanying booklet for students

APP5

Pharmacy customer and medication management



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1.Introduction

During this session, you will have at your disposal a problem to which you try to provide solutions by following a new methodology called Problem-Based Learning (PBL). You, as well as your group, will be the main actors to carry out its success! Your tutor will be introduced to answer your questions and guide you without providing you with a solution.

Problem-Based Learning (PBL) works as follows:

- “Go” session: each group takes note of the situational problem, determines what there is to produce (deliverable(s)), the questions that arise and what each must learn and do to produce the deliverable(s) (s).
- Autonomous work: used to learn what is needed and to produce the deliverable(s).
- “Return” session: students compare deliverables, examine important differences, learn lessons (what are the best approaches and why), answer questions about the subject (asked by the tutor, etc.).

2. Presentation of situational problem: management of customers and drugs in a pharmacy

You have just been recruited as an engineer in a service company, which asks you to make the best use of the possibilities offered by the Java object-oriented language to develop a tool for computerized management of drugs and customers in a pharmacy. The program must make the best use of graphical interfaces and exceptions

When creating a new drug, the pharmacist sets its reference, label, description, quantity and selling price.

In order for a customer to be able to buy a medicine, the pharmacist must first register this customer. He must therefore set his social security number, surname, first name, address and telephone number.

Your mission is therefore to create a graphical interface in java allowing:

- To add a new customer. Once this customer is registered, he is added to the list (table) of pharmacy customers and a registration confirmation message is displayed.
- Throw an exception if a customer security number is less than 13 characters.
- To add a new drug. Once this drug is registered, it is added to the list (table) of drugs in the pharmacy and a registration confirmation message is displayed.
- To supply the stock of a drug. The pharmacist must set the reference of the medicine as well as the quantity to be added to the stock. To be able to carry out this operation, it is necessary to check that the drug in question exists in the list of drugs of the pharmacy.
- To process a purchase made by a customer for a given drug in a given quantity. To be able to carry out the purchase operation, the pharmacist must enter the customer's social security number, the reference of the medicine and the desired quantity. This operation will have the effect of deducting the quantity purchased from the stock of the corresponding drug and calculating the purchase price. If out of stock, an alert message is displayed.
- Search for a customer by their social security number and display their information and the list of medications they have purchased. The display will be on an interface.

3. Resources for dealing with the situational problem

Documents

<https://www.jmdoudoux.fr/java/dej/chap-swing.htm>

<https://jmdoudoux.developpez.com/cours/developpons/java/chap-swing.php>

<https://openclassrooms.com/fr/courses/26832-learn-to-program-in-java/22107-manage-them-exceptions>

<https://rmdiscala.developpez.com/cours/LesChapitres.html/Java/Cours3/Chap3.2.htm>

Other Resources

For this APP, we invite you to use the resources available on the Internet via a search engine. Words they may use:

- GUI in Java
- Exceptions in Java

APP Treatment Schedule:

Timing of “go” session and individual work

Stages and Steps		Tasks
A-stages	1	<i>Organize the team:</i>
	5 minute	<ul style="list-style-type: none"> • Distribute essential functions (see page 5) • <i>The helmsman becomes aware of the stages to be covered and stays the course</i>
	2	<ul style="list-style-type: none"> • The time keeper pledges to monitor the timing <i>Read the document provided:</i>
	10 minutes	<ul style="list-style-type: none"> • <i>Everyone performs a first overview of the notebook to familiarize themselves with the content</i>
	3	Understand and clarify the problem: <ul style="list-style-type: none"> • What exactly is the problem we are going to deal with? • <i>The scribe begins to note what appears in the exchanges (keywords, concepts, ideas, ...)</i>
	20 mins	Establish together ways to deal with the problem: <ul style="list-style-type: none"> • Establish a list of relevant questions to be answered • Take stock of what the team knows (and doesn't know)
B-stages	4	<ul style="list-style-type: none"> • If necessary, draw up a list of simplifications, restrictions with a view to limiting the scope of the problem (if necessary, see with the tutor) • Establish a list of expected productions • Consider different avenues to move forward in treatment • <i>The activator launches and restarts the discussion when necessary</i> Specify the learning outcomes:
	40 mins	
C-stages	5	<ul style="list-style-type: none"> • What needs to be (re-)learned/discovered to deal with the problem? • What questions will each of us need to be able to answer at the end of the “RETURN” session? • What will you need to be able to do? Establish an action plan:
	30 mins	
6		<ul style="list-style-type: none"> • Determine what information to collect to confirm or invalidate leads listed
15 mins		<ul style="list-style-type: none"> • List the tasks to be accomplished and the deliverables to be prepared by each before next session... • <i>The secretary writes down what is decided and manages to communicate it to the others</i> • <i>Members of the team</i>
Phase R		
7		
Individual		

