

<b>Sprint Evaluation</b>				
<p>What is the progress of your project in this sprint? What goals are achieved? What problems are overcome? If you are updating your plans what are your justifications?</p> <ul style="list-style-type: none"> <li>- We have successfully coded algorithms for separating leaf image from its background if the background is not too crowded.</li> <li>- We have determined 3 feature descriptor based on shape. They are implemented and 41 dimensional feature vector including 36 center-contour distances, 1 total corner number and 4 Hu's moments obtained.</li> <li>- We have added information button in the android application so that users can be able to see custom information about a tree that is clicked on list view.</li> <li>- We have converted design view from buttons to tab view. This change facilitates usage of the application.</li> <li>- Rotation is inserted to the image view on the list view so that user now can easily change image from leaf to tree and tree to leaf.</li> <li>- Custom camera filtering is researched. When we convert mat-lab codes to c or java language, we present real-time segmentation and extraction so that image taking will be easier.</li> <li>- We gathered 1600+ leaf images for 23 tree classes.</li> <li>- Caffe is fine-tuned with our dataset. Our initial test results can be found at Openproject. Initial results are good. Nonetheless, we already decided on several improvements such as high quality resizing, more leaf images and image segmentation.</li> <li>- Parallelization experiments on image segmentation codes will be run. However, image processing codes are being written in MATLAB for now and there will be a possible move from MATLAB to C++ or Java codes. Therefore, experimenting process is on hold for now.</li> <li>- According to Task 16 of our Startup Document, which is Merging Deep Learning and Image Processing findings, is delayed since we focused on Caffe training because of its promising results.</li> </ul>				
<b>Team evaluation</b>				
<p>How well is your team working together? How many meetings did you hold? Are you planning any changes in your cooperation strategy? Which work is completed by which member (in a Gantt chart)?</p> <ul style="list-style-type: none"> <li>- So far so good.</li> <li>- We have arranged 2 meetings with our Team Leader, 2 meetings with our Supervisor and 1 meeting with Team Leader and Supervisor until now. And we have arranged 5 meetings inside our group.</li> <li>- We don't have any plans to change our cooperation strategy.</li> </ul>				
Task	Assigned Member	1 <sup>st</sup> week	2 <sup>nd</sup> week	3 <sup>rd</sup> week
Leaf Corner Points Number Feature	Burak Balcı	X		
Producing 36 Dimensional Center-Radii Feature Vector	Burak Balcı		X	
Hu's Invariant Moments as a Shape Descriptor	Burak Balcı		X	
Implementation of Hu's Invariant Moments	Burak Balcı			X
Android - Giving basic info	Emre Akın	X		
Android - Adding action bar tabs	Emre Akın	X		
Android - Rotation	Emre Akın		X	
Android - Camera filtering research	Emre Akın	X	X	
Android - Adding third tab	Emre Akın			X
Gathering Leaf Images From Online Sources	Eren Şener	X	X	X
Gathering Features From Caffe Framework	Eren Şener	X		
Training Image Preparation	Eren Şener			X
Group Web Page Design	Eren Şener			X

Caffe Training	İlke Çuğu	X	X	
Gathering Additional Leaf Images via Photoshooting	İlke Çuğu			X
Group Presentation	İlke Çuğu			X
Intro. to Feature Extraction From Binarized Leaf Image	Çağrı Erciyes	X	X	
Multiresolutional Image Processing	Çağrı Erciyes		X	X
Group Presentation	Çağrı Erciyes			X

### Backlog Updates

What are your backlog updates?

- Parallelization experiments are on hold, because current progress on image processing part is achieved with MATLAB. However, C++ or Java versions of image processing codes may be written in near future. There will be a design choice about that soon.
- We will improve the training of Caffe.
- When we get features from image processing part, we will merge them with Caffe's in order to improve identification accuracy.
- Database connection and server communication tasks postponed to the second semester because design of the android application took much time and some new and important features added to the application so that usage will be much easier.