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Table of Contents

1 Design Model 11

1.1 Overview 11

1.1.1 Architecture Layers 11

1.2 Design Objects 12

1.2.1 Class Diagram for Entity Classes (Users) 12

1.2.2 Class Diagram of Entity Classes (Radio Programs) 12

1.2.3 phoenix 13

1.2.3.1 musicchart 14

1.2.3.1.1 entity 14

1.2.3.1.1.1 ChartItem 14

1.2.3.1.1.2 MusicChart 14

1.2.3.2 playlist 15

1.2.3.2.1 entity 15

1.2.3.2.1.1 AuditItem 15

1.2.3.2.1.2 Playlist 15

1.2.3.2.1.3 PlaylistAuditTrial 15

1.2.3.3 core 16

1.2.3.3.1 controller 16

1.2.3.3.1.1 PhoenixFrontController 16

1.2.3.3.1.1.1.1 void doGet() 16

1.2.3.3.1.1.1.2 void doPost() 16

1.2.3.3.1.1.1.3 void processRequest() 16

1.2.3.3.2 dao 17

1.2.3.3.2.1 DAOFactory 17

1.2.3.3.2.1.1.1 DAOFactory() 17

1.2.3.3.2.1.1.2 ProgramDAO getProgramDAO() 17

1.2.3.3.2.1.1.3 RoleDAO getRoleDAO() 17

1.2.3.3.2.1.1.4 ScheduleDAO getScheduleDAO() 17

1.2.3.3.2.1.1.5 UserDAO getUserDAO() 17

1.2.3.3.2.1.1.6 UserMaintenanceDAO getUserMaintenanceDAO() 17

1.2.3.4 authenticate 18

1.2.3.4.1 controller 18

1.2.3.4.1.1 LoginCmd 18

1.2.3.4.1.1.1.1 String perform() 18

1.2.3.4.1.2 LogoutCmd 18

1.2.3.4.1.2.1.1 String perform() 18

1.2.3.4.2 dao 19

1.2.3.4.2.1 impl 19

1.2.3.4.2.1.1 RoleDAOImpl 19

1.2.3.4.2.1.1.1.1 List<Role> loadAll() 19

1.2.3.4.2.1.1.1.2 RoleDAOImpl() 19

1.2.3.4.2.1.1.1.3 List<Role> searchMatching() 19

1.2.3.4.2.1.2 UserDAOImpl 19

1.2.3.4.2.1.2.1.1 List<User> loadAll() 19

1.2.3.4.2.1.2.1.2 List<User> searchMatching() 19

1.2.3.4.2.1.2.1.3 UserDAOImpl() 19

1.2.3.4.3 delegate 20

1.2.3.4.3.1 AuthenticateDelegate 20

1.2.3.4.3.1.1.1 AuthenticateDelegate() 20

1.2.3.4.3.1.1.2 User validateUserIdPassword() 20

1.2.3.4.4 entity 21

1.2.3.4.4.1 Role 21

1.2.3.4.4.1.1.1 Attributes 21

1.2.3.4.4.1.1.2 getter() 21

1.2.3.4.4.1.1.3 Role() 21

1.2.3.4.4.1.1.4 setter() 21

1.2.3.4.4.2 User 21

1.2.3.4.4.2.1.1 Attributes 21

1.2.3.4.4.2.1.2 getter() 21

1.2.3.4.4.2.1.3 setter() 21

1.2.3.4.4.2.1.4 User() 21

1.2.3.4.5 service 22

1.2.3.4.5.1 AuthenticateService 22

1.2.3.4.5.1.1.1 AuthenticateService() 22

1.2.3.4.5.1.1.2 User validateUserIdPassword() 22

1.2.3.4.6 homePage 22

1.2.3.4.6.1.1 init() 22

1.2.3.4.6.1.2 manageRadioProgram() 22

1.2.3.4.6.1.3 manageSchedule() 22

1.2.3.4.6.1.4 manageUser() 22

1.2.3.4.6.1.5 selectLogout() 22

1.2.3.4.7 loginPage 22

1.2.3.4.7.1.1 enterUserIdAndPassword() 22

1.2.3.4.7.1.2 init() 22

1.2.3.4.8 logoutPage 22

1.2.3.4.8.1.1 init() 22

1.2.3.5 radioprogram 23

1.2.3.5.1 controller 23

1.2.3.5.1.1 AddEditRadioProgramCmd 23

1.2.3.5.1.1.1.1 String perform() 23

1.2.3.5.1.2 DeleteRadioProgramCmd 23

1.2.3.5.1.2.1.1 String perform() 23

1.2.3.5.1.3 EnterProgramDetailsCmd 23

1.2.3.5.1.3.1.1 String perform() 23

1.2.3.5.1.3.1.2 void validateFormat() 23

1.2.3.5.1.4 ManageRadioProgramCmd 23

1.2.3.5.1.4.1.1 String perform() 23

1.2.3.5.2 dao 24

1.2.3.5.2.1 impl 24

1.2.3.5.2.1.1 ProgramDAOImpl 24

1.2.3.5.2.1.1.1.1 bool checkProgramExists() 24

1.2.3.5.2.1.1.1.2 void createProgram() 24

1.2.3.5.2.1.1.1.3 void deleteProgram() 24

1.2.3.5.2.1.1.1.4 List<RadioProgram> findProgram() 24

1.2.3.5.2.1.1.1.5 void modifyProgram() 24

1.2.3.5.2.1.1.1.6 ProgramDAOImpl() 24

1.2.3.5.3 delegate 25

1.2.3.5.3.1 ProgramDelegate 25

1.2.3.5.3.1.1.1 void processCreate() 25

1.2.3.5.3.1.1.2 void processDelete() 25

1.2.3.5.3.1.1.3 void processModify() 25

1.2.3.5.3.1.1.4 ProgramDelegate() 25

1.2.3.5.3.2 ReviewSelectRadioProgramDelegate 25

1.2.3.5.3.2.1.1 void reviewSelectRadioProgram() 25

1.2.3.5.3.2.1.2 ReviewSelectRadioProgramDelegate() 25

1.2.3.5.4 entity 26

1.2.3.5.4.1 RadioProgram 26

1.2.3.5.4.1.1.1 Attributes 26

1.2.3.5.4.1.1.2 getter() 26

1.2.3.5.4.1.1.3 RadioProgram() 26

1.2.3.5.4.1.1.4 RadioProgram() 26

1.2.3.5.4.1.1.5 setter() 26

1.2.3.5.5 service 27

1.2.3.5.5.1 ProgramService 27

1.2.3.5.5.1.1.1 void processCreate() 27

1.2.3.5.5.1.1.2 void processDelete() 27

1.2.3.5.5.1.1.3 void processModify() 27

1.2.3.5.5.1.1.4 ProgramService() 27

1.2.3.5.5.2 ReviewSelectRadioProgramService 27

1.2.3.5.5.2.1.1 void reviewSelectRadioProgram() 27

1.2.3.5.5.2.1.2 ReviewSelectRadioProgramService() 27

1.2.3.5.6 webpages 28

1.2.3.5.6.1 listrp 28

1.2.3.5.6.1.1.1 init() 28

1.2.3.5.6.1.1.2 void selectRadioProgram() 28

1.2.3.5.6.2 programListPage 28

1.2.3.5.6.2.1.1 void init() 28

1.2.3.5.6.2.1.2 selectAdd() 28

1.2.3.5.6.2.1.3 selectDelete() 28

1.2.3.5.6.2.1.4 selectEdit() 28

1.2.3.5.6.3 setupProgramPage 28

1.2.3.5.6.3.1.1 enterProgramDetails() 28

1.2.3.5.6.3.1.2 init() 28

1.2.3.6 schedule 29

1.2.3.6.1 controller 29

1.2.3.6.1.1 AddEditProgramSlotCmd 29

1.2.3.6.1.1.1.1 String invokeReviewSelectPresenter() 29

1.2.3.6.1.1.1.2 String invokeReviewSelectProducer() 29

1.2.3.6.1.1.1.3 String invokeReviewSelectRadioProgram() 29

1.2.3.6.1.1.1.4 String invokeReviewSelectScheduledProgram() 29

