Vikara
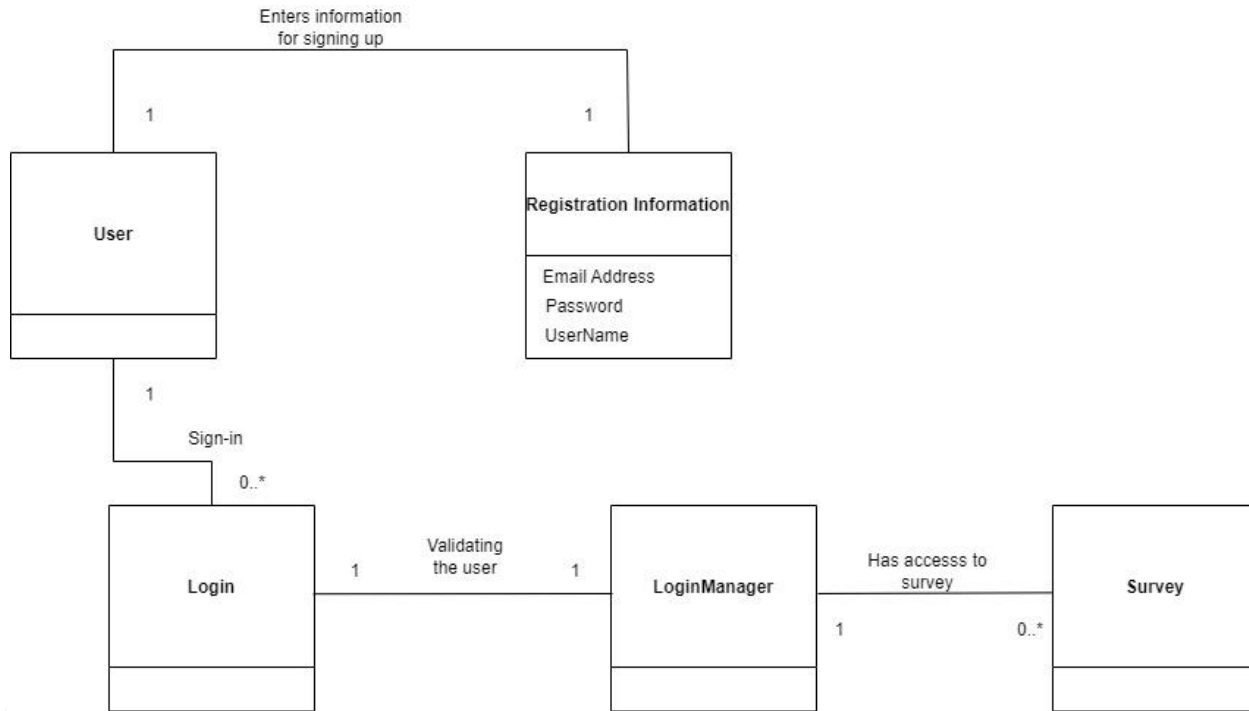
CS5934: Capstone Project

Awesome team members:
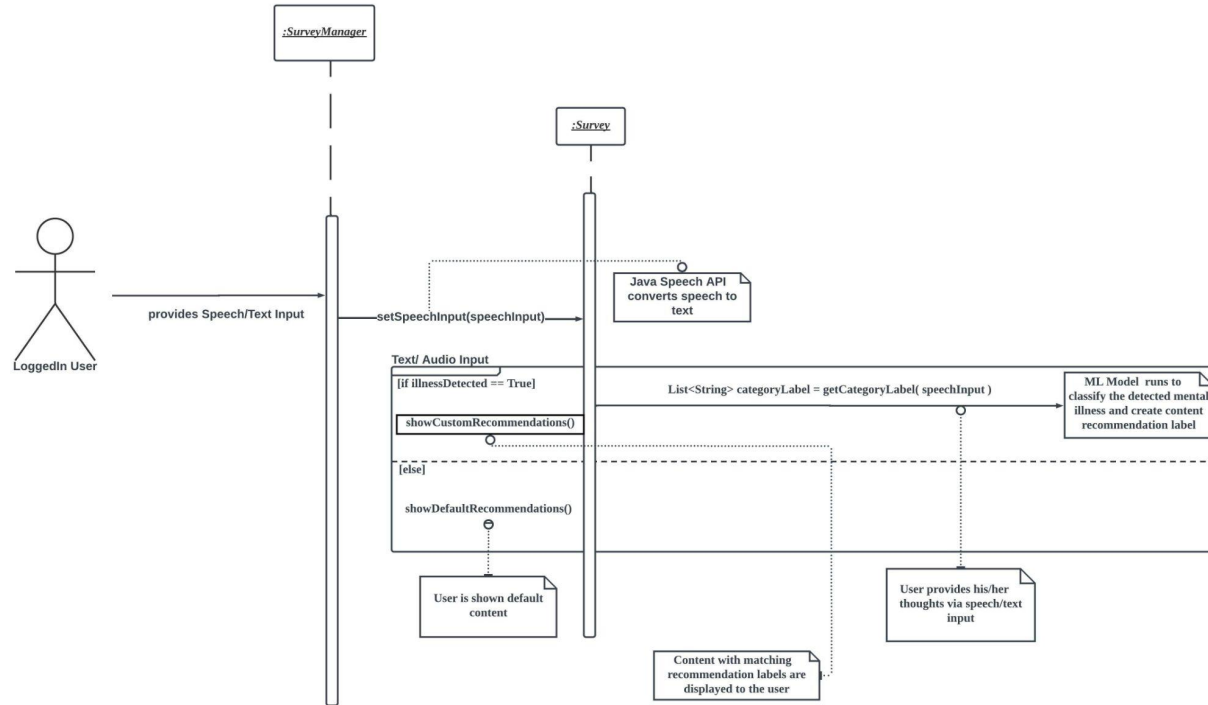*Disha