**Individual
work :**

- Implement the action plan established in step 6: everyone carries out the work decided on and prepares what they will bring to the “Return” session.
- **Each student must individually read and learn the concepts covered in this APP**
- Each student proposes a solution.
- Share what everyone has studied, prepared, contributed

		<ul style="list-style-type: none"> ▪ Discuss everyone's solution as a group and propose a solution to present during the feedback session. ▪ The solution must be provided as a well-commented program under Eclipse
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APP Treatment Schedule:

“Return” session timing

Stages and Steps		Tasks
	1	Validate learnings, solutions, deliverables
	120	<ul style="list-style-type: none"> ▪ Present the solution proposed by the group ▪ Answer questions from other groups or the tutor ^{min} ▪ Propose a correction and/or improvement of the solution ▪ Validate collectively

Functions to facilitate teamwork...




For teamwork to go well and be effective, a little organization is necessary... The tutor will have given you sheets/cards that describe the different functions to be assumed to reach this goal.



The back of each card specifies the function defined by the card. Examine the maps and distribute the functions among the members. Each member has the card(s) assigned to him/her in front of him (or her!) so that each member can see who is responsible for which function(s).

Among the proposed functions, the "Active participant" function must be assumed by each member!




Some functions to distribute:

Essential functions:

coxswain		You monitor the progress of the work. You ensure that the team follows the imposed steps or that it decided to follow. You prevent the team from going astray, wasting time in tracks No Exit.
Activator		You encourage each member of the team to actively contribute to the works ; you forget neither the scribe nor the secretary! If it is necessary to distribute tasks, you ensure that each member contributes equitably.
Keeper of time		You ensure the proper use of the available time. You draw attention to the risk of falling behind.

Scribe 	<p>On the common workspace (e.g. flip chart), you write down the important ideas, outstanding questions, emerging patterns during discussions, but without imposing your own points of view. You manage the sheets of the flip chart so that the useful information is visible to all team members.</p> <p>Don't forget to participate in the discussions!</p>
Secretary 	<p>You produce a summary of the important elements from the discussions: those that must be kept for the rest of the work. You record all the information necessary for the continuation of the work: the decisions made, the deadlines set, the next appointments, collective and/or individual work plans, etc. You distribute your productions and the other documents necessary to all team members.</p> <p>Don't forget to participate in the discussions!</p>

Functions that may be useful:

Circulator of speech 	<p>You ensure that each member of the team can speak out.</p> <p>You encourage members in withdrawal to speak; you don't forget the scribe or the secretary!</p> <p>You prevent one or other team member from mobilizing the speech to the detriment of others.</p>
Spokesperson 	<p>You present the status or results of your team's work on a concise and complete manner, without indicating any preference for your own point of view.</p> <p>You use all means necessary for communication efficient.</p>
Maker of point 	<p>You periodically take stock of the state of progress: where is the team? what is done? what remains to be done? that do we know and what do we not know?</p> <p>You help the scribe note these items on the workspace common.</p>
...	<i>If necessary, add a function that you think is useful or necessary</i>

Evaluation of teamwork (1)