1.2.3.6.1.1.1.5 int perform() 29

1.2.3.6.1.2 CreateAnnualScheduleCmd 29

1.2.3.6.1.2.1.1 String perform() 29

1.2.3.6.1.3 DeleteProgramSlotCmd 29

1.2.3.6.1.3.1.1 String perform() 29

1.2.3.6.1.3.1.2 boolean validateFormat() 29

1.2.3.6.1.4 EnterAnnualScheduleDetailsCmd 30

1.2.3.6.1.4.1.1 int perform() 30

1.2.3.6.1.4.1.2 boolean validateFormat() 30

1.2.3.6.1.5 EnterProgramSlotDetailsCmd 30

1.2.3.6.1.5.1.1 void perform() 30

1.2.3.6.1.5.1.2 List<ProgramSlot> retrieveProgramSlotList() 30

1.2.3.6.1.5.1.3 String validateFormat() 30

1.2.3.6.1.6 ManageScheduleCmd 30

1.2.3.6.1.6.1.1 String perform() 30

1.2.3.6.2 dao 31

1.2.3.6.2.1 impl 31

1.2.3.6.2.1.1 ProgramSlotDAOImpl 31

1.2.3.6.2.1.1.1.1 boolean checkExists() 31

1.2.3.6.2.1.1.1.2 boolean checkExists() 31

1.2.3.6.2.1.1.1.3 boolean checkOverlap() 31

1.2.3.6.2.1.1.1.4 void create() 31

1.2.3.6.2.1.1.1.5 ProgramSlot createValueObject() 31

1.2.3.6.2.1.1.1.6 int databaseUpdate() 31

1.2.3.6.2.1.1.1.7 void delete() 31

1.2.3.6.2.1.1.1.8 ProgramSlot find() 31

1.2.3.6.2.1.1.1.9 List<ProgramSlot> listQuery() 31

1.2.3.6.2.1.1.1.10 List<ProgramSlot> loadAll() 31

1.2.3.6.2.1.1.1.11 ProgramSlotDAOImpl() 31

1.2.3.6.2.1.1.1.12 void save() 31

1.2.3.6.2.1.1.1.13 ProgramSlot singleQuery() 31

1.2.3.6.2.1.2 ScheduleDAOImpl 31

1.2.3.6.2.1.2.1.1 boolean checkAnnualScheduleExists() 32

1.2.3.6.2.1.2.1.2 void createAnnualSchedule() 32

1.2.3.6.2.1.2.1.3 AnnualSchedule createAnnualScheduleValueObject() 32

1.2.3.6.2.1.2.1.4 void createWeeklySchedule() 32

1.2.3.6.2.1.2.1.5 WeeklySchedule createWeeklyScheduleValueObject() 32

1.2.3.6.2.1.2.1.6 int databaseUpdate() 32

1.2.3.6.2.1.2.1.7 List<AnnualSchedule> listAnnualScheduleQuery() 32

1.2.3.6.2.1.2.1.8 List<WeeklySchedule> listWeeklyScheduleQuery() 32

1.2.3.6.2.1.2.1.9 List<AnnualSchedule> loadAllAnnualSchedule() 32

1.2.3.6.2.1.2.1.10 List<WeeklySchedule> loadAllWeeklySchedule() 32

1.2.3.6.2.1.2.1.11 List<WeeklySchedule> loadAllWeeklyScheduleByYear() 32

1.2.3.6.2.1.2.1.12 AnnualSchedule loadAnnualSchedule() 32

1.2.3.6.2.1.2.1.13 WeeklySchedule loadWeeklySchedule() 32

1.2.3.6.2.1.2.1.14 WeeklySchedule loadWeeklyScheduleByInBetweenDate() 32

1.2.3.6.2.1.2.1.15 List<WeeklySchedule> loadWeeklyScheduleByStartEndDate() 32

1.2.3.6.2.1.2.1.16 ScheduleDAOImpl() 33

1.2.3.6.2.1.2.1.17 AnnualSchedule singleAnnualScheduleQuery() 33

1.2.3.6.2.1.2.1.18 WeeklySchedule singleWeeklyScheduleQuery() 33

1.2.3.6.3 delegate 34

1.2.3.6.3.1 ScheduleDelegate 34

1.2.3.6.3.1.1.1 ProgramSlot getProgramSlot() 34

1.2.3.6.3.1.1.2 void processCreateAnnualSchedule() 34

1.2.3.6.3.1.1.3 void processCreateProgramSlot() 34

1.2.3.6.3.1.1.4 void processDeleteProgramSlot() 34

1.2.3.6.3.1.1.5 void processModifyProgramSlot() 34

1.2.3.6.3.1.1.6 ScheduleDelegate() 34

1.2.3.6.3.2 ReviewSelectScheduledProgramDelegate 34

1.2.3.6.3.2.1.1 List<ProgramSlot> reviewSelectScheduledProgram() 34

1.2.3.6.3.2.1.2 ReviewSelectScheduledProgramDelegate() 34

1.2.3.6.4 entity 35

1.2.3.6.4.1 AdvertItem 35

1.2.3.6.4.2 AnnualSchedule 35

1.2.3.6.4.2.1.1 Attributes 35

1.2.3.6.4.2.1.2 AnnualSchedule() 35

1.2.3.6.4.2.1.3 getter() 35

1.2.3.6.4.2.1.4 setter() 35

1.2.3.6.4.3 MusicalItem 35

1.2.3.6.4.4 ProgramAnnotation 35

1.2.3.6.4.5 ProgramSlot 35

1.2.3.6.4.5.1.1 Attributes 35

1.2.3.6.4.5.1.2 getter() 35

1.2.3.6.4.5.1.3 ProgramSlot() 35

1.2.3.6.4.5.1.4 setter() 35

1.2.3.6.4.6 RunningOrder 35

1.2.3.6.4.7 SlotItem 35

1.2.3.6.4.8 SpeechItem 35

1.2.3.6.4.9 TimeSlot 35

1.2.3.6.4.9.1.1 isExistsFromCurrentTimeSlot() 36

1.2.3.6.4.9.1.2 remove() 36

1.2.3.6.4.10 WeekNo 36

1.2.3.6.4.10.1.1 Attributes 36

1.2.3.6.4.10.1.2 int getter() 36

1.2.3.6.4.10.1.3 int setter() 36

1.2.3.6.4.10.1.4 WeekNo WeekNo() 36

1.2.3.6.4.11 WeeklySchedule 36

1.2.3.6.4.11.1.1 Attributes 36

1.2.3.6.4.11.1.2 getter() 36

1.2.3.6.4.11.1.3 setter() 36

1.2.3.6.4.11.1.4 WeeklySchedule() 36

1.2.3.6.5 service 37

1.2.3.6.5.1 ScheduleService 37

1.2.3.6.5.1.1.1 ProgramSlot getProgramSlot() 37

1.2.3.6.5.1.1.2 void processCreateAnnualSchedule() 37

1.2.3.6.5.1.1.3 void processCreateProgramSlot() 37

1.2.3.6.5.1.1.4 void processDeleteProgramSlot() 37

1.2.3.6.5.1.1.5 void processModifyProgramSlot() 37

1.2.3.6.5.1.1.6 ProgramSlotDAO ProgramSlotDAOGetter() 37

1.2.3.6.5.1.1.7 void ProgramSlotDAOSetter() 37

1.2.3.6.5.1.1.8 ScheduleDAO ScheduleDAOGetter() 37

1.2.3.6.5.1.1.9 void ScheduleDAOSetter() 37

1.2.3.6.5.1.1.10 ScheduleService() 37

1.2.3.6.5.2 ReviewSelectScheduledProgramService 37

1.2.3.6.5.2.1.1 List<ProgramSlot> reviewSelectScheduledProgram() 37

1.2.3.6.5.2.1.2 ReviewSelectScheduledProgramService() 37

1.2.3.6.6 webpages 38

1.2.3.6.6.1 crudsp 38

1.2.3.6.6.1.1.1 void init() 38

1.2.3.6.6.1.1.2 void selectCreateAnnualSchedule() 38

1.2.3.6.6.1.1.3 void selectCreateProgramSlot() 38

1.2.3.6.6.1.1.4 void selectDeleteProgramSlot() 38

1.2.3.6.6.1.1.5 void selectModifyProgramSlot() 38