Bhan, Het Veera, Neha Surana, Priyanka Savla, Sahana Basapathi*
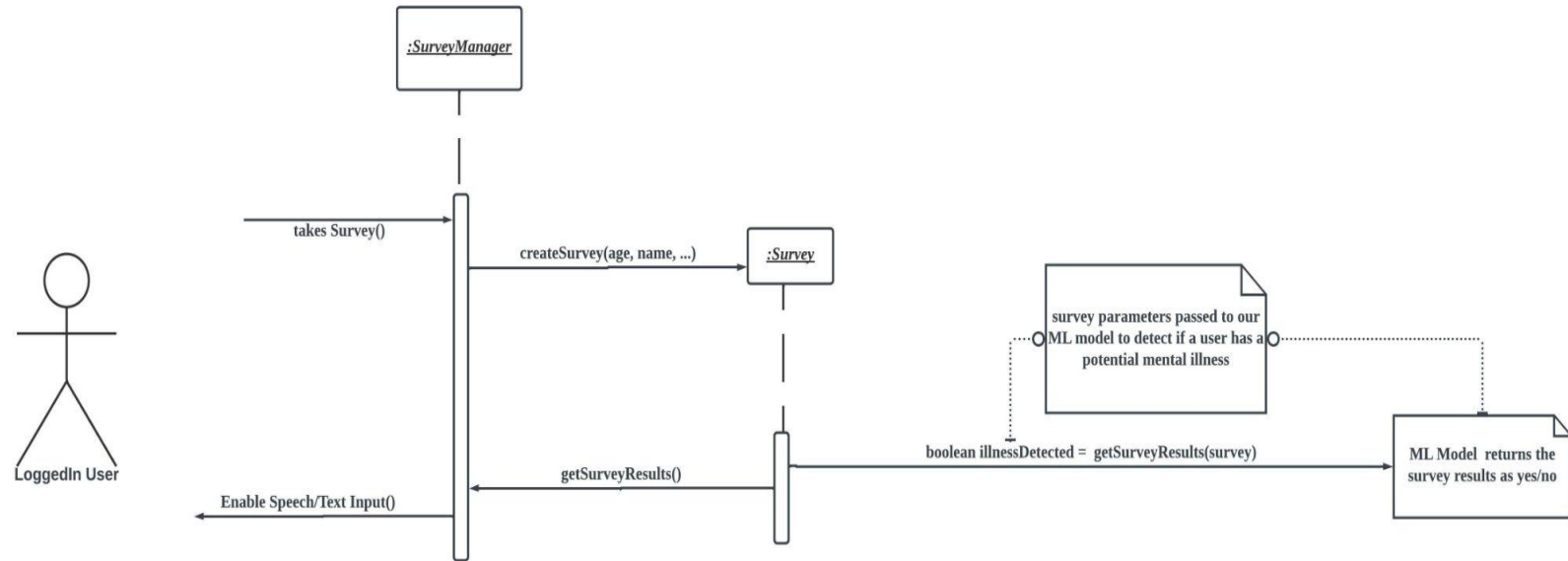
VIRGINIA TECH.

