Lab Assignment

Team Members:

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1- Static Analysis Report for current code:

Class	SonarQube analysis
Class EmailGateway	Found 2 issues in 1 file
Class SMSGateway	Found 2 issues in 1 file ✓ ASSASCateway,java (2 issues) Ø № [9, 48] Remove this unused method parameter "user". Ø № [1, 8] Rename this package name to match the regular expression '^[a-z_]+(\[a-z_][a-z0-9_]^*)*\$'.
Class DailyNewsEmailMessage	Found 4 issues in 1 file * # DailyNewsEmailMessage.java (4 issues) * * * \$\infty\$ A \(\cdot \), 3/7 Remove this unused method parameter "placeHolders". * * \$\infty\$ \(\infty\$ \(\pi_1\), 3/7 Remove this package name to match the regular expression '^{a-z}+\(\pi_4\) 2/3/3 Move the array designators \(\beta\$ to the type. * \(\infty\$ \(\infty\$ \(\cdot \), 3/7 Move this method and declare a constant for this value.
Class DailyNewsMobileMessage	Found 4 issues in 1 file ✓ Call DailyNewskhobileMessage.java (4 issues) Ø ♠ (5, 37) Remove this unused method parameter "placeHolders". Ø ♣ (1, 3) Remove this package name to match the regular expression '^[a-z_]+(\[a-z_][a-z0-9_]^*)*\$. Ø ♣ (5, 37) Move the array designators [] to the type. Ø ♣ (7, 3) Remove this method and declare a constant for this value.
Class Grade AnnouncementEmailMessage	Found 4 issues in 1 file ***
Class Grade AnnouncementMobileMessage	Found 4 issues in 1 file ** #_GradesAnnouncementMobileMessage_java (4 issues) ** \int \text{\t

Software Maintenance & Evolution Class TaskAddedEmailMessage Class TaskAddedMobileMessage Class Course ## Course java (13 issues) ② (0, 0) Move this file to a named package. ② (20, 15) Rename this filed "TAsForEmailNotification" to match the regular expression '^[a-z][a-zA-Z0-9]*\$'. ③ (21, 15) Rename this filed "TAsForEmailNotification" to match the regular expression '^[a-z][a-zA-Z0-9]*\$'. ③ (31, 31) Replace the type specification in this constructor call with the diamond operator ("<>"). ④ (32, 23) Replace the type specification in this constructor call with the diamond operator ("<>"). ② (33, 34) Replace the type specification in this constructor call with the diamond operator ("<>"). ② (35, 48) Replace the type specification in this constructor call with the diamond operator ("<>"). ② (38, 44) Replace the type specification in this constructor call with the diamond operator ("<>"). ② (38, 49) Replace the type specification in this constructor call with the diamond operator ("<>"). ② (38, 49) Replace the type specification in this constructor call with the diamond operator ("<>"). \mathfrak{G} \mathfrak{G} (39, 39) Replace the type specification in this constructor call with the diamond operator ("<>") \mathfrak{G} \mathfrak{G} (41, 46) Replace the type specification in this constructor call with the diamond operator ("<>") 4.2.4.4) Replace the type specification in this constructor call with the diamond operator ("<>") 5.3.4.4) Replace the type specification in this constructor call with the diamond operator ("<>") 5.3.4.4) Replace the type specification in this constructor call with the diamond operator ("<>>") 5.3.4.4) Replace the type specification in this constructor call with the diamond operator ("<>>") Class TA Class professors ✓ ## Professor.java (1 issue) Ø ❤ (8, 8) Rename this field "PhDTopic" to match the regular expression '^[a-z][a-zA-Z0-9]*\$'. Class student 🕀 👱 🛣 💠 — 🕒 Student.java 🛇 😲 (5, 5) Rename this field "Id" to match the regular expression '^[a-z][a-zA-Z0-9]*\$'.

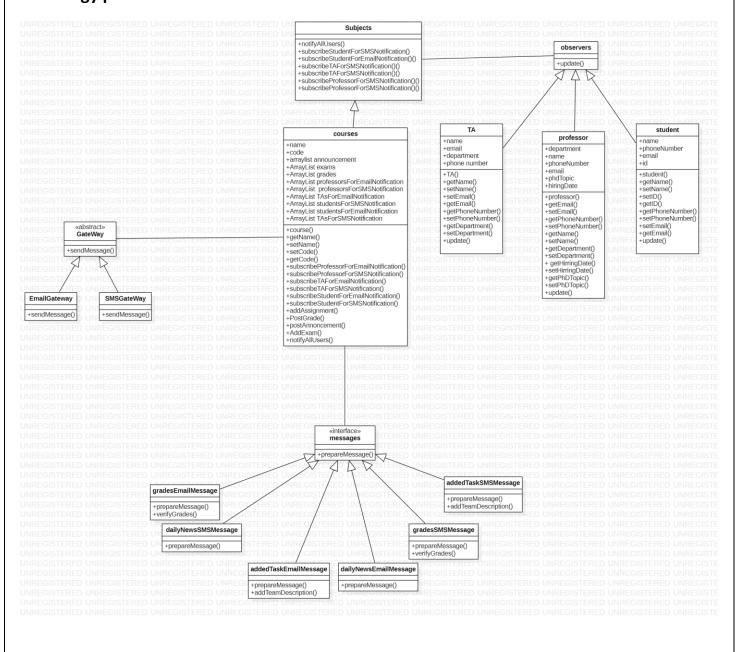
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2-Class Diagram after Refactoring:

Design Patterns used:

1-observer pattern

2-strategy pattern



3-Static Analysis Report after refactoring:

Class	SonarQube analysis
Class EmailGateway	src / gateways / ③ EmailGateway □ Project ▼
Class SMSGateway	Project ▼ ② ∑ ☆ − ◎ SMSGateway.java × ○ SonarLint: Current file Report Taint vulnerabilities Log No issues found in the current opened file
Class DailyNewsEmailMessage	c > messages > ② DailyNewsEmailMessage ☐ Project ▼ ② 至 ★ □ ② DailyNewsEmailMessage.java × Sonartint: Current file Report Taint vulnerabilities Log No issues found in the current opened file
Class DailyNewsMobileMessage	src > messages > ③ DailyNewsMobileMessage ☐ Project ▼
Class Grade AnnouncementEmailMessage	src > messages >
Class Grade AnnouncementMobileMessage	src > messages > ⊙ GradesAnnouncementMobileMessage > ⊙ prepareMessage ☐ Project ▼
Class TaskAddedEmailMessage	Project ▼ ⊕ Œ Œ TaskAddedEmailMessage.java × SonarLint: Current file Report Taint vulnerabilities Log No issues found in the current opened file
Class TaskAddedMobileMessage	src) messages)

Software Maintenance & Evolution **Class Course** ⊕ (40, 46) Replace the type specification in this constructor call with the diamond operator ("<>"). ⊕ (42, 41) Replace the type specification in this constructor call with the diamond operator ("<>"). (43, 39) Replace the type specification in this constructor call with the diamond operator ("<>") (45, 46) Replace the type specification in this constructor call with the diamond operator ("<>") 🖒 🥸 (46, 44) Replace the type specification in this constructor call with the diamond operator ("<>"," Class gateway Class messages Class subjects 🔳 Project 🔻 😛 💆 🛨 🗘 🗘 — 🚺 Subject.java × Class Observers SonarLint: Current file Report Taint vulnerabilities Log No issues found in the current opened file Class Ta No issues found in the current opened file Class professor Class student

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