1.2.3.6.6.2 searchsp 38

1.2.3.6.6.2.1.1 void init() 38

1.2.3.6.6.2.1.2 void selectScheduledProgram() 38

1.2.3.6.6.3 setupas 38

1.2.3.6.6.3.1.1 void enterAnnualScheduleDetails() 38

1.2.3.6.6.3.1.2 void init() 38

1.2.3.6.6.4 setupps 38

1.2.3.6.6.4.1.1 void enterProgramSlotDetails() 38

1.2.3.6.6.4.1.2 void init() 38

1.2.3.6.6.4.1.3 void selectCopyPreviousScheduledProgram() 38

1.2.3.6.6.4.1.4 void selectReviewSelectPresenterProducer() 38

1.2.3.6.6.4.1.5 void selectReviewSelectRadioProgram() 38

1.2.3.6.6.4.1.6 void selectReviewSelectScheduledProgram() 38

1.2.3.7 user 39

1.2.3.7.1 controller 39

1.2.3.7.1.1 AddEditUserCmd 39

1.2.3.7.1.1.1.1 String perform() 39

1.2.3.7.1.1.1.2 boolean validateFormat() 39

1.2.3.7.1.2 DeleteUserCmd 39

1.2.3.7.1.2.1.1 String perform() 39

1.2.3.7.1.3 EnterUserCmd 39

1.2.3.7.1.3.1.1 int Perform() 39

1.2.3.7.1.4 UserMaintenanceCmd 39

1.2.3.7.1.4.1.1 String perform() 39

1.2.3.7.2 dao 40

1.2.3.7.2.1 impl 40

1.2.3.7.2.1.1 UserMaintenanceDAOImpl 40

1.2.3.7.2.1.1.1.1 boolean deleteUser() 40

1.2.3.7.2.1.1.1.2 List<Presenter> findPresenter() 40

1.2.3.7.2.1.1.1.3 List<Producer> findProducer() 40

1.2.3.7.2.1.1.1.4 User getUserById() 40

1.2.3.7.2.1.1.1.5 List<User> loadAll() 40

1.2.3.7.2.1.1.1.6 User persistUser() 40

1.2.3.7.2.1.1.1.7 List<Presenter> retriveAllPresenters() 40

1.2.3.7.2.1.1.1.8 List<Producers> retriveAllProducers() 40

1.2.3.7.2.1.1.1.9 List<User> searchMatching() 40

1.2.3.7.2.1.1.1.10 User updateUser() 40

1.2.3.7.2.1.1.1.11 UserMaintenanceDAOImpl() 40

1.2.3.7.3 delegate 41

1.2.3.7.3.1 ReviewSelectPresenterProducerDelegate 41

1.2.3.7.3.1.1.1 List<Presenter> reviewSelectPresenter() 41

1.2.3.7.3.1.1.2 ReviewSelectPresenterProducerDelegate() 41

1.2.3.7.3.1.1.3 List<Producer> reviewSelectProducer() 41

1.2.3.7.3.2 UserMaintenanceDelegate 41

1.2.3.7.3.2.1.1 int processAssignRole() 41

1.2.3.7.3.2.1.2 Object:User processCreateUser() 41

1.2.3.7.3.2.1.3 boolean processDeleteUser() 41

1.2.3.7.3.2.1.4 Object:User processGetUser() 41

1.2.3.7.3.2.1.5 List<User> processListUsers() 41

1.2.3.7.3.2.1.6 Object:User processModifyUser() 41

1.2.3.7.3.2.1.7 UserMaintenanceDelegate() 41

1.2.3.7.4 entity 42

1.2.3.7.4.1 Presenter 42

1.2.3.7.4.1.1.1 Attributes 42

1.2.3.7.4.1.1.2 getter() 42

1.2.3.7.4.1.1.3 Presenter() 42

1.2.3.7.4.1.1.4 setter() 42

1.2.3.7.4.2 PresenterPhoto 42

1.2.3.7.4.3 Producer 42

1.2.3.7.4.3.1.1 getter() 42

1.2.3.7.4.3.1.2 Producer() 42

1.2.3.7.4.3.1.3 setter() 42

1.2.3.7.4.4 Profile 42

1.2.3.7.4.4.1.1 Attributes 42

1.2.3.7.4.4.1.2 getter() 42

1.2.3.7.4.4.1.3 setter() 42

1.2.3.7.4.5 SiteLink 42

1.2.3.7.4.6 StationManager 42

1.2.3.7.4.7 SystemAdministrator 42

1.2.3.7.5 service 43

1.2.3.7.5.1 ReviewSelectPresenterProducerService 43

1.2.3.7.5.1.1.1 ReviewSelectPresenterProducerService() 43

1.2.3.7.5.1.1.2 List<Presenter> reviewSelectPresenterService() 43

1.2.3.7.5.1.1.3 List<Producer> reviewSelectProducerService() 43

1.2.3.7.5.2 UserMaintenanceService 43

1.2.3.7.5.2.1.1 Object:User getUserById() 43

1.2.3.7.5.2.1.2 List<User> getUserList() 43

1.2.3.7.5.2.1.3 processAssignRole() 43

1.2.3.7.5.2.1.4 Object:User processCreateUser() 43

1.2.3.7.5.2.1.5 boolean processDeleteUser() 43

1.2.3.7.5.2.1.6 Object:User processModifyUser() 43

1.2.3.7.5.2.1.7 UserMaintenanceService() 43

1.2.3.7.6 webpages 44

1.2.3.7.6.1 manageUserPage 44

1.2.3.7.6.1.1.1 AssignRole() 44

1.2.3.7.6.1.1.2 createUser() 44

1.2.3.7.6.1.1.3 DeleteUser() 44

1.2.3.7.6.1.1.4 init() 44

1.2.3.7.6.1.1.5 ModifyUser() 44

1.2.3.7.6.1.1.6 ResetPassword() 44

1.2.3.7.6.2 searchpp 44

1.2.3.7.6.2.1.1 void init() 44

1.2.3.7.6.2.1.2 void selectSelectPresenterProducer() 44

1.2.3.7.6.3 setupUserPage 44

1.2.3.7.6.3.1.1 AssignRole() 44

1.2.3.7.6.3.1.2 createUser() 44

1.2.3.7.6.3.1.3 DeleteUser() 44

1.2.3.7.6.3.1.4 init() 44

1.2.3.7.6.3.1.5 ModifyUser() 44

1.2.3.7.6.3.1.6 ResetPassword() 44

1.3 Use-Case Realizations 45

1.3.1 Design of Authenticate Users 45

1.3.1.1 Class Diagram for Authenticate Users 45

1.3.1.2 Sequence Diagram for Log-in 45

1.3.1.3 Sequence Diagram for Log-out 46

1.3.2 Design of Maintain Radio Programs 48

1.3.2.1 Class Diagram for Maintain Radio Programs 48

1.3.2.2 Sequence Diagram for Create/Modify Program 48

1.3.2.3 Sequence Diagram for Delete Program 49

1.3.3 Design of Review/Select Radio Program 50

1.3.3.1 Class Diagram for Review/Select Program 50

1.3.3.2 Sequence Diagram for Review/Select Program 50

1.3.4 Design of Maintain Schedule 52

1.3.4.1 Class Diagram for Maintain Schedule 52

1.3.4.2 Sequence Diagram for Create/Modify/Copy Program Slot 52

1.3.4.3 Sequence Diagram for Create Annual Schedule 54

1.3.4.4 Sequence Diagram for Delete Program Slot 56

1.3.5 Design of Maintain Users 59

1.3.5.1 Class Diagram for Maintain Users 59

1.3.5.2 Sequence Diagram for Create/Modify/AssignRole user 59