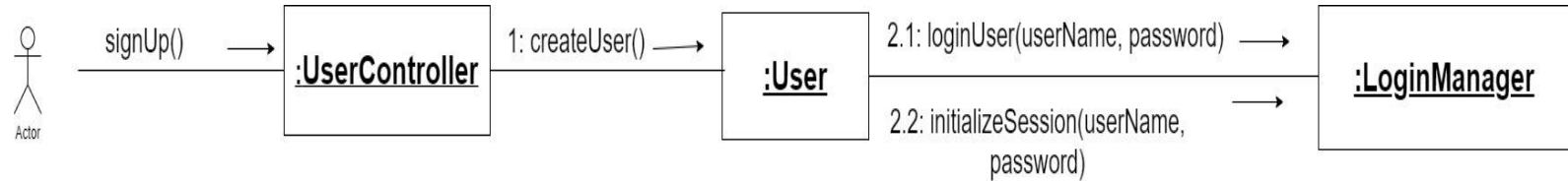# Domain Model

Interaction Diagrams
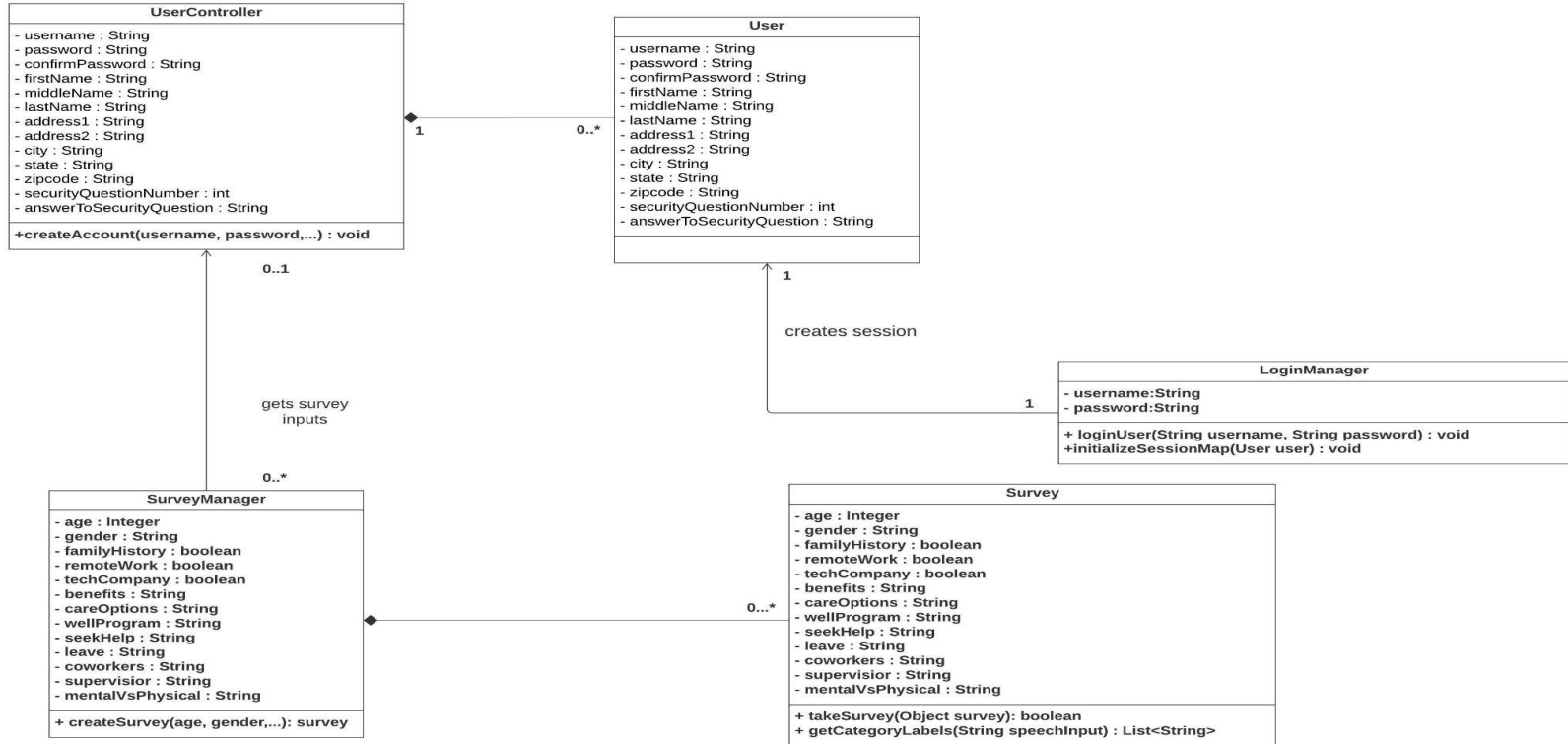
Sequence diagrams

Interaction Diagrams contd

Sequence diagrams

Interaction Diagrams contd

Collaboration diagrams

Class Diagram

UserController

- username : String
- password : String
- confirmPassword : String
- firstName : String
- middleName : String
- lastName : String
- address1 : String
- address2 : String
- city : String
- state : String
- zipcode : String
- securityQuestionNumber : int
- answerToSecurityQuestion : String

+createAccount(username, password,...) : void

User

- username : String
- password : String
- confirmPassword : String
- firstName : String
- middleName : String
- lastName : String
- address1 : String
- address2 : String
- city : String
- state : String
- zipcode : String
- securityQuestionNumber : int
- answerToSecurityQuestion : String

1   0..*

0..1

1

creates session

gets survey
inputs

LoginManager

- username:String
- password:String

+ loginUser(String username, String password) : void
+initializeSessionMap(User user) : void

1

0..*

SurveyManager

- age : Integer
- gender : String
- familyHistory : boolean
- remoteWork : boolean
- techCompany : boolean
- benefits : String
- careOptions : String
- wellProgram : String
- seekHelp : String
- leave : String
- coworkers : String
- supervisior : String
- mentalVsPhysical : String

+ createSurvey(age, gender,...): survey

Survey

- age : Integer
- gender : String
- familyHistory : boolean
- remoteWork : boolean
- techCompany : boolean
- benefits : String
- careOptions : String
- wellProgram : String
- seekHelp : String
- leave : String
- coworkers : String
- supervisior : String
- mentalVsPhysical : String

+ takeSurvey(Object survey): boolean
