Software Engineering Design - 2025 Prof. Dr. Lokaiczyk

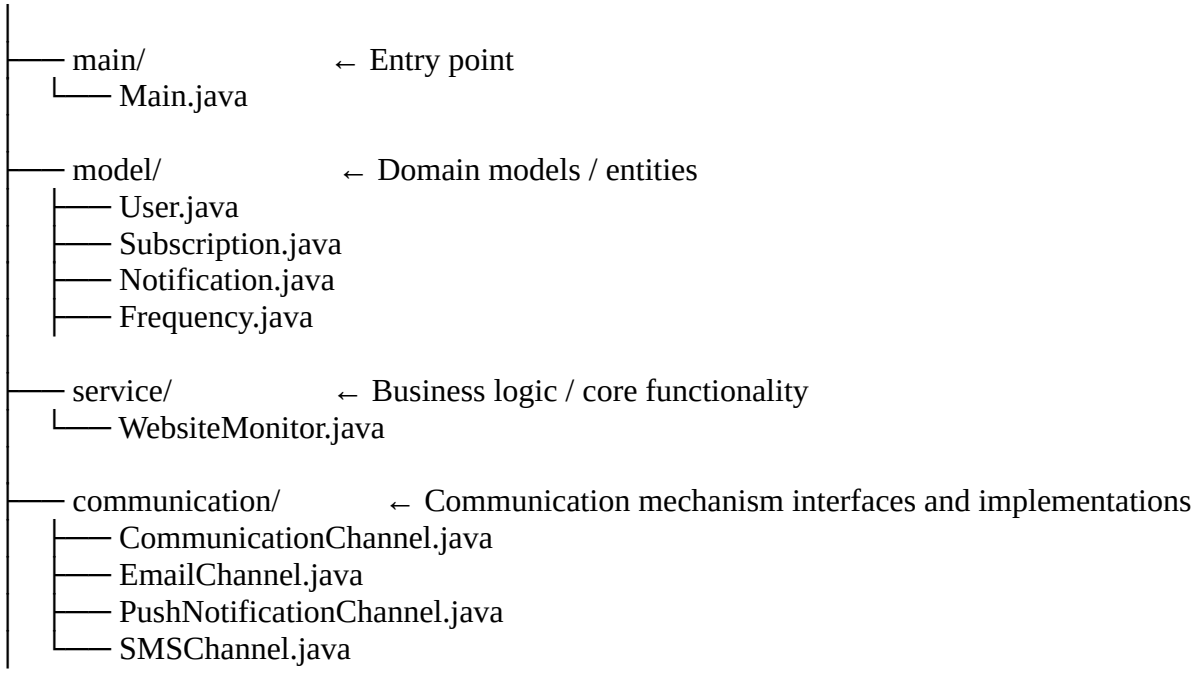
2.

Class	**Depends on (EC)**	**Depended on by (AC)**	**Instability (I = EC / EC+AC)**
User	1	2	1 / (1+2) = 0.33
Subscription	3	3	3 / (3+3) = 0.50
Notification	1	4	1 / (1+4) = 0.20
WebsiteMonitor	2	1	2 / (2+1) = 0.67
CommunicationChannel	2	3	3 / (3+2) = 0.40
EmailChannel	3	1	3 / (3+1) = 0.75
PushNotificationChannel	3	1	3 / (3+1) = 0.75
SMSChannel	3	1	3 / (3+1) = 0.75
Frequency	0	1	0 / (0+1) = 0.00 (fully stable)
Main	9	0	9 / (9+0) = 1.00 (max unstable)

Notes:
Main is completely unstable (as expected) because it depends on everything and nothing depends on it.
Frequency is fully stable - it’s only a referenced enum.
Notification is a stable data class used throughout the system.
EmailChannel and PushNotificationChannel are unstable - they rely on others but are used very little.
Subscription and CommunicationChannel are moderately unstable (0.4) - used and dependent.

3.

com.uas.websiteMonitor



4.

Option	**Result**
User interfaces	Decouples implementation
Dependency injection	Reduces hard-coded dependencies
Listener pattern	Removes direct calls between classes
Limit imports	Enforces separation of concerns
Layered architecture	Clarifies direction of dependencies