1.3.5.3 Sequence Diagram for Delete user 60

1.3.5.4 Sequence Diagram for List/manage User 61

1.3.5.5 UserMaintenanceDAOImpl 62

1.3.5.5.1.1 boolean deleteUser() 62

1.3.5.5.1.2 List<Presenter> findPresenter() 62

1.3.5.5.1.3 List<Producer> findProducer() 62

1.3.5.5.1.4 User getUserById() 62

1.3.5.5.1.5 List<User> loadAll() 62

1.3.5.5.1.6 User persistUser() 62

1.3.5.5.1.7 List<Presenter> retriveAllPresenters() 62

1.3.5.5.1.8 List<Producers> retriveAllProducers() 62

1.3.5.5.1.9 List<User> searchMatching() 62

1.3.5.5.1.10 User updateUser() 63

1.3.5.5.1.11 UserMaintenanceDAOImpl() 63

1.3.6 Design of Review/Select Presenter/Producer 64

1.3.6.1 Class Diagram for Review/Select Presenter/Producer 64

1.3.6.2 Sequence Diagram for Review/Select Presenter/Producer 64

1.3.7 Design of Review/Select Scheduled Program 66

1.3.7.1 Class Diagram for Review/Select Scheduled Program 66

1.3.7.2 Sequence Diagram for Review/Select Scheduled Program 66

1.3.7.3 ProgramSlot\_child 67

# Design Model

## Overview

### Architecture Layers



1. Architecture Layers

This diagram depicts the organization of the design model into layers. This diagram will be presented in the document generated using the SoDA Software Architecture Document.

See Rational Unified Process:

Activity: Architectural Analysis

Step: Define the High-Level Organization of Subsystems

Activity: Incorporate Existing Design Elements

Step: Update the Organization of the Design Model

## Design Objects

### Class Diagram for Entity Classes (Users)



1. Class Diagram for Entity Classes (Users)

### Class Diagram of Entity Classes (Radio Programs)



1. Class Diagram of Entity Classes (Radio Programs)

### phoenix

#### musicchart

##### entity

###### ChartItem

###### MusicChart

#### playlist

##### entity

###### AuditItem

###### Playlist

###### PlaylistAuditTrial

#### core

##### controller

###### PhoenixFrontController

The Nocturne Application Controller that is the entry point of all the HTTP requests.

void doGet()

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| request | HttpServletRequest | Refer to Java API specification. |
| response | HttpServletResponse | Refer to Java API specification. |

void doPost()

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| request | HttpServletRequest | Refer to Java API specification. |
| response | HttpServletResponse | Refer to Java API specification. |

void processRequest()

Processes a HTTP request and forwards to another page. The processing involves mapping the request path, executing the corresponding command object and obtaining the response path.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| request | HttpServletRequest | Refer to Java API specification. |
| response | HttpServletResponse | Refer to Java API specification. |

##### dao

###### DAOFactory

The factory that instantiates all the DAO objects.

DAOFactory()

The constructor of the factory.

ProgramDAO getProgramDAO()

Returns the DAO for radio programs.

RoleDAO getRoleDAO()

Returns the DAO for user roles.

ScheduleDAO getScheduleDAO()

Returns the DAO for schedule-related objects.

UserDAO getUserDAO()

Returns the DAO for users.

UserMaintenanceDAO getUserMaintenanceDAO()

Returns the DAO for User Maintenance

#### authenticate

##### controller

###### LoginCmd

This command captures the Login request.

String perform()

Performs the login request by passing the input user id and password to the Business Layer, setting the authenticated User object in HTTP session and forwarding to the home page.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String | Refer to Nocturne Application Controller framework. |
| req | HttpServletRequest | Refer to Java API specification. |
| resp | HttpServletResponse | Refer to Java API specification. |

###### LogoutCmd

This command captures the Logout request.

String perform()

Performs the login request by invalidating the HTTP session and forwarding to the logout page.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String | Refer to Nocturne Application Controller framework. |
| req | HttpServletRequest | Refer to java API specification. |
| resp | HttpServletResponse | Refer to java API specification. |

##### 

##### dao

###### impl

RoleDAOImpl

The implementation of the DAO for user roles. Refer to the documentation of the interface for the details of the class.

List<Role> loadAll()

Refer to the documentation of interface RoleDAO.

RoleDAOImpl()

The constructor of the DAO implementation.

List<Role> searchMatching()

Refer to the documentation of interface RoleDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | Role |  |

UserDAOImpl

The implementation of the DAO for users. Refer to the documentation of the interface for the details of the class.

List<User> loadAll()

Refer to the documentation of interface UserDAO.