+ getCategoryLabels(String speechInput) : List<String>

0...*

Demo

https://github.com/neha-surana/Vikara/wiki/Sprint-1-Demo

Demo - implemented User stories

- As a user, I should to be able to signup/login to the application
- As a user, I should be able to view About Us page.
- As a logged in user, I should be able to see various options (My Profile, Blogs, Activities Page , Products, Mood Journal, etc.) in the navigation sidebar.
- As a subscribed user, I should be able to take the mental state evaluation survey.
- As a subscribed user, I should be able to provide text/audio input describing my current mood so that I get personalized health recommendations.
- As a logged in user, I should be able to sign out of the application anytime.
- As a user, I should be able to see the general information about vikara on the Home page.
- As a user I should be able to navigate to Home page after clicking on the Vikara's logo.

Machine Learning model for survey prediction

Model	Accuracy	Precision	Recall	F1 score	ROC score
Linear Regression	.706	.710	.718	.714	.693
Random Forest	**.706**	**.704**	**.733**	**.718**	**.715**
Bagging (SVC())	.544	.536	.795	.640	.570
Bagging(DT)	.678	.684	.687	.685	.691
Boosting	.619	.628	.626	.626	.655

Unimplemented User stories

- As an application owner I want to validate the user's login information.

- As an application owner I want to train the ML model to scrape data from survey forms and generate category labels.

- As a user, I want to be able to see my thoughts provided as text/audio input to be displayed on the page.

Challenges

- Integration of our Python based ML model with our Java project
- Time management

Lessons learnt

- Need better estimation of story points

Future improvements

- Better team communication

THANK YOU