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Course: Artificial Intelligence (CSE-241)

Exercise-1.1

(i) **Cathedral model:** The “Cathedral” model for developing softwares allows only a certain group of people to see and modify the source code. Softwares developed in this principle are generally proprietary in nature and do not allow to change the source code to anyone who is not the part of institution controlling developement of application. It is much possible It has **following advantages:**
a.) This models generally assures that known bugs are solved quickly though the identification of bugs may be slow. As the developers with expertise on particular areas are assigned the tasks for looking after issues of a given kind, reported issues generally are solved quickly.
b.) As the application following cathedral model are generally backed by economically powerful institutions, these application generally provide a more efficient and smooth integrations of various services in the application.

Disadvantages of Cathedral model:
a.) As the code is allowed to be tested only by selected developers, issues with the code may be missed.
b.) As issues are not properly discovered it may happen that users may have to face the result of the mistakes made by developers.
c.) Though known issues may be solved quickly by the developers, it still happens that users may have to wait for long monster releases, to see their isssues or feature request being implemented in the software.
d.) The testing environment may not be as diverse as for an application following Bazzar model.

(ii) **Bazzar model:** The “Bazzar” or open-source model for developing softwares involves putting the source code of application open to everyone, for contribution, filing bugs as well as solving them. It invloves a open community of developers from around the world which is generally open to accept solutions to the issues. It has **following advantages**:
a.) As the code is open to a large number of eyes for inspection, it’s natural that flaws are more likely to be spotted easily as compared to cathedral model.
b.) As the testing of code for the application can be done from people across the world and that too in diffrent platforms and programming environments the issues covering more generic cases popup easily.
c.) As anyone can contribute to the source code in Bazzar model many issues are solved and shipped quickly in minor releases.
d.) Bazzar model involves a continous development of softwares so users generally do not have to wait for so long to see the fixes of the issues, or requested features getting implemented in the application.

Disadvantages of Bazzar model:

a.) As the source code for the application is kept open to everyone, there are fair chances that people with malicious intentions may try to break through the security and privacy system implmented in the appplication.
b.) Another major problem faced while following a bazaar model for developing an application is of funding or charging, as open-source softwares are generally freely available, so the developers that may be highly invloved the development and maintainence of the application may not get paid according to the amount of work they did.

Science: Above points are also significantly valid for science as well. Most of researches are generally announced quickly so that people can verify their correctness. Also many researchers ofen collabrate to brainstorm about their ideas in order to publish better results. So above points for cathedral and bazaar model are applied in field of science and research as well.