List<User> searchMatching()

Refer to the documentation of interface UserDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User |  |

UserDAOImpl()

The constructor of the DAO implementation.

##### 

##### delegate

###### AuthenticateDelegate

The delegate of the Authenticate Users use case.

AuthenticateDelegate()

The constructor of the delegate.

User validateUserIdPassword()

Validates the user id and password of the user.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User | The input user object specifying the user id and password. |

##### entity

###### Role

This object represents the access privileges of a role that is assigned to users.

Attributes

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Type** | **Documentation** |
| accessPrivilege | String | The access privileges for the user role. |
| role | String | The name of the user role. |

getter()

The generic representation of getter operations.

Role()

The constructor of the user role.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| role | String | The name of the user role. |

setter()

The generic representation of setter operations.

###### User

This entity object represents the common user characteristics.

Attributes

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Type** | **Documentation** |
| id | String | The user id of the user. |
| name | String | The name of the user. |
| password | String | The password of the user. |
| roles | String[] | The names of all roles assigned to the user. |

getter()

The generic representation of getter operations.

setter()

The generic representation of setter operations.

User()

The constructor of the user.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| id | String | The user id of the user. |
| name | String | The name of the user. |
| password | String | The password of the user. |

##### 

##### service

###### AuthenticateService

The service of the Authenticate Users use case. Refer to the documentation of the delegate for the details of the class.

AuthenticateService()

The constructor of the service.

User validateUserIdPassword()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User |  |

##### homePage

This boundary object represents the main screen of the PRMS application.

init()

Initializes the JSP page.

manageRadioProgram()

User request to manage radio programs.

manageSchedule()

User request to manage Schedules

manageUser()

User request to manage Users

selectLogout()

User request to logout from the system.

##### loginPage

This boundary object represents the screen used by users to log-in to the system.

enterUserIdAndPassword()

User request to login to the system.

init()

Initializes the JSP page.

##### logoutPage

This boundary object represents a confirmation dialog to prompt if the user wants to logout.

init()

Initializes the JSP page.

#### radioprogram

##### controller

###### AddEditRadioProgramCmd

This command captures the request to add a new radio program or edit an existing radio program.

String perform()

Performs the request forwarding to the setup program page for creation or editing of radio program.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String | Refer to Nocturne Application Controller framework. |
| req | HttpServletRequest | Refer to Java API specification. |
| resp | HttpServletResponse | Refer to Java API specification. |

###### DeleteRadioProgramCmd

This command captures the request to delete an existing radio program.

String perform()

Performs the request by passing the name of the radio program to delete to the Business Layer, invoking the Review/Select Radio Program use case to display the resultant list of radio programs.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String | Refer to Nocturne Application Controller framework. |
| req | HttpServletRequest | Refer to Java API specification. |
| resp | HttpServletResponse | Refer to Java API specification. |

###### EnterProgramDetailsCmd

This command captures the request to submit the details of a radio program entered by the actor.

String perform()

Performs the request by passing the input details of the radio program to be created/modified to the Business Layer, invoking the Review/Select Radio Program use case to display the resultant list of radio programs.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String | Refer to Nocturne Application Controller framework. |
| req | HttpServletRequest | Refer to Java API specification. |
| resp | HttpServletResponse | Refer to Java API specification. |

void validateFormat()

Validates the format of details entered by the actor.

###### ManageRadioProgramCmd

This command captures the request to manage radio programs.

String perform()

Performs the request by invoking the Review/Select Radio Program use case to display the current list of radio programs.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String | Refer to Nocturne Application Controller framework. |
| req | HttpServletRequest | Refer to Java API specification. |
| resp | HttpServletResponse | Refer to Java API specification. |

##### dao

###### impl

ProgramDAOImpl

The implementation of the DAO for radio programs. Refer to the documentation of the interface for the details of the class.

bool checkProgramExists()

Refer to the documentation of interface ProgramDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | RadioProgram |  |

void createProgram()

Refer to the documentation of interface ProgramDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | RadioProgram |  |

void deleteProgram()

Refer to the documentation of interface ProgramDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| name | String |  |

List<RadioProgram> findProgram()

Refer to the documentation of interface ProgramDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | RadioProgram |  |

void modifyProgram()

Refer to the documentation of interface ProgramDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | RadioProgram |  |

ProgramDAOImpl()

The constructor of the DAO implementation.

##### delegate

###### ProgramDelegate

The delegate of the Maintain Radio Programs use case.

void processCreate()

Creates a new radio program based on the input radio program.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | RadioProgram | The input radio program. |

void processDelete()

Deletes the radio program with the input name.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| name | String | The name of the radio program. |

void processModify()

Modifies an existing radio program based on the input radio program.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | RadioProgram | The input radio program. |

ProgramDelegate()

The constructor of the delegate.

###### ReviewSelectRadioProgramDelegate

The delegate of the Review/Select Radio Program use case.

void reviewSelectRadioProgram()

Starts the selection of a radio program from the list of existing radio programs.

ReviewSelectRadioProgramDelegate()

The constructor of the delegate.

##### entity

###### RadioProgram

The entity object represents a radio program as defined by the radio station manager.

Attributes

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Type** | **Documentation** |
| desc | String | The description of a radio program. |
| name | String | The name of a radio program. |
| typicalDuration | int | The typical duration of a radio program. |

getter()

The generic representation of getter operations.

RadioProgram()

The constructor of the class.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| desc | String |  |
| name | String |  |
| typicalDuration | int |  |

RadioProgram()

Default contructor

setter()

The generic representation of setter operations.

##### service

###### ProgramService

The service of the Maintain Radio Programs use case.

void processCreate()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | RadioProgram |  |

void processDelete()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| name | String |  |

void processModify()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | RadioProgram |  |

ProgramService()

The constructor of the service.

###### ReviewSelectRadioProgramService

This service of the Review / Select Radio Program use case.

void reviewSelectRadioProgram()

Refer to the documentation of the delegate.

ReviewSelectRadioProgramService()

The constructor of the service.

##### webpages

###### listrp

init()

Initializes the JSP page.

void selectRadioProgram()

User selects one Radio Program

###### programListPage

This boundary object represents the screen used to list radio programs.

void init()

Initializes the JSP page.

selectAdd()

User request to create a new radio program.

selectDelete()

User request to delete an existing radio program.

selectEdit()

User request to modify an existing radio program.

###### setupProgramPage

This boundary object represents the screen used to maintain radio programs.

enterProgramDetails()

User request to submit the details of a new or modified radio program.

init()

Initializes the JSP page.

#### schedule

##### controller

###### AddEditProgramSlotCmd

This command captures the request to add or edit program slot.

