



Smart properties

Vehicle ownership & transfer



A decorative graphic in the top-left corner consisting of several overlapping hexagons in various shades of blue and cyan.

Hello!



**We are group of interdisciplinary
Ph.D. and Master's students
revolutionizing car registration and
ownership transfer.**

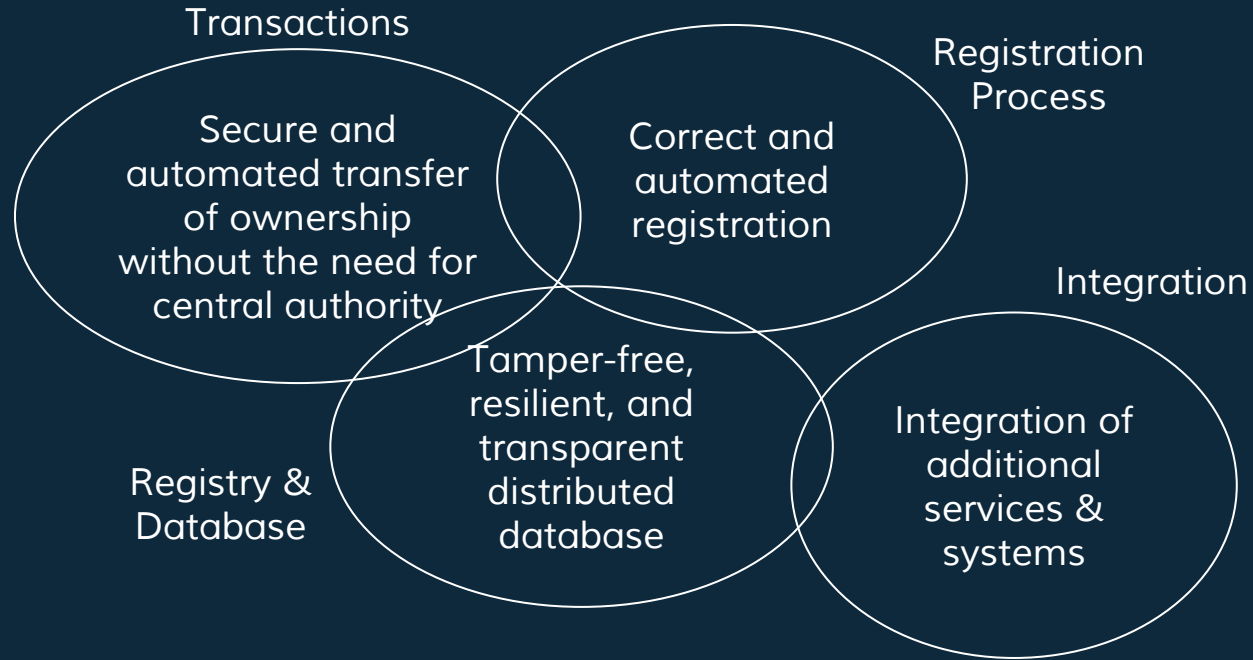


Challenges for SKAT

- Imbalance of trust between buyer and seller
E.g. Seller must trust that buyer will re-register the vehicle
- Authenticity of Registration Certificate
- Excessively rebuilt or stolen vehicle being sold
- History of the vehicle



Requirements Analysis



Blockchain enables the autonomous transaction of cars and provides a valid and resilient database.



General Assumptions

- The car is imported and all duties, levies, taxes, etc. are paid and in good current standing
- Accurate representation of the vehicle at the time of initial registration
- All data is stored on the blockchain
- All vehicle-owners have a wallet



