Description of “Bicycle around Germany” Application

1. There are 3 types of users: 1) Student 2) School administrator 3) Application administrator. (An application administrator is an Administrator without a SchoolId or a SchoolId of “0”.) A person can only be one type of user at a time.
2. Student registers on website with his or her first name, last name, city, school, class, and e-mail address and password. A student will only be associated with one class. (6 hrs)
3. Class administrator receives a message that a new user is looking to register with a link to CLASS PARTICIPANTS page. Administrator approves account for “Pending” student. Student is then marked as “Approved”. (6 hrs)
4. Student receives e-mail with confirmation after the student is marked as “Approved”. Student clicks on e-mail link and goes to CONFIRMATION page. Student logs in with his or her e-mail address and password. Student is now marked as “Approved” on the CLASS PARTICIPANTS page. (5 hrs)
5. The school administrator manages the students that are in his classes. The CLASS PARTICIPANTS page is a list of students in a class. The CLASS PARTICIPANTS page is where the school administrator selects a school and then a class at the top of the page and the page will list the students. The school administrator can deactivate a student and reactivate a student. The student can see how many files the student has uploaded. (8 hrs)
6. The school administrator can click on a link in the CLASS PARTICIPANTS page and go to the STUDENT UPLOADS page to manage the students uploaded GPX files and can individually look at them: distance, time, startdate of ride, end date of ride, date uploaded, activate/deactivate. The school administrator should be able to sort on the files. If a file is deactivated then the totals do not go to the RouteLeg total. (8 hrs)
7. When the student logs in, the student goes the FORUM page, with a title at the top of the page that reads “Germany Tour 2013. Current Leg: XXXX to YYYY”, with XXXX being the starting city and YYYYY being the ending city and with Google map of Germany with the starting location identified by “A” and the ending location identified with “B” and a bicycle icon somewhere between the two cities depending on the distance traveled (distance traveled is explained below). The route that is used should be the “best” route between the two cities given that no highway is used. (I am not sure how it would work that you can move the bike icon along a particular route. Is it possible to move an icon along a route??? If not we will figure something else out.) The FORUM page contents will be associated with a particular A to B. (12 hrs)
8. Directly under the map, the student can click on a link to go to the UPLOAD GPX FILE page. This will take the student to an upload file control. The student will upload this file to the server and it will be put directly in the database and the distance and times will be taken from the file. Based on the files contents and appropriate business rules, the GPX file will be either approved or disapproved. The file will be uploaded and the page will post back and a message will say whether or not the file was accepted and if it is accepted then it will say how far the biker traveled. There will also be a button so that the user can enter in another GPX file. I will indicate what business rules there are later, business rules that decide whether or not the file should be accepted. For now, accept every valid GPX file. (12 hrs)
9. The application administrator manages the schedule, the city list, the school list, the class list, and the school administrators list.
10. The SCHEDULE LIST page consists of the starting city, destination city, and order. The destination city should always be the starting city of the next leg. You can delete a leg or add a leg to end of the list. The schedule list should not changeable after the “journey” has begun and any of the classes have started a route leg. (12 hrs)
11. The SCHEDULE LIST page will have a link for every leg in the schedule to the MANAGE TEST page.
12. The MANAGE TEST PAGE will allow the application manager to create a multiple choice test for each leg of the route. The questions will be structured with a question and multiple choices, one of which is correct. The application administrator will be able to add questions and answers and be able put them in the order of his or her choosing. The test will be administered for the entire class, in other words the class will take the test together. (10 hrs)
13. The CITY ADMIN page is a list of the participating cities in Germany. it should be a simple list that an application administrator can add or subtract from. These cities are in no way connected to the SCHEDULE LIST page cities. (4 hrs)
14. The SCHOOL ADMIN page is a list of the participating schools for a given city. A page should have a dropdown at the top that you can pick the city and will list the schools for that given city. (4 hrs)
15. The CLASS ADMIN page is a list of the participating classes and will list all the classes for a given school. This page will have two dropdowns at the top of the page, one for the city and one for the school. Based on that it will list the classes participating. (5 hrs)
16. The SCHOOL ADMINISTRATORS LIST page is a page where the application administrator can add in a new school administrator. Must put in first name, last name, e-mail address, city, schools (limited by city), and password. Must be able to edit fields. A school administrator can be the administrator of more than one school but not more than one city. (5 hrs)
17. The school administrator can switch between forums for each of the classes on the FORUMS page. He or she would select the school (from the list of schools that the school administrator is in charge of) and then the class and it will show the “Current forum page”. The current forum page is the Route Leg that is current for the class and should always show on the FORUM page if the leg has started or completed and the next leg has not started. There can only be one current forum page at a time. (4 hrs)
18. The school administrator can delete any entries into the forum. (3 hrs)
19. The ROUTE LEG ADMIN page is for school administrators and for each class the school administrator can decide what the status is. 1) Not Started 2) Started 3) Test 4) Test Passed 5) Completed. The school admin will see how many KM the class has already done and how much they still need to go. (X of Y km). There will also be a link for how many times the class took the test including both the passed and failed times they took the test. (6 hrs)
20. The class can only add content to the forum is the status is 2) Started. (2 hr)
21. The school administrators and application administrators menu should be on the right of the FORUM page and should be there if the logged in user is an administrator.
22. The school administrator menu should have the following menu options 1) Class participants 2) Route leg administration.
23. The application administrator should have the following menu options 1) Manage Schedule 2) Manage School Administrators 3) Manage cities 4) Manage schools 5) Manage classes 6) Manage Tests
24. If school manager deactivates a student then the students contribution to the total is NOT included.
25. If the status of the RouteLeg is set to “Test” (3) then the link to the UPLOAD GPX FILE page will disappear and there will be a new link to the TAKE TEST page. If they passed the test then there will be no link to UPLOAD GPX FILE or to the TAKE TEST page. (4 hrs)
26. The students will stay on that forum page until the school admin marks that leg for the class as “completed”.
27. The students will take the test and click “submit” and the system will tell them if they passed or not and provide a score (X out of Y). And provide a link “back to forum” or “retake test” if they failed. (8 hrs)

City Content Page = 10 hrs

RnD (24 hrs)

Database design (12 hrs)

Toatal hrs = 170

The new tables will look like this:

**RouteLeg**

RouteLegId  
StartCity  
DestinationCity  
LegDistanceKm  
Order

**RouteLegStatus**

RouteLegStatusId  
RouteLegId  
ClassId  
Status //int 1) Not Started 2) Started 3) Test 4) Test Passed 5) Completed

**GPXUpload**

GPXUploadId  
PersonId  
RouteLegStatusId  
FileContents (blob or long text field)|  
StartDate datetime  
EndDate datetime  
DistanceKm (float or decimal)  
DurationSeconds (int)  
DateUploaded datetime  
IsApproved bit (0 is no, 1 is yes)  
IsDeactivated bit   
  
**ForumActivity**

ForumActivityId  
PersonId  
RouteLegStatusId   
Content (blob)  
ContentType (varchar) – file type  
Text – longtext field.   
InputDate datetime  
IsDeleted // the school administrator can delete entries in the forum.

(the forum post will have either text, or a file type)

**Test**

TestId  
RouteLegId  
ClassId  
PassingGrade int (this is the lowest grade that the students can get and still pass the test)

**Question**

QuestionId  
TestId  
QuestionText  
Order

**Answer**

AnswerId  
TestId  
AnswerText  
IsCorrect

**TestGrade**

TestGradeId  
TestId  
ClassId  
TestDate  
TestScore int  
TestTotal int  
Passed bit (0 for failed, 1 for passed)