String invokeReviewSelectPresenter()

Invokes ReviewSelectPresenterProducer Delegate and show ReviewSelectPresenterpage page, for presenter

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| req | invokeReviewSelectRadioProgram |  |
| ps | ProgramSlot |  |

String invokeReviewSelectProducer()

Invokes ReviewSelectPresenterProducer Delegate and show ReviewSelectPresenterpage page, for producer

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| req | invokeReviewSelectRadioProgram |  |
| ps | ProgramSlot |  |

String invokeReviewSelectRadioProgram()

Invokes ReviewSelectRadioProgramDelegate and show ReviewSelectRadioProgram page

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| req | invokeReviewSelectRadioProgram |  |
| ps | ProgramSlot |  |

String invokeReviewSelectScheduledProgram()

Invokes ReviewSelectScheduledProgram Delegate and show ReviewSelectScheduledProgram page

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| req | invokeReviewSelectRadioProgram |  |
| ps | ProgramSlot |  |

int perform()

Performs the request by passing the insert mode and ID of the program slot to add or edit to the Business Layer.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String |  |
| req | HttpServletRequest |  |
| resp | HttpServletResponse |  |

###### CreateAnnualScheduleCmd

This command captures the request to create annual schedule.

String perform()

Performs the request by passing the year to create annual schedule and weekly schedules to the Business Layer

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String |  |
| req | HttpServletRequest |  |
| resp | HttpServletResponse |  |

###### DeleteProgramSlotCmd

This command captures the request to delete an existing program slot.

String perform()

Performs the request by passing the ID of the program slot to delete to the Business Layer, invoking the Review/Select Scheduled Program use case to display the resultant list of program slots.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String |  |
| req | HttpServletRequest |  |
| resp | HttpServletResponse |  |

boolean validateFormat()

validates whether the input String is valid integer

###### EnterAnnualScheduleDetailsCmd

This command captures the request to submit the details of an annual schedule entered by the actor.

int perform()

Performs the request by passing the year of the annual schedule to create to the Business Layer

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String |  |
| req | HttpServletRequest |  |
| resp | HttpServletResponse |  |

boolean validateFormat()

Validates the input year by the actor

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| year | String |  |

###### EnterProgramSlotDetailsCmd

This command captures the request to submit the details of a program slot entered by the actor.

void perform()

Performs the request by passing the input details of the program slot to be created/modified to the Business Layer, invoking the Review/Select Scheduled Program use case to display the resultant list of program slots.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String |  |
| req | HttpServletRequest |  |
| resp | HttpServletResponse |  |

List<ProgramSlot> retrieveProgramSlotList()

Invokes ReviewSelectScheduledProgram delegate to retrieve the all the ProgramSlots

String validateFormat()

validates whether all the values of the program slot passes form check

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ProgramSlot |  |

###### ManageScheduleCmd

This command captures the request to manage schedules.

String perform()

Performs the login request by displaying the list of annual schedules and their corresponding weeks, and also provide the option for user to create new annual schedule.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String |  |
| req | HttpServletRequest |  |
| resp | HttpServletResponse |  |

##### dao

###### impl

ProgramSlotDAOImpl

The implementation of the DAO for program slot. Refer to the documentation of the interface for the details of the class.

boolean checkExists()

Refer to the documentation of interface ProgramSlotDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ProgramSlot |  |

boolean checkExists()

Checks if a ProgramSlot is existing in the database, matching the input ID

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| id | int |  |

boolean checkOverlap()

Refer to the documentation of interface ProgramSlotDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ProgramSlot |  |

void create()

Refer to the documentation of interface ProgramSlotDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ProgarmSlot |  |

ProgramSlot createValueObject()

Refer to the documentation of interface ProgramSlotDAO

int databaseUpdate()

Executes database queries and returns number of rows affected

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | PreparedStatement |  |

void delete()

Refer to the documentation of interface ProgramSlotDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| id | int |  |

ProgramSlot find()

Refer to the documentation of interface ProgramSlotDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| id | int |  |

List<ProgramSlot> listQuery()

Executes database queries and returns an list of instances of ProgramSlot

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | PreparedStatement |  |

List<ProgramSlot> loadAll()

Refer to the documentation of interface ProgramSlotDAO

ProgramSlotDAOImpl()

Constructor

void save()

Refer to the documentation of interface ProgramSlotDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ProgramSlot |  |

ProgramSlot singleQuery()

Executes database queries and returns an instance of ProgramSlot

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | PreparedStatement |  |

ScheduleDAOImpl

The implementation of the DAO for annual schedule and weekly schedule. Refer to the documentation of the interface for the details of the class.

boolean checkAnnualScheduleExists()

Refer to the documentation of interface ScheduleDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | AnnualSchedule |  |

void createAnnualSchedule()

Refer to the documentation of interface ScheduleDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | AnnualSchedule |  |

AnnualSchedule createAnnualScheduleValueObject()

Refer to the documentation of interface ScheduleDAO

void createWeeklySchedule()

Refer to the documentation of interface ScheduleDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | List<WeeklySchedule> |  |

WeeklySchedule createWeeklyScheduleValueObject()

Refer to the documentation of interface ScheduleDAO

int databaseUpdate()

Executes database queries and returns the number of rows affected.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | PreparedStatement |  |

List<AnnualSchedule> listAnnualScheduleQuery()

Executes database queries and returns a list of instances of Annual Schedules

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | PreparedStatement |  |

List<WeeklySchedule> listWeeklyScheduleQuery()

Executes database queries and returns a list of instances of Weekly Schedules

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | PreparedStatement |  |

List<AnnualSchedule> loadAllAnnualSchedule()

Refer to the documentation of interface ScheduleDAO

List<WeeklySchedule> loadAllWeeklySchedule()

Refer to the documentation of interface ScheduleDAO

List<WeeklySchedule> loadAllWeeklyScheduleByYear()

Refer to the documentation of interface ScheduleDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| year | int |  |

AnnualSchedule loadAnnualSchedule()

Refer to the documentation of interface ScheduleDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| year | int |  |

WeeklySchedule loadWeeklySchedule()

Refer to the documentation of interface ScheduleDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| year | int |  |
| weekNo | int |  |

WeeklySchedule loadWeeklyScheduleByInBetweenDate()

Refer to the documentation of interface ScheduleDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| date | Date |  |

List<WeeklySchedule> loadWeeklyScheduleByStartEndDate()

Refer to the documentation of interface ScheduleDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| startDate | Date |  |
| endDate | Date |  |

ScheduleDAOImpl()

Constructor

AnnualSchedule singleAnnualScheduleQuery()

Executes database queries and returns an instance of Annual Schedule

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | PreparedStatement |  |

WeeklySchedule singleWeeklyScheduleQuery()

Executes database queries and returns an instance of Weekly Schedule

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | PreparedStatement |  |

##### delegate

###### ScheduleDelegate

The delegate of the Maintain Schedule use case.

ProgramSlot getProgramSlot()

Finds the ProgramSlot based on input ID

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| id | int |  |

void processCreateAnnualSchedule()

Creates a new annual schedule based on the input year, and creates 52 weekly schedules automatically.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| annualSchedule | AnnualSchedule |  |
| wss | List<WeeklySchedule> |  |

void processCreateProgramSlot()

Creates a new program slot based on the input program slot.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ProgramSlot |  |

void processDeleteProgramSlot()

Deletes the program slot with the input ID.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| id | int |  |

void processModifyProgramSlot()

Modifies an existing program slot based on the input program slot.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ProgramSlot |  |

ScheduleDelegate()

The constructor of the delegate.

###### ReviewSelectScheduledProgramDelegate

The delegate of the Review/Select Scheduled Program use case.

List<ProgramSlot> reviewSelectScheduledProgram()

Allow user to select year and week on this page, and list down the scheduled program slots based on the selected year and week.