ethereum










Meeting the challenges



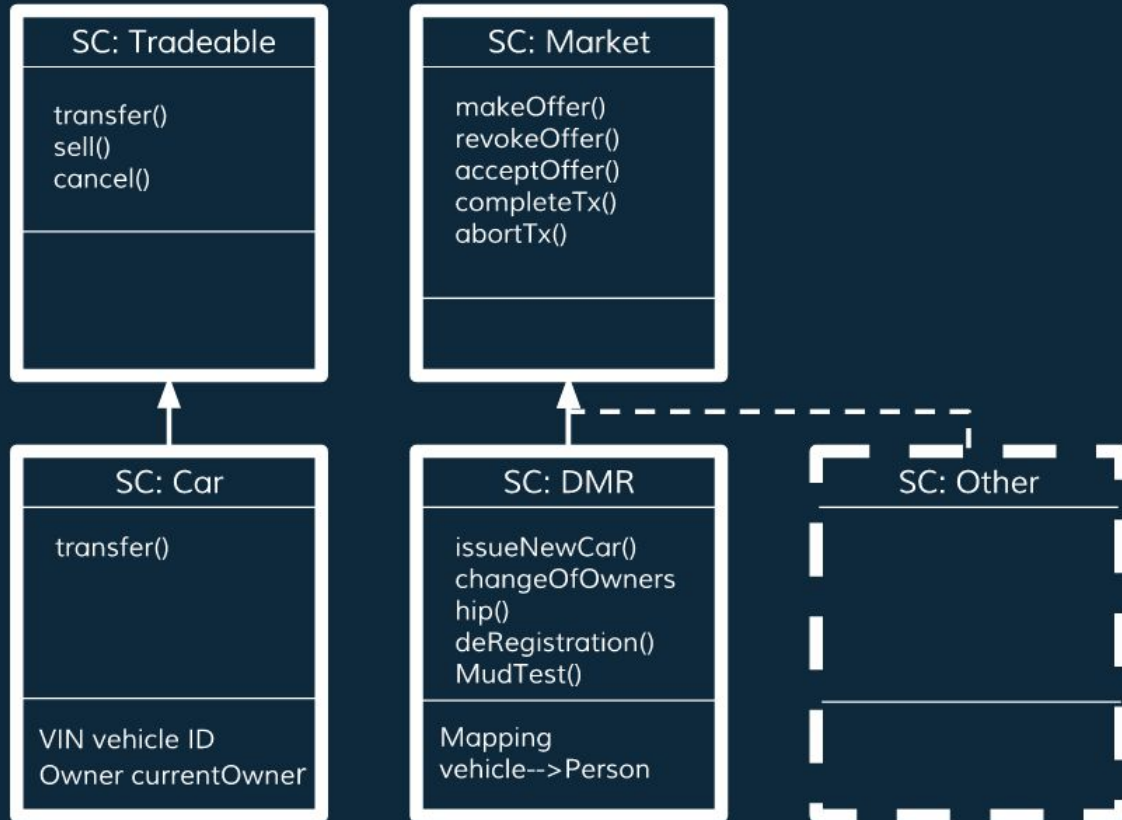
Automated and secure transaction processing using
blockchain technology



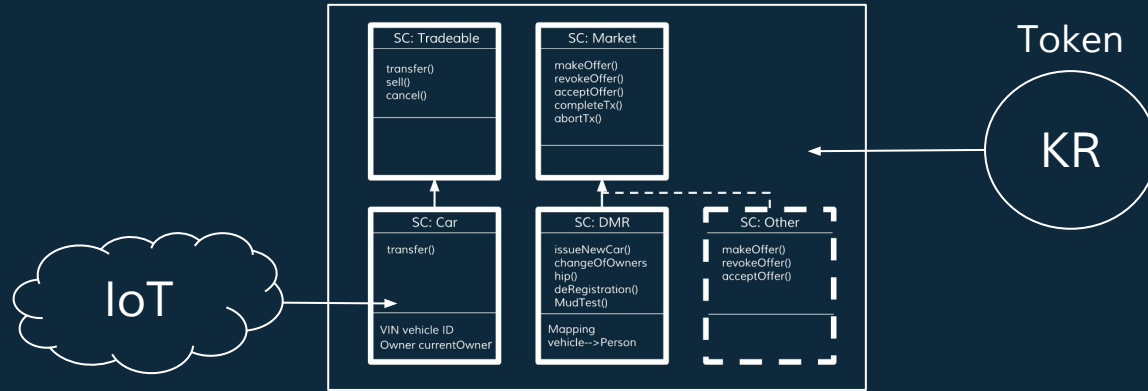
Transaction Process

Real world	<p>Seller</p>  <p>Buyer</p>  <p>Two-way communication arrows between Seller and Buyer.</p>	<p>Public key</p>  <p>NemID CorporateID</p>
Blockchain	<p>Initiate offer</p>  <p>Acceptance</p>  <p>One-way arrow from Initiate offer to Acceptance.</p>	
Real world	<p>Seller</p>  <p>Buyer</p>  <p>Car icon above a one-way arrow from Seller to Buyer.</p>	<p>Possibility to attach the car key to the blockchain</p>
Blockchain	<p>Seller</p>  <p>Buyer</p>  <p>Document icon above a one-way arrow from Seller to Buyer, and a stack of coins below a return arrow from Buyer to Seller.</p>	<p>Payment in Danish Kroner Token</p> <p>Automatic re-registration of the new owner</p>

System Structure



Embedding in the Blockchain



Record of ownership is inherently provided
by the Blockchain.




Demo

The decentralized
transfer-of-ownership
process





Outlook

- 
- Marketplace can be used for other property rights like houses, etc.
 - IOT integration possibilities
 - Additional cases like leasing
 - Smart Keys
 - One Wallet
 - Tax Support



Thanks!

Thanks to the ITU Blockchain Summer School and SKAT.

Team

Arun Shanmugam
Benedikt Notheisen
Felix Albert
Jacob Cholewa
Martin Dybdal

Questions?