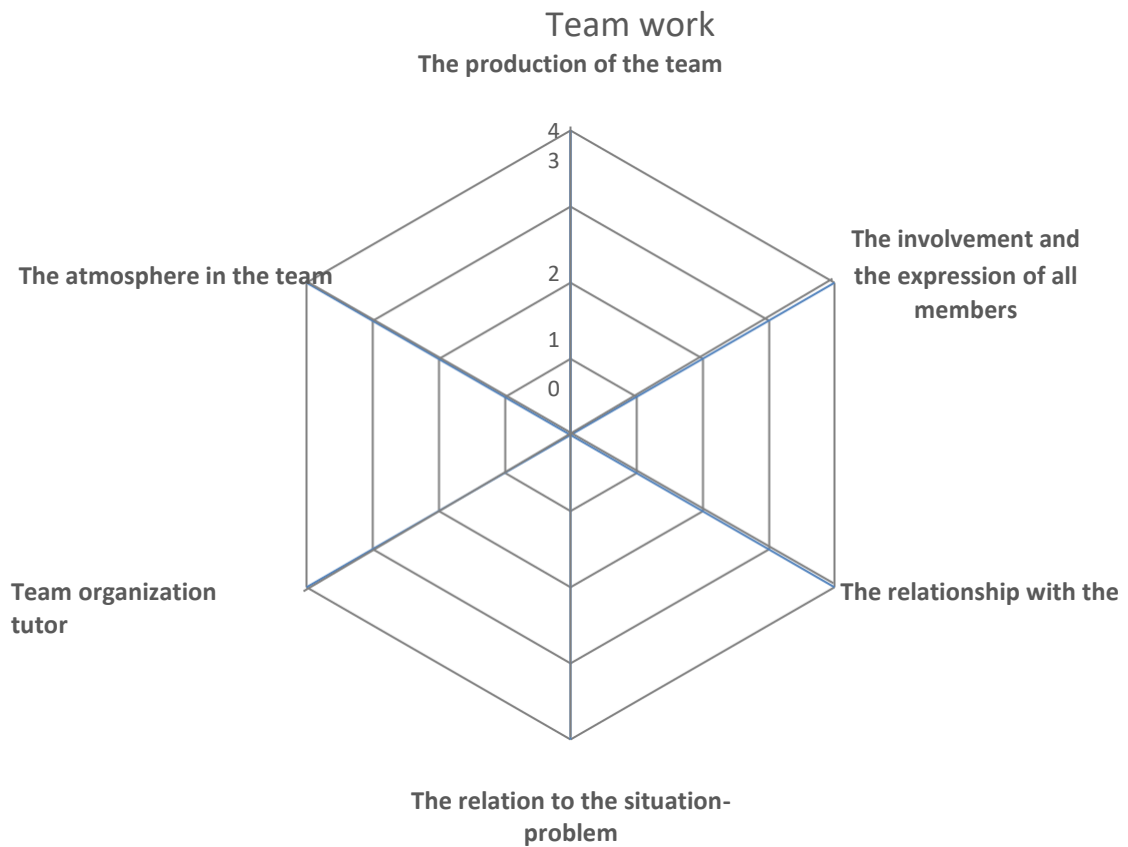
Indicate on each of the 6 axes shown on the diagram below your level of general appreciation between 0 and 4:

0: <i>very unsatisfactory</i>	1: <i>unsatisfactory</i>	2: <i>unsatisfactory</i>	3: <i>satisfying</i>	4: <i>very satisfying</i>
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Then connect the dots together.

Axes (evaluation criteria)

- **The production of the team**(the team produced something satisfying, this production is really the result of a collective effort, the meetings were effective, the exchanges made it possible to bring out different points of view to deal with the problem...).
- **The atmosphere in the team, the work climate**(the understanding between the members of the team was good, the participants helped and encouraged each other, the team managed to overcome their differences of view, no one managed to impose their point of view...).
- **Work organization**(the team managed to coordinate its activities, the team remained focused on the task at hand, the team made good use of the board; the different functions were well distributed and well taken care of).
- **The involvement and expression of each member**(each of the participants contributed significantly to the effectiveness of the team, the team gave the opportunity to each of its members to express their point of view, participants withdrawn were solicited, all members of the team did their share of individual work between the two sessions...).
- **The relationship with the tutor**(in general, the team made good use of the tutor's presence as a resource to help them progress in their work).
- **The relation to the problem situation**(the team got caught up in the game, they were motivated to work on the theme; the team found that the problem situation was well suited to the public, that it was sufficiently complex, that it was rich to exploit).



Teamwork assessment (2)

List here two elements that worked well in your teamwork (during the sessions)	
1.	
2.	



Evaluation of your individual work

List here two elements that worked well in your individual work (during the autonomy phase)

1.

2.

List two things here that didn't work well in your individual work1.

2.

If you could start over, what would you do to improve your individual work?

How can you ensure that your individual work improves the next time you do it? What would be the indicators?