ReviewSelectScheduledProgramDelegate()

The constructor of the delegate.

##### entity

###### AdvertItem

###### AnnualSchedule

This entity object represents the annual radio station program schedule as a list of annual schedules.

Attributes

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Type** | **Documentation** |
| assignedBy | String | The user created the Annual Schedule record. |
| year | Date | The year of the Annual Schedule. |

AnnualSchedule()

The constructor of the class.

getter()

The generic representation of getter operations.

setter()

The generic representation of setter operations.

###### MusicalItem

###### ProgramAnnotation

###### ProgramSlot

This entity object represents a time slot in a weekly schedule as defined by the radio station manager in which a radio program is broadcast.

Attributes

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Type** | **Documentation** |
| presenterID | String | User ID of the presenter |
| producerID | String | User ID of the producer |
| programDate | Date | Date of the Program Slot |
| programDateStr | String | Date text of the Program Slot |
| programDuration | Time | The duration of the program slot. |
| programDurationStr | String | The duration text of the program slot. |
| programName | String | The name of the radio program |
| programSlotID | int | The ID of the ProgramSlot |
| programSlotIDStr | String | The ID text of the ProgramSlot |
| startTime | Date | The start date and time of the program slot. |
| startTimeStr | String | The start date and time text of the program slot. |
| weekNo | int | The number of week that the program slot belongs to. |
| weekNoStr | String | The number of week text |

getter()

The generic representation of getter operations.

ProgramSlot()

The constructor of the class.

setter()

The generic representation of setter operations.

###### RunningOrder

###### SlotItem

###### SpeechItem

###### TimeSlot

isExistsFromCurrentTimeSlot()

remove()

###### WeekNo

This entity object holds the year and weekNo of a week

Attributes

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Type** | **Documentation** |
| weekNo | int | The weekNo of the week |
| year | int | The year of the week |

int getter()

The generic representation of getter operations.

int setter()

The generic representation of setter operations.

WeekNo WeekNo()

Constructor of the class

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| weekNo | int |  |
| year | int |  |

###### WeeklySchedule

This entity object represents the radio program schedule for a week as defined by radio station manager in terms of a series of time slots in which specific programs are broadcast.

Attributes

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Type** | **Documentation** |
| assignBy | String | The user created the weekly schedule record. |
| endDate | Date | The end day of the week of the weekly schedule. |
| startDate | Date | The start day of the week of the weekly schedule. |
| weekNo | int | The number of the week of the year. |
| year | int | The year that the weekly schedule belongs to. |

getter()

The generic representation of getter operations.

setter()

The generic representation of setter operations.

WeeklySchedule()

The constructor of the class.

##### service

###### ScheduleService

The service of the Maintain Schedule use case.

ProgramSlot getProgramSlot()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| id | int |  |

void processCreateAnnualSchedule()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| annualSchedule | AnnualSchedule |  |
| wss | List<WeeklySchedule> |  |

void processCreateProgramSlot()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ProgramSlot |  |

void processDeleteProgramSlot()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| id | int |  |

void processModifyProgramSlot()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ProgramSlot |  |

ProgramSlotDAO ProgramSlotDAOGetter()

Getter of ProgramSlotDAO

void ProgramSlotDAOSetter()

Setter of ProgramSlotDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ProgramSlotDAO |  |

ScheduleDAO ScheduleDAOGetter()

Getter of ScheduleDAO

void ScheduleDAOSetter()

Setter of ScheduleDAO

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | ScheduleDAO |  |

ScheduleService()

The constructor of the service.

###### ReviewSelectScheduledProgramService

This service of the Review / Select Scheduled Program use case.

List<ProgramSlot> reviewSelectScheduledProgram()

Refer to the documentation of the delegate.

ReviewSelectScheduledProgramService()

The constructor of the service.

##### webpages

###### crudsp

This boundary object represents the screen used to view schedule page and other actions

void init()

Initializes the JSP page.

void selectCreateAnnualSchedule()

User request to create Annual Schedule

void selectCreateProgramSlot()

User request to create Program Slot

void selectDeleteProgramSlot()

User request to delete Program Slot

void selectModifyProgramSlot()

User request to modify Program Slot

###### searchsp

This page is for Review/Select Schedule Program. Listing of all scheduled programs, offering the user to select one.

void init()

Initializes the JSP page.

void selectScheduledProgram()

User selects one scheduled program

###### setupas

This page allows user to input the year of Annual Schedule for creation

void enterAnnualScheduleDetails()

User enter Annual Schedule details and click submit

void init()

Initializes the JSP page.

###### setupps

This boundary object represents the screen used to maintain program slots.

void enterProgramSlotDetails()

User request to submit the details of a new or modified program slot.

void init()

Initializes the JSP page.

void selectCopyPreviousScheduledProgram()

User request to copy previous scheduled program

void selectReviewSelectPresenterProducer()

User request to Review/Select Presenter/Producer

void selectReviewSelectRadioProgram()

User request to Review/Select Radio Program

void selectReviewSelectScheduledProgram()

User request to Review/Select scheduled program

#### user

##### controller

###### AddEditUserCmd

This command captures the request to add a new User or edit an existing User.

String perform()

Performs the request forwarding to the setup program page for creation or editing of radio program.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String | Refer to Nocturne Application Controller framework. |
| req | HttpServletRequest | Refer to Java API specification. |
| resp | HttpServletResponse | Refer to Java API specification. |

boolean validateFormat()

###### DeleteUserCmd

This command captures the request to delete an existing User

String perform()

Performs the request by passing the name of the radio program to delete to the Business Layer, invoking the Review/Select Radio Program use case to display the resultant list of radio programs.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String | Refer to Nocturne Application Controller framework. |
| req | HttpServletRequest | Refer to Java API specification. |
| resp | HttpServletResponse | Refer to Java API specification. |

###### EnterUserCmd

This command captures the request to submit the details of a user entered by the actor.

int Perform()

Performs the request by passing the input details of the User to be created/modified to the Business Layer

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String |  |
| req | HttpServletRequest |  |
| resp | HttpServletResponse |  |

###### UserMaintenanceCmd

This command captures the request to manage Users. operations like listing user, reset password, assign role will be handled by this class.

String perform()

Performs the request by invoking the Review/Select Radio Program use case to display the current list of radio programs.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| path | String | Refer to Nocturne Application Controller framework. |
| req | HttpServletRequest | Refer to Java API specification. |
| resp | HttpServletResponse | Refer to Java API specification. |

##### dao

###### impl

UserMaintenanceDAOImpl

The implementation of the DAO for users. Refer to the documentation of the interface for the details of the class.

boolean deleteUser()

Refer to the documentation of interface UserMaintenanceDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| String | userId |  |

List<Presenter> findPresenter()

Refer to the documentation of interface UserMaintenanceDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | Presenter |  |

List<Producer> findProducer()

Refer to the documentation of interface UserMaintenanceDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | Producer |  |

User getUserById()

Refer to the documentation of interface UserMaintenanceDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| String | userId |  |

List<User> loadAll()

Refer to the documentation of interface UserMaintenanceDAO.

User persistUser()

Refer to the documentation of interface UserMaintenanceDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User |  |

List<Presenter> retriveAllPresenters()

Refer to the documentation of interface UserMaintenanceDAO.

List<Producers> retriveAllProducers()

Refer to the documentation of interface UserMaintenanceDAO.

List<User> searchMatching()

Refer to the documentation of interface UserMaintenanceDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User |  |

User updateUser()

The constructor of the DAO implementation.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User |  |

UserMaintenanceDAOImpl()

Refer to the documentation of interface UserMaintenanceDAO.

##### delegate

###### ReviewSelectPresenterProducerDelegate

The delegate of the Review/Select Presenter/Producer use case.

List<Presenter> reviewSelectPresenter()

Starts the selection of a Presenter from the list of existing Presenters.

ReviewSelectPresenterProducerDelegate()

The constructor of the delegate.

List<Producer> reviewSelectProducer()

Starts the selection of a Producer from the list of existing Producers.

###### UserMaintenanceDelegate

The delegate for the maintain user use case.

int processAssignRole()

Object:User processCreateUser()

Creates a new radio program based on the input radio program.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User | The input radio program. |

boolean processDeleteUser()

Deletes the radio program with the input name.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| name | String | The name of the radio program. |

Object:User processGetUser()

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | String |  |

List<User> processListUsers()

operation will list all the users

Object:User processModifyUser()

Modifies an existing radio program based on the input radio program.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User | The input radio program. |

UserMaintenanceDelegate()

The constructor of the delegate.

##### entity

###### Presenter

The entity object represents a presenter.

Attributes

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Type** | **Documentation** |
| profile | Profile | The profile of the presenter |

getter()

The generic representation of getter operations.

Presenter()

The constructor of the class.

setter()

The generic representation of setter operations.

###### PresenterPhoto

###### Producer

The entity object represents a producer.

getter()

The generic representation of getter operations.

Producer()

The constructor of the class.

setter()

The generic representation of setter operations.

###### Profile

The entity object represents the profile

Attributes

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Type** | **Documentation** |
| photoURL | String | The URL of the photo |
| siteLink | String | The link of the presenter site |

getter()

The generic representation of getter operations.

setter()

The generic representation of setter operations.

###### SiteLink

###### StationManager

###### SystemAdministrator

##### service

###### ReviewSelectPresenterProducerService

This service of the Review / Select Presenter/Producer use case.

ReviewSelectPresenterProducerService()

The constructor of the service.

List<Presenter> reviewSelectPresenterService()

Refer to the documentation of the delegate.

List<Producer> reviewSelectProducerService()

Refer to the documentation of the delegate.

###### UserMaintenanceService

The service of the Maintain User usecase

Object:User getUserById()

List<User> getUserList()

processAssignRole()

Object:User processCreateUser()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User |  |

boolean processDeleteUser()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| name | String |  |

Object:User processModifyUser()

Refer to the documentation of the delegate.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User |  |

UserMaintenanceService()

The constructor of the service.

##### webpages

###### manageUserPage

This boundary object represents the screen used to list Users

AssignRole()

createUser()

User request to create a new radio program.

DeleteUser()

User request to modify an existing radio program.

init()

Initializes the JSP page.

ModifyUser()

User request to delete an existing radio program.

ResetPassword()

###### searchpp

This boundary object represents the screen used to list Presenter/Producer list

void init()

Initializes the JSP page.

void selectSelectPresenterProducer()

User request to select an existing presenter/producer.

###### setupUserPage

This boundary object represents the screen used to list Users

AssignRole()

createUser()

User request to create a new radio program.

DeleteUser()

User request to modify an existing radio program.

init()

Initializes the JSP page.

ModifyUser()

User request to delete an existing radio program.

ResetPassword()

## Use-Case Realizations

### Design of Authenticate Users

#### Class Diagram for Authenticate Users



1. Class Diagram for Authenticate Users

#### Sequence Diagram for Log-in



1. Sequence Diagram for Log-in

#### Sequence Diagram for Log-out



1. Sequence Diagram for Log-out

### Design of Maintain Radio Programs

#### Class Diagram for Maintain Radio Programs



1. Class Diagram for Maintain Radio Programs

#### Sequence Diagram for Create/Modify Program



1. Sequence Diagram for Create/Modify Program

#### Sequence Diagram for Delete Program



1. Sequence Diagram for Delete Program

### Design of Review/Select Radio Program

#### Class Diagram for Review/Select Program



1. Class Diagram for Review/Select Program

#### Sequence Diagram for Review/Select Program



1. Sequence Diagram for Review/Select Program

### Design of Maintain Schedule

#### Class Diagram for Maintain Schedule



1. Class Diagram for Maintain Schedule

#### Sequence Diagram for Create/Modify/Copy Program Slot



1. Sequence Diagram for Create/Modify/Copy Program Slot

#### Sequence Diagram for Create Annual Schedule



1. Sequence Diagram for Create Annual Schedule

#### Sequence Diagram for Delete Program Slot



1. Sequence Diagram for Delete Program Slot

### Design of Maintain Users

#### Class Diagram for Maintain Users



1. Class Diagram for Maintain Users

#### Sequence Diagram for Create/Modify/AssignRole user



1. Sequence Diagram for Create/Modify/AssignRole user

#### Sequence Diagram for Delete user



1. Sequence Diagram for Delete user

#### Sequence Diagram for List/manage User



1. Sequence Diagram for List/manage User

#### UserMaintenanceDAOImpl

The implementation of the DAO for users. Refer to the documentation of the interface for the details of the class.

###### boolean deleteUser()

It will take userId as input parameter and will return:

true - in case user is deleted successfully

false - In case any error occurred.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| String | userId |  |

###### List<Presenter> findPresenter()

Refer to the documentation of interface UserMaintenanceDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | Presenter |  |

###### List<Producer> findProducer()

Refer to the documentation of interface UserMaintenanceDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | Producer |  |

###### User getUserById()

It will fetch UserBy Id. Userid will be unique and only one matching result will be returned.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| String | userId |  |

###### List<User> loadAll()

Refer to the documentation of interface UserMaintenanceDAO.

###### User persistUser()

This method will be used to persist User. Input will be user object which will be in transient state.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User |  |

###### List<Presenter> retriveAllPresenters()

Refer to the documentation of interface UserMaintenanceDAO.

###### List<Producers> retriveAllProducers()

Refer to the documentation of interface UserMaintenanceDAO.

###### List<User> searchMatching()

Refer to the documentation of interface UserDAO.

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User |  |

###### User updateUser()

operation to update User

|  |  |  |
| --- | --- | --- |
| **Parameter Name** | **Type** | **Documentation** |
| input | User |  |

###### UserMaintenanceDAOImpl()

The constructor of the DAO implementation.

### Design of Review/Select Presenter/Producer

#### Class Diagram for Review/Select Presenter/Producer



1. Class Diagram for Review/Select Presenter/Producer

#### Sequence Diagram for Review/Select Presenter/Producer



1. Sequence Diagram for Review/Select Presenter/Producer

### Design of Review/Select Scheduled Program

#### Class Diagram for Review/Select Scheduled Program



1. Class Diagram for Review/Select Scheduled Program

#### Sequence Diagram for Review/Select Scheduled Program



1. Sequence Diagram for Review/Select